GREAT LAKES
CASE & CABINET
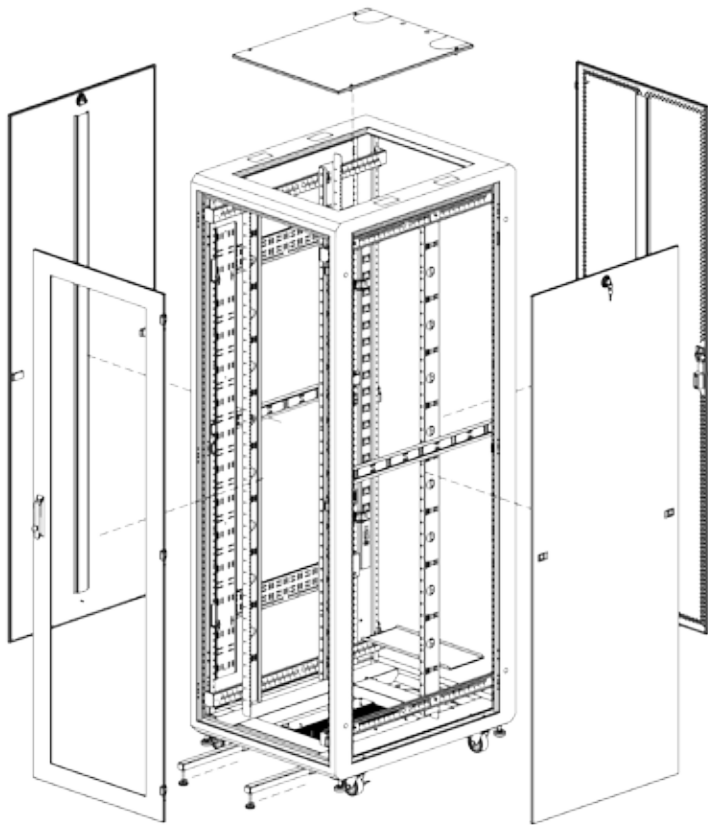*Invest in Solid Engineering*

E and ES Series Enclosures
Installation Instructions

WeRackYourWorld.com
1-866-TRY-GLCC (879-4522)

Instructions for the following Great Lakes Enclosures:
GL720E-2432, GL720E-2436, GL720E-2932, GL720E-2936, GL840E-2432,
GL840E-2436, GL840E-2932, GL840E-2936, GL480ES-2442, GL780ES-2442,
GL780ES-3042, GL840ES-2442, GL840ES-3042, GL840ES-2448, GL840ES-3048

PREFACE

This manual is provided to prevent service personnel from committing an act that results in the risk of fire, electric shock, or injury to persons. Only trained service personnel should receive, unpack, and assemble the E and ES Enclosures. In addition, only trained service personnel should install equipment in enclosures.

SAFETY SYMBOLS USED IN THIS MANUAL

This manual provides general safety guidelines to be observed during installation, operation, and maintenance of the E and ES Enclosure.

WARNING: Failure to follow directions in the warning could result in injury to persons or loss of life.

CAUTION: Failure to follow directions in the caution could result in damage to equipment or storage data.

SAFETY CONSIDERATIONS

WARNING: Improper handling and use of the E and ES Enclosure could result in equipment damage, serious injury, or possible death.

Only trained service personnel should be used to remove the enclosure from the pallet. Also, be sure you have a sufficient number of service personnel. Do not attempt to move enclosures by yourself.

Only UL® Listed ITE (Information Technology Equipment) units should be installed inside the E and ES Enclosure.

Be sure to read and follow all individual manufacturer equipment manuals for safety and installation instructions.

Proper spacing is required when installing electrical equipment to avoid electrical shock. Maintain minimum spacing between the accessories and components and the computer enclosure assembly for safe operation of the equipment when installed in accordance with the National Electric Code ANSI/NFPA 70-1999.

The ambient temperature operating range for the E and ES Enclosure and accessories is +50 to +95° F (+10 to +35° C).

The non-operating temperature is -4 to +140° F (-20 to +60° C).

SERVICE

The E and ES Enclosures should be repaired by personnel trained by Great Lakes, or returned to Great Lakes for repair or replacement. Contact Great Lakes Technical Support at 814.734.7303 or at werackyourworld.com

WHAT'S INCLUDED

- E or ES unit (assembled)
- Keys as needed (depending on configuration)
- (50) M6 cage nuts (3/8" square) and M6 screws (#10-32 tapped rails available, must be specified at time of order)
- This user's manual

This user's manual applies to the following Great Lakes enclosures:

Part No.	H	W	D	RMU
GL720E-2432	72	24	32	37
GL720E-2436	72	24	36	37
GL720E-2932	72	29	32	37
GL720E-2936	72	29	36	37
GL840E-2432	84	24	32	44
GL840E-2436	84	24	36	44
GL840E-2932	84	29	32	44
GL840E-2936	84	29	36	44
GL480ES-2442	48	24	42	24
GL780ES-2442	78	24	42	42
GL780ES-3042	78	30	42	42
GL840ES-2442	84	24	42	44
GL840ES-3042	84	30	42	44
GL840ES-2448	84	24	48	44
GL840ES-3048	84	30	48	44

ES weight capacity: 2000 lbs.

E weight capacity: 1500 lbs.

INSTALLATION

Receiving, Unpacking, and Removing the E or ES Enclosure from the Pallet

Inspect and report any damage before receiving. Unpack the enclosure by carefully removing the corrugated carton and corners. Avoid damaging the enclosure when removing packaging.

WARNING: Only trained service personnel should be used to remove the enclosure from the pallet. Also, be sure you have a sufficient number of service personnel. Do not attempt to move enclosures by yourself.

WARNING: Be careful when moving enclosures before installation. Sudden stops and starts, excessive force, obstructed routes, and uneven floor surfaces may cause the enclosure to topple over.

Loading Equipment

WARNING: Only install equipment after the E and ES Enclosure has been properly secured. Do not move the E and ES Enclosure assembly while loaded.

Once in place at the desired/intended location, deploy the leveling feet for maximum stability.

Rated or maximum load capacity for the E and ES Enclosure is 1500 and 2000 pounds, respectively, on the floor or on leveling glides.

To maintain a uniform distribution of the mechanical load in the E and ES Enclosure, load the heaviest equipment first, at the bottom of the E and ES Enclosure and load the lighter units at the top.

OPERATING DOOR HANDLE

E SERIES

The door swing handles have been installed at the manufacturer. No additional assembly is required. To operate the swing handle, lift up at the bottom of the handle then swing the handle to the right to open. The handle must be kept in this position to close the door. Return the handle to the initial position and use the key provided to lock the handle. The lock on the side panels will accept the same key. The swing handles and doors are reversible.

ES Series Handles
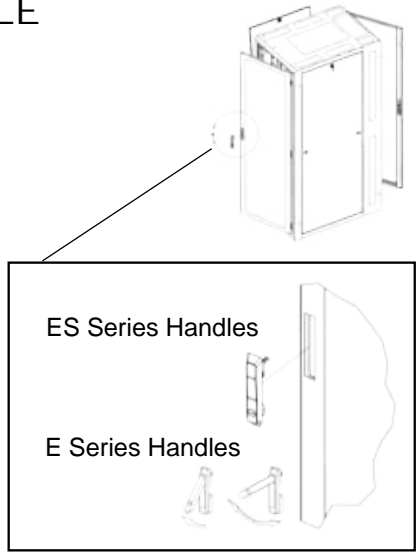
E Series Handles

ES SERIES

The mesh contour doors on 30"W ES cabinets use lift-up, locking handles. Simply lift up to release. If you are reversing the doors, make sure to switch the latch bracket to the other side.

DOOR REMOVAL AND ATTACHMENT

Open the door beyond 90 degrees, grasp the door with both hands and carefully lift upward. When the door is free of all three hinge pins, pull the door away from the enclosure. To attach the door, align all three hinges of the door to their respective hinge pins on the enclosure and slowly slide the door down until seated.

Open door beyond 90°; lift straight up

Hinge Pin   Hinge
Door

Align all three hinges to attach door
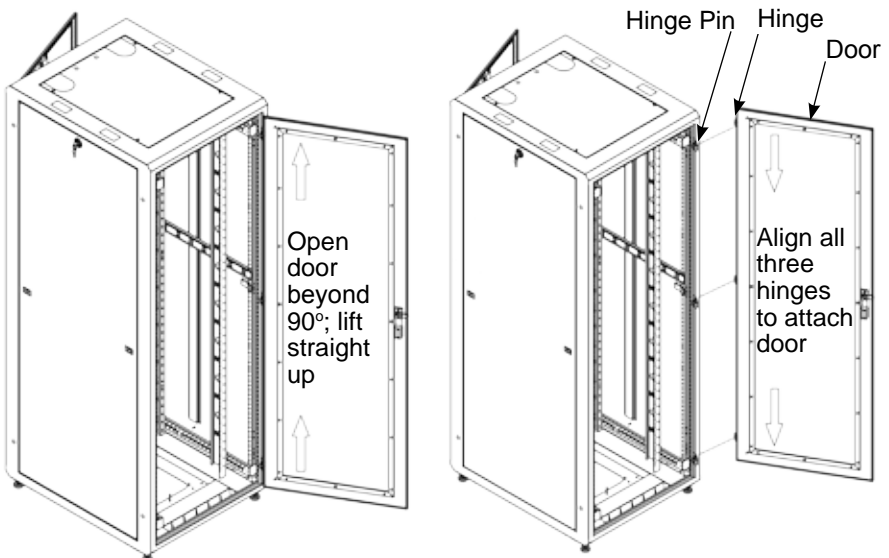
FIELD REVERSIBLE FRONT & REAR DOORS

The front and rear doors are installed right hand hinge as standard from the manufacturer. Removing the hinges allows you to reverse the door by flipping them over and reinstalling the hinges using the universal mounting holes. Begin both screws, then tighten while maintaining perfect vertical alignment. See detail below. All enclosure frames and doors have provisions to be hinged right or left hand. The handle can be reversed along with the hinging. See Operating Handle on page 5.

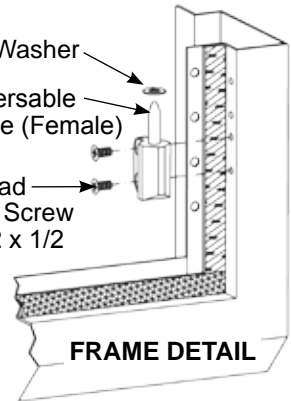## HINGE MOUNTING

Reversable
Hinge (Female)

Flat Head
Phillips Screw
10-32 x 1/2

DOOR DETAIL

Pivot Washer

Reversable
Hinge (Female)

Flat Head
Phillips Screw
10-32 x 1/2

FRAME DETAIL

SIDE PANEL REMOVAL

The side panels are secured to the enclosure frame with two quick release latches and a keyed lock. Be sure to unlock the side panel. To remove the side panel, squeeze the quick release latches towards each other. Then tilt the top of the side panel out slightly and lift the side panel up a couple of inches until it is free. To install the side panel, reverse the process. Make sure the slots on the side panel engage with the two tabs at the bottom of the frame.
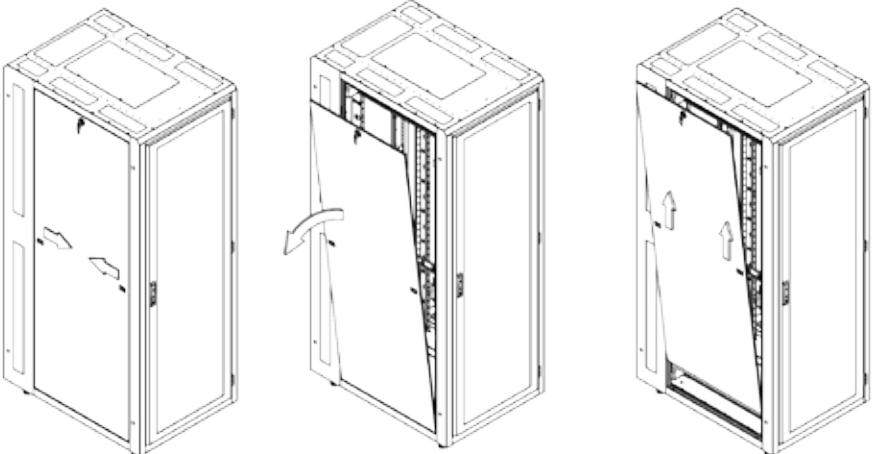
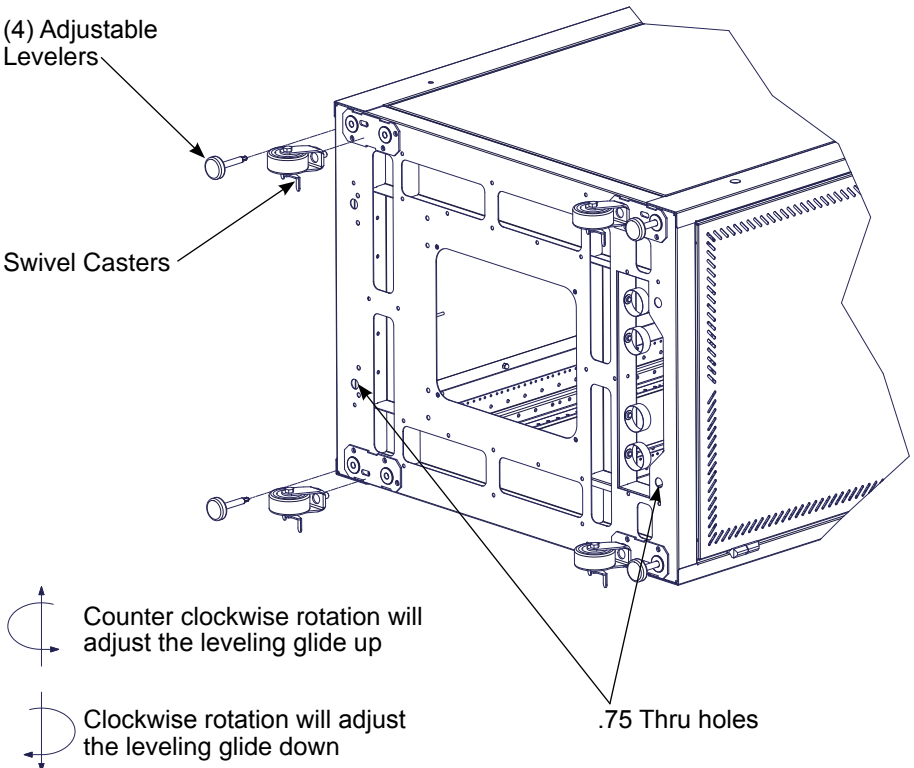# ADJUSTABLE LEVELER MOUNTING - E SERIES

On the bottom of the cabinet there are eight threaded holes, two in each corner. The outside holes are threaded 1/2"-13 thds. and will accept the levelers. Once the levelers (7209-N or 7209-N4) are installed, the cabinet level can be adjusted with the use of a 3/4" open-end wrench or a 5/16" closed wrench from inside of the enclosure.

ANCHOR MOUNTING THRU HOLE - E SERIES

The middle .75 dia. thru holes are for securing the enclosure to the floor. These holes will accept a standard concrete anchor if desired; the Seismic Anchor Kit (AK101) is suggested.

CASTER MOUNTING - E SERIES

The four inside holes in each corner are threaded 1/2"-13 thds. to accept the casters. *Be sure to thread the caster into the bottom of the cabinet until it is firmly seated.*

(4) Adjustable Levelers

Swivel Casters

Counter clockwise rotation will adjust the leveling glide up

Clockwise rotation will adjust the leveling glide down
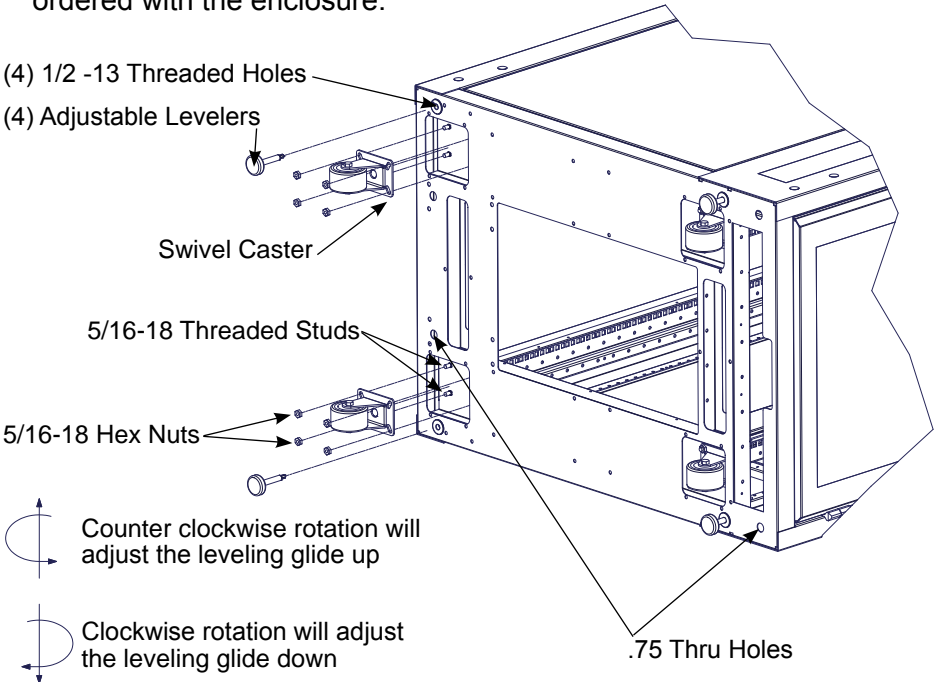
.75 Thru holes

CASTER AND LEVELER MOUNTING - ES SERIES

CAUTION
- To install casters or levelers the enclosure must be tipped onto its side. The enclosure can be very heavy, several people will be required in this process. Please practice safe lifting techniques.
- DO NOT lay the enclosure on its front or back, this may damage the door hinges.
- Removing doors and sides will help reduce the weight of the enclosure.
- Before tipping, remove the side panels to prevent damage to the locks and latches.

1. To install casters, the enclosure must first be tipped over onto/laid on its side.
2. Pass a plate caster over four threaded studs located in one of the recessed areas in the bottom of the enclosure.
3. Thread (1) 5/16-18 hex nut onto each stud and tighten with a 1/2" socket or nut driver.
4. Repeat steps 2 and 3 for the three remaining casters.
5. Install leveling glides (7209-N) at this time if they were ordered with the enclosure.

(4) 1/2 -13 Threaded Holes

(4) Adjustable Levelers

Swivel Caster

5/16-18 Threaded Studs

5/16-18 Hex Nuts

Counter clockwise rotation will adjust the leveling glide up

Clockwise rotation will adjust the leveling glide down
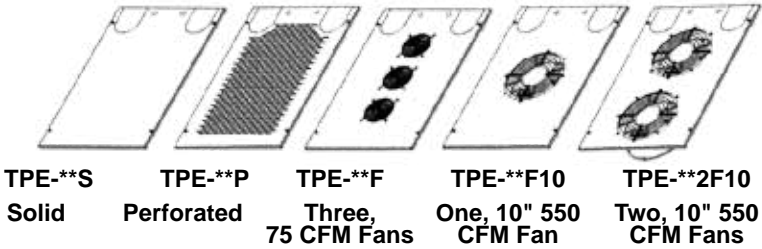
.75 Thru Holes

TOP PANEL MOUNTING

ES Enclosure

The top panel of the enclosure is installed at the manufacturer. Removing the top panel can be done by removing the four #10-32 x 1" lg. phillips pan head screws (E Series), or the four #10-32 x 1/2" lg screws (ES Series). Then simply lift the top panel out or off.
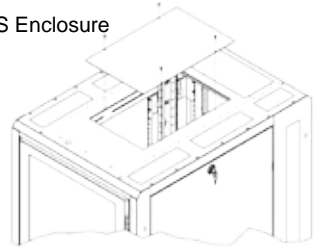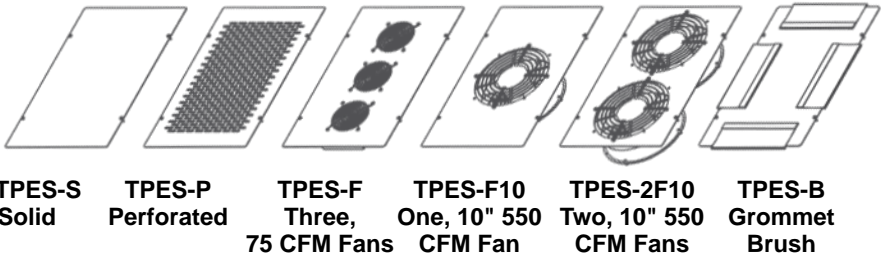
Top panels are available for 24"W (TPE-24) and 29"W (TPE-29) E Enclosures. There are 5 options for E Enclosures:
*** indicates enclosure width in part number*

TPE-**S	TPE-**P	TPE-**F	TPE-**F10	TPE-**2F10
Solid	**Perforated**	**Three,** **75 CFM Fans**	**One, 10" 550** **CFM Fan**	**Two, 10" 550** **CFM Fans**

There are 6 top panel options for ES Enclosures:

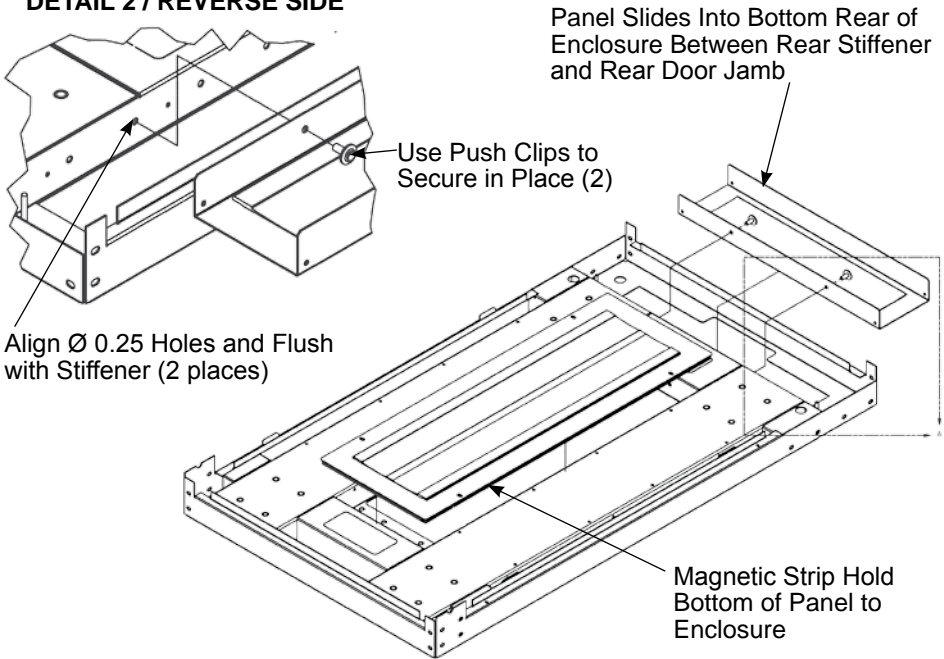| TPES-S	TPES-P	TPES-F	TPES-F10	TPES-2F10	TPES-B
Solid	**Perforated**	**Three,** **75 CFM Fans**	**One, 10" 550** **CFM Fan**	**Two, 10" 550** **CFM Fans**	**Grommet** **Brush**

BOTTOM PANELS - E SERIES

There are several styles of panels available for the bottom of your E Series enclosure. Optional panels are solid, filtered or brush grommet. These panels have foam gasketing for a positive seal and mount to four internally threaded studs using #10-32 x 1/2" lg. phillips pan head screws. The back opening can be covered with a solid metal cover. These covers are specific to the width of the enclosure.
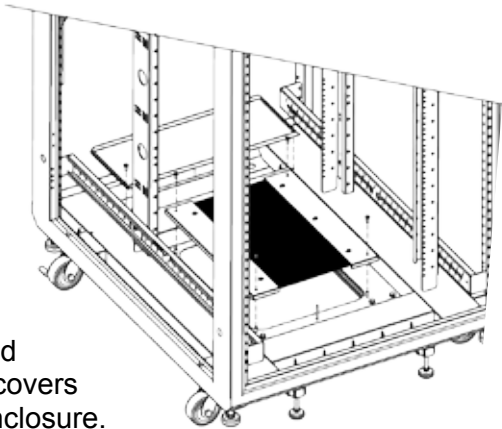
BOTTOM PANEL - ES SERIES

Bottom Panels (brush grommet and solid) for the ES series comes in two sections. One for the middle opening and one for the rear. Once you have unpacked the large "flat" rectangular middle section, place it in the bottom of the enclosure with the magnetic strip down. The rear section is ready to go. Remove the plastic cable clips. Find the push-in fasteners (2) in the hardware bag, line up the holes in the bracket with the rear opening of the enclosures and attach.

DETAIL 2 / REVERSE SIDE

Panel Slides Into Bottom Rear of Enclosure Between Rear Stiffener and Rear Door Jamb

Use Push Clips to Secure in Place (2)

Align Ø 0.25 Holes and Flush with Stiffener (2 places)

Magnetic Strip Hold Bottom of Panel to Enclosure

MOUNTING RAILS

The vertical mounting rails (each enclosure has two pairs, 12 ga. steel, powder coated rails), come installed with all standard frames at 19" EIA 310-E. The 29"W E Series enclosure and the 30"W ES enclosure can be configured to 23" EIA mounting with an optional replacement bracket set. Universal cage nut rails (M6) are standard. Tapped #10-32 rails are available. (Must be specified at time of order.)

Rack Mount Units (RMU) are marked on rails for easy equipment mounting. Flexible Mounting Profile (FMP), round cable pass through holes, and vertical and horizontal cable tie down slots can be found on side of rails.

FMP
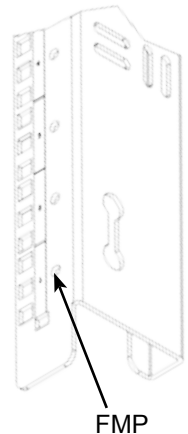
RAIL ADJUSTMENT

E Series rails are attached using a sliding nut plate and a 1/4-20 hex head bolt. ES Series rails are attached using 1/4-20 carriage bolt and 1/4-20 hex nut with serrated flange. By loosening top and bottom bolts using a 3/8" socket set, the rails can be adjusted infinitely front to back.
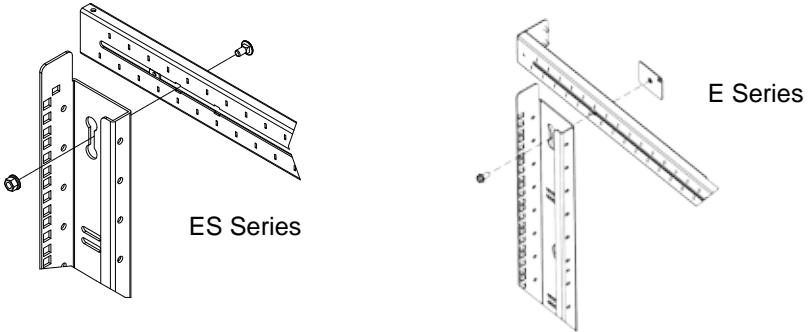

ES Series

E Series

STANDARD POWER STRIP MOUNTING E SERIES

For your convenience, we have provided mounting brackets in the left rear and right rear corners of the enclosure for mounting power strips vertically. Typically, any power strip shipped with an enclosure will be installed at the manufacturer. To install a power strip in the field, remove the #10-32 x 1/2" lg. screws that secure the bracket to the frame. Place the power strip into the corner post of the frame and then place one bracket between the top two outlets and install the #10-32 x 1/2" lg. screw into the threaded hole in the frame. Then place the other bracket over the power strip between the bottom two outlets and secure to the frame with the same type of screw.
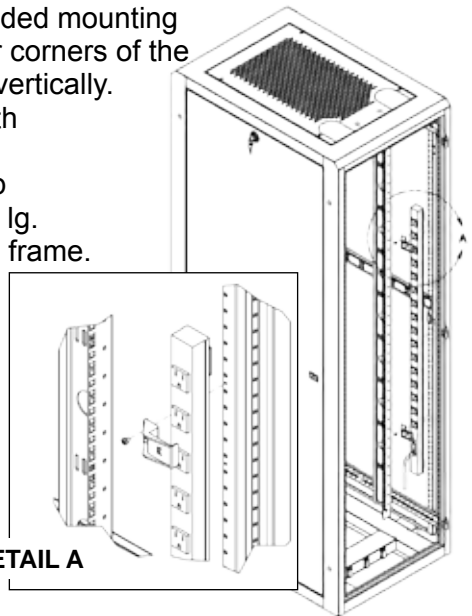
DETAIL A

POWER

When using power distribution units (PDUs), each PDU should be connected to a committed branch circuit that is rated for the continuous load of all the equipment connected. When not using a PDU, each piece of equipment should be connected to a dedicated branch circuit.

UNIVERSAL POWER STRIP BRACKETS - E SERIES

Great Lakes offers a universal power strip bracket kit. These brackets allow you to mount a PDU with button mounting. See drawing.
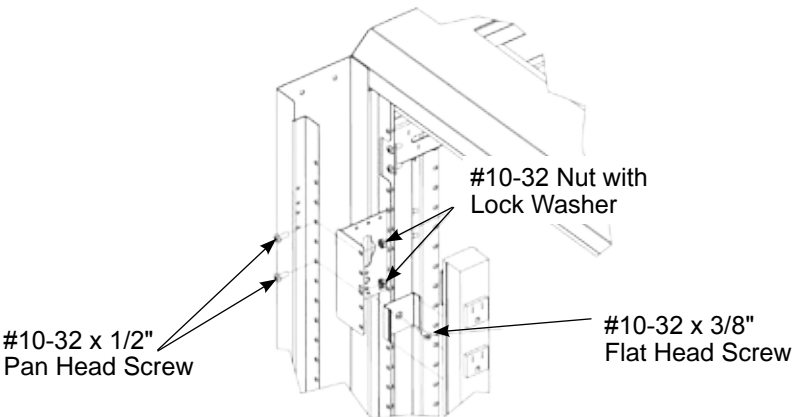

PDU Bracket	Spring Clip	Tinnerman Clip	10/32 Nut w/Lock Washer	10/32 x 3/8" Flat Head Screw	10/32 x 1/2" Pan Head Screw
PSBKE	2	2	10	10	10	10

To mount Universal Power Strip Brackets in an E enclosure or cabinet extension, measure the required mounting distance top to bottom, install brackets, then install power strip.
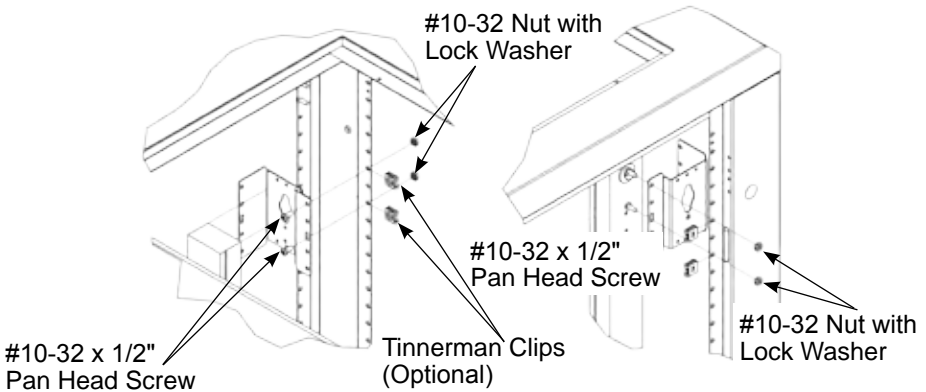

MOUNTING IN A CABINET EXTENSION

OPTIONAL ACCESSORIES

PLASTIC CABLE MANAGEMENT FINGERS – ES SERIES

The CM-47 and ESC-K12 consist of 7 RMU sections of "fingers" that mount to the Flexible Mounting Profile (FMP) of ES Enclosure rails; the CM-47 is a single section, while the ESC-K12 is a kit of 12 sections. Fingers can be installed on the front or rear rails, but front rails must be recessed 4.5" for proper installation. It is recommended that each CM-47 be installed using 3 points of attachments.

ESC-K12 Cable Management Kit for 78" or 84" E, ES or EN Enclosure (Front or Rear)
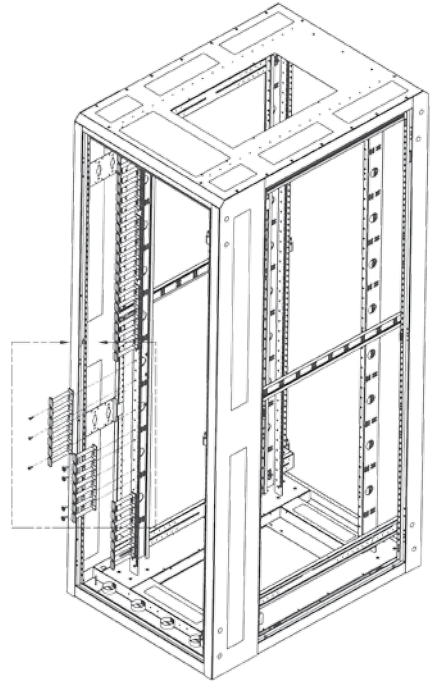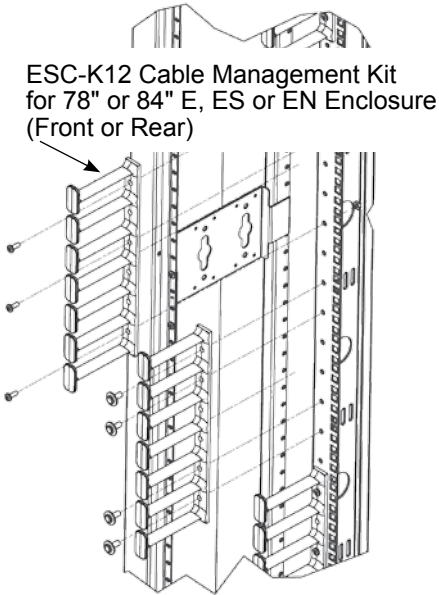
HCM-D36ES MOUNTING - 30"W ES SERIES
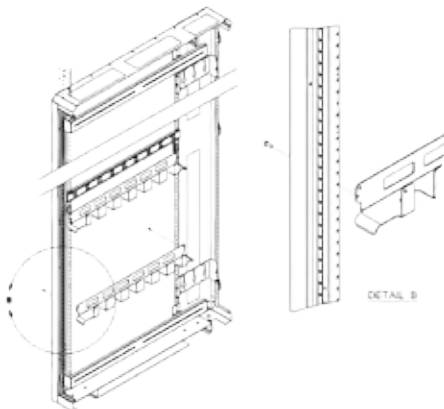
HCM-D36ES are horizontal cable troughs that can be used in the ES enclosures. If these parts are ordered with the enclosure, they are pre-installed. If you need to move the trough, please do so before ganging enclosures. These troughs are installed between the side panel and the 19" rack mount rails. Side panel will have to be removed before installation. (See detail.)

VERTICAL CABLE TROUGH & PDU MOUNTING
ES SERIES (For GL780ES, GL840ES)

The ES enclosures come with a universal power strip bracket set in both rear corners. These bracket sets will accept a wide range of Power Distribution Units (PDUs) and will also accept vertical cable troughs. The VCT-78 and VCT-84 (3"W x 2.572"D) are ES enclosure vertical cable troughs. Figures A, B, C & D show the bracket and the usable mounting space in 42"D enclosures; brackets in 48"D enclosures (not pictured) have six sets of holes. The size of the PDU will determine how many of them you will be able to place on the brackets. Keep in mind the VCT-** are 3"W. The location of the button mounting will also need to be taken into consideration when placing your PDUs.
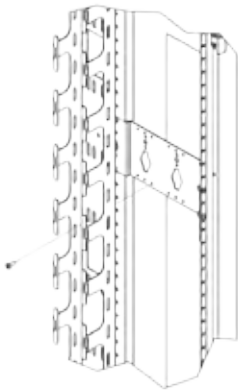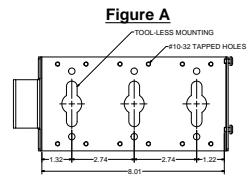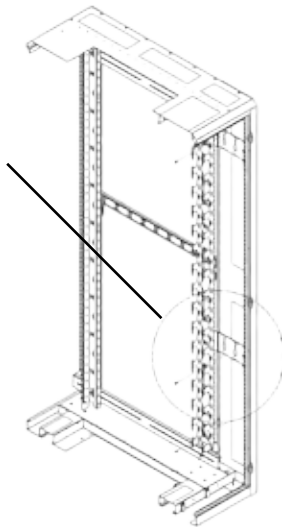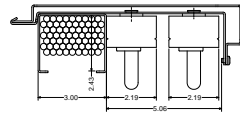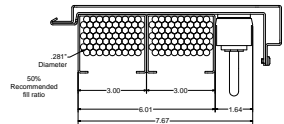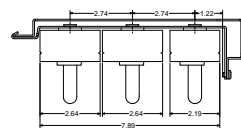
Detail F

Figure A

Figure B

Figure C

Figure D

POWER

When using power distribution units (PDUs), each PDU should be connected to a committed branch circuit that is rated for the continuous load of all the equipment connected. When not using a PDU, each piece of equipment should be connected to a dedicated branch circuit.

VERTICAL LACING BARS - E AND ES ENCLOSURES

Vertical lacing bar kits include two horizontal lacing bars and one vertical lacing bar. When ordered with an enclosure, these kits will come pre-installed. Lacing bars run independently from 19" rack rails and are infinitely adjustable front to back. Additional vertical lacing bars are also available. Available Lacing Bar Kits include:

VLB-4832   Lacing Bar Kit (48"H x 32"D enclosures)
VLB-4836   Lacing Bar Kit (48"H x 42"D enclosures)
VLB-7232   Lacing Bar Kit (72"H x 32"D enclosures)
VLB-7236   Lacing Bar Kit (72"H x 36"D enclosures)
VLB-7836   Lacing Bar Kit (78"H x 42"D enclosures)
VLB-8432   Lacing Bar Kit (84"H x 32"D enclosures)
VLB-8436   Lacing Bar Kit (84"H x 36, 42, and 48"D enclosures)
VLB-72   Vertical Lacing Bar (72"H enclosures)
VLB-78   Vertical Lacing Bar (78"H enclosures)
VLB-84   Vertical Lacing Bar (84"H enclosures)

Detail B
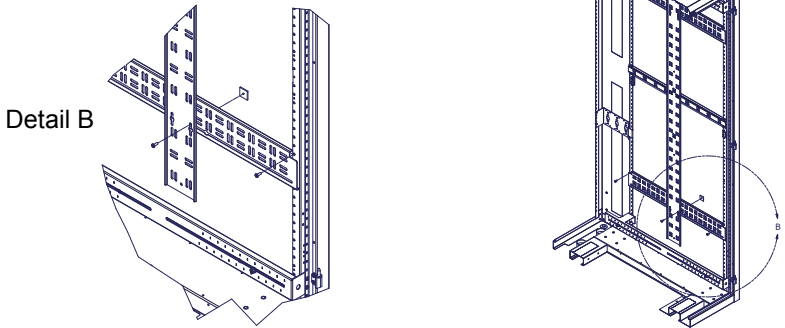
HORIZONTAL LACING BARS - E AND ES ENCLOSURES
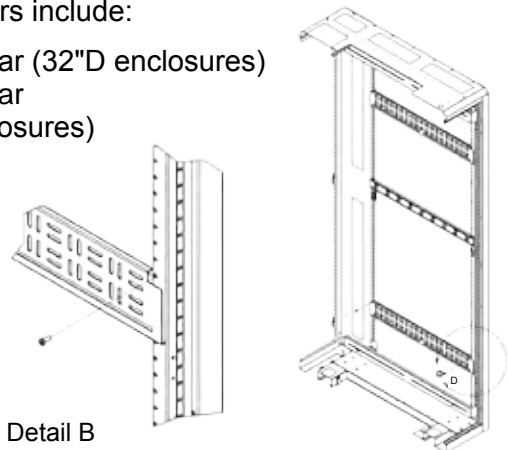
Horizontal lacing bars are depth specific. Double rows of vertical and horizontal slots allow you to use velcro straps or cable ties to secure your cables, which you can run from front to rear of enclosure. Available Horizontal Lacing Bars include:

HLB-32   Horizontal Lacing Bar (32"D enclosures)
HLB-36   Horizontal Lacing Bar
           (36, 42 & 48"D enclosures)

Detail B

OVERHEAD CABLE TROUGH - ES SERIES

When ordered with the enclosure, the overhead cable trough ships assembled, but not installed. When ordered separately, the trough will still ship assembled. The top of the ES enclosure has a variety of mounting holes. Place the trough where you require cable routing. For 24"W enclosures, use the TCT24; for 30"W enclosures, use the TCT30.
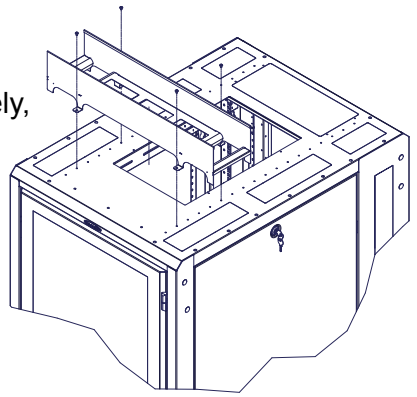
LADDER RACK BRACKET - ES SERIES

The LRB-12 (to support 12" rack) and LRB-24 (to support 18 and 24" rack) is a single ladder rack bracket with installation hardware; Two brackets are required per enclosure (See detail). Once two brackets are installed, you can attach your ladder rack.

5/16" - 18 x 3" "J" Bolt

Ladder Rack Brackets

5/16"-18 Flat Washer

5/16"-18 Hex Nut

5/16"-18 Flat Bolt

5/16"-18 Flat Washer

5/16"-18 Hex Nut

DETAIL A
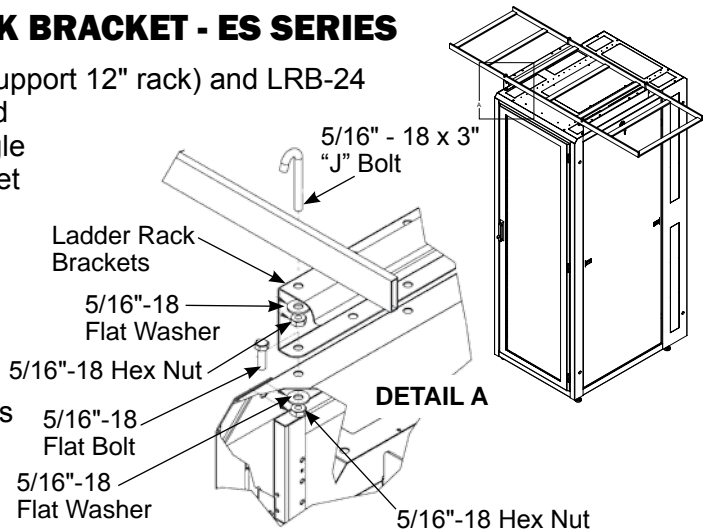
LADDER RACK ATTACHMENT HOLES - E SERIES

All E Series tops have pre-drilled cable runway attachment holes.
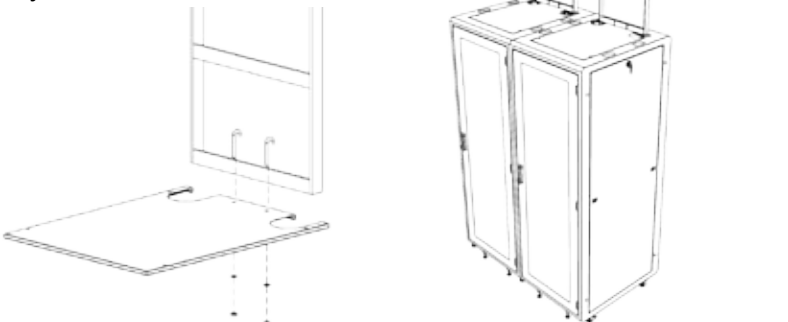
EXTERNAL CABLE MANAGER/SIDE CAR - ES SERIES

The side car (SC128442) is a 12"W external cable manager for 84"H enclosures. It can be mounted between two enclosures or mounted on a single enclosure. The side car has two vertical troughs (84"H x 12"W x 3"D), "fingers," and attachment points for cable ties and cinch straps. For complete side car installation instructions, visit werackyourworld.com/drawings/
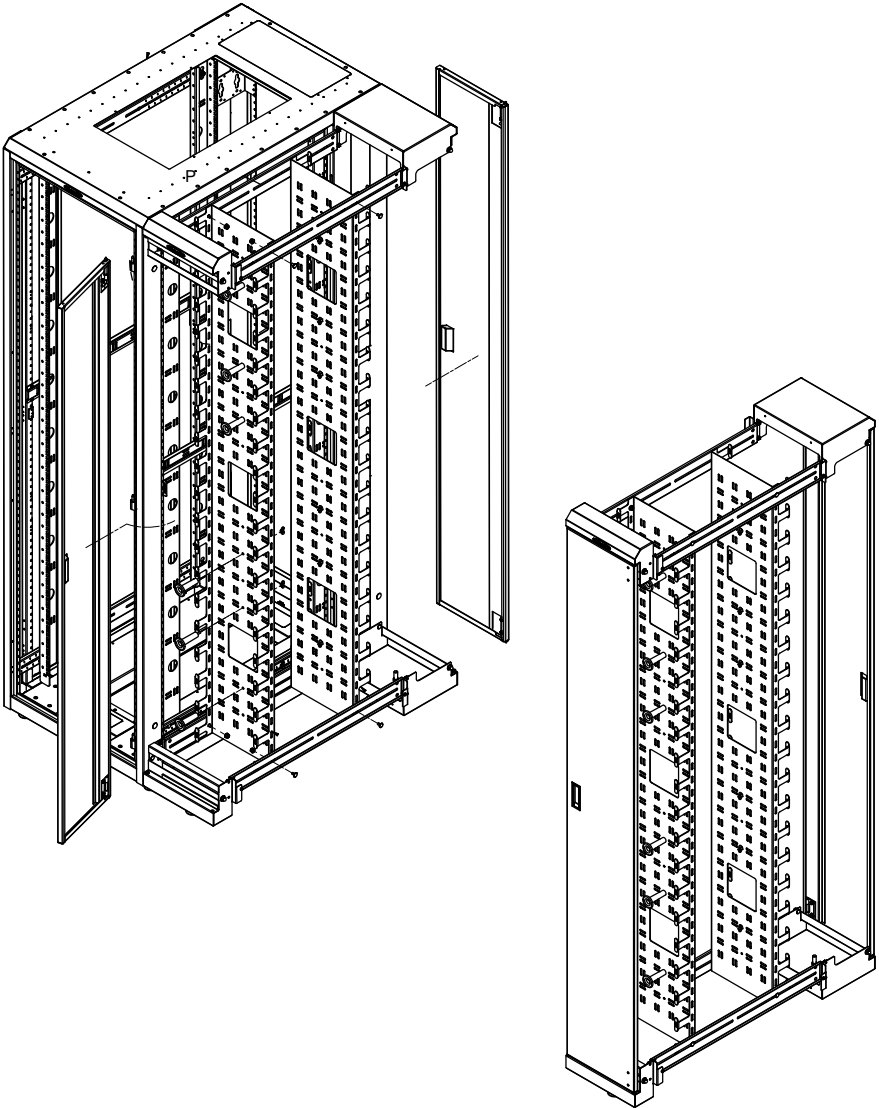
ZERO RMU MOUNTING, ZR1 & ZR2 - E and ES SERIES

Both ZR bracket kits fit on the 30"W ES and 29"W E enclosures. These allow for "0" RMU mounting of 19" rack mount power strip units or other 1 or 2 RMU equipment (such as patch panels). Install the bracket onto the rail or post toward the side panel. It is important to ensure you have 18.31" between the inner holes for 19" mounting.
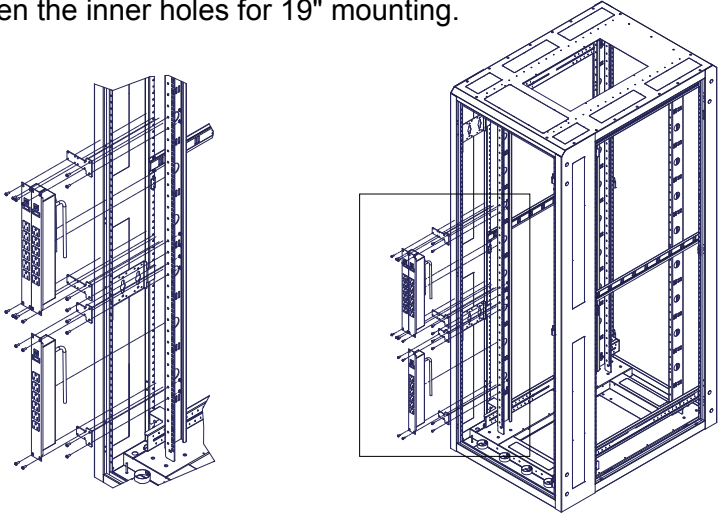
PDU1 MOUNTING - E and ES SERIES

The 30"W ES and 29"W E allows for "0" RMU mounting of 19" rack mount power strip units or other 1 RMU equipment (such as patch panels). You can mount up to twelve (12), 1 RMU pieces of equipment this way. Install the bracket into the side panel flange. Make sure you have 18.31" between the inner holes. (See detail B.)

18.31"
Mounting
Holes

18"

#10-32
Holes
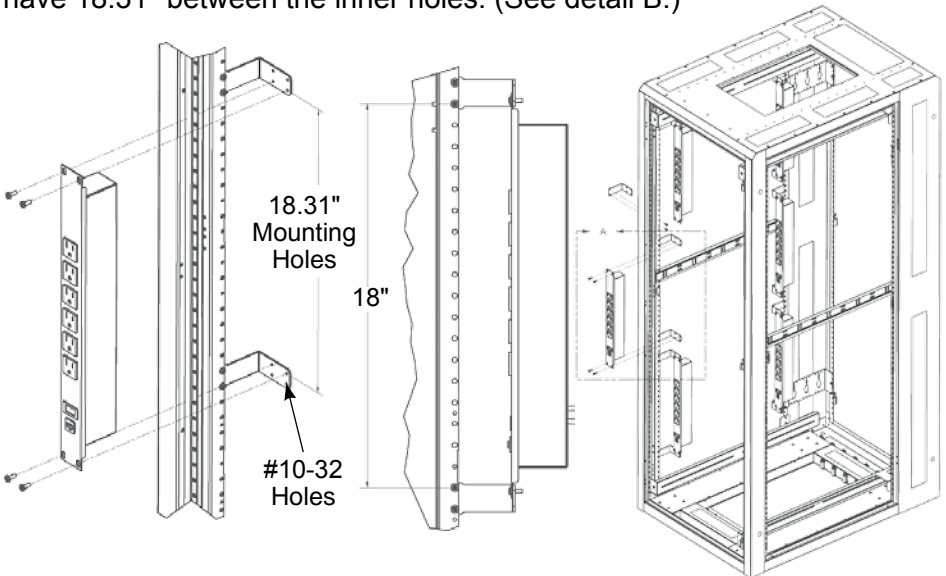
AIR MANAGER & FAN TRAY - ES SERIES

IMPORTANT: If you are installing the optional fan tray, please install before the air manager. The Standard Air Manager will take up the first RMU in the bottom of your enclosure and the High Flow Air Manager will take up the first two RMU.

INSTALLATION OF FAN TRAY
Install four (4) #10-32 x 1/2" screws in the middle center of the ES enclosure. Make sure to remove the plastic cable guides from the middle rear. Place the fan tray on the #10-32 screws. Plug in the power cord and ensure that it goes through the small notch of the Air Manager. (see detail "D").

INSTALLATION OF AIR MANAGER
Place the Air Manager in the bottom of your ES enclosure, attach using two cage nuts per side. Use the wing nuts to secure the vertical air deflector. After you have installed the Air Manager, you can change the amount of airflow by sliding the adjustable panel. Available Air Manager and Fan Trays include:

AM-HFES	High Flow Air Manager Assembly for ES Enclosures
AM-HFFTES24	High Flow Air Manager Fan Tray for 24"W Enclosures, 940 CFM
AM-HFFTES30	High Flow Air Manager Fan Tray for 30"W Enclosures, 940 CFM
AM-ES	Air Manager Assembly for ES Enclosures
AM-FTES24	Air Manager Fan Tray for 24"W Enclosures, 600 CFM
AM-FTES30	Air Manager Fan Tray for 30"W Enclosures, 600 CFM

Vertical Air Deflector Panel

DETAIL C

#10-32 Wing Nuts for Vertical Deflector Mounting Notches

Main Body Flange and Front Diverter Mounted to Bottom RMU on Rail

Fan Power Plug - Notch in Rear of Air Manager For Cord

DETAIL D

Main Body Flange and Front Diverter Mounted to Bottom RMU on Rail

Adjustable Airflow Panel

#10-32 x 1/2"L Self Tapping Screws Installed with 1/4" Gap for Fan Tray Notches to Rest on (Qty. 4)

EXHAUST CHIMNEY & FAN TRAY - ES SERIES

INSTALLATION OF ADJUSTABLE EXHAUST CHIMNEY

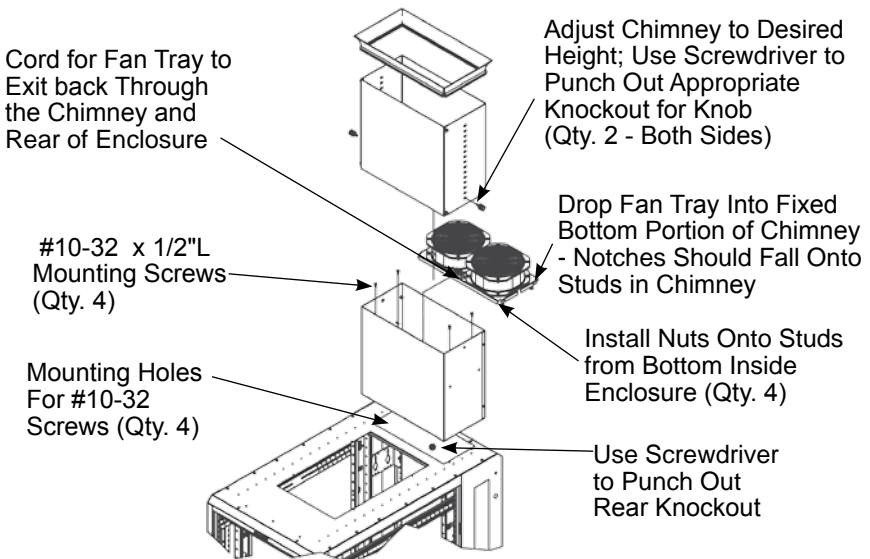Before installation, remove the rear, top knockout from the enclosure. Place assembled chimney on top and attach from the inside using #10-32 screws. Raise the outer section so the seal touches the ceiling.

INSTALLATION OF FAN TRAY

Place fan tray onto fixed portion of the chimney, ensuring cord is hanging through the chimney and into the enclosure. The fan will rest on four studs. Secure the fan with #10-32 nuts from the inside of the enclosure. Available Chimney and Fan Trays include:

GL-ECHF-48-1832	High Flow Chimney for 48"D enclosure with an adjustable range of 18" to 32"
GL-ECHF-48-3246	High Flow Chimney for 48"D enclosure with an adjustable range of 32" to 46"
GL-ECHFFT48	High Flow Fan Tray for 48"D enclosure, 2260 CFM
GL-EC-48-1832	Chimney for 48"D enclosure with an adjustable range of 18" to 32"
GL-EC-48-3246	Chimney for 48"D enclosure with an adjustable range of 32" to 46"
GL-ECFT48	Fan Tray for 48"D enclosure, 1200 CFM
GL-EC-42-1832	Chimney for 42"D enclosure with an adjustable range of 18" to 32"
GL-EC-42-3246	Chimney for 42"D enclosure with an adjustable range of 32" to 46"
GL-ECFT42	Fan Tray for 42"D enclosure, 1200 CFM

Cord for Fan Tray to Exit back Through the Chimney and Rear of Enclosure

Adjust Chimney to Desired Height; Use Screwdriver to Punch Out Appropriate Knockout for Knob (Qty. 2 - Both Sides)

#10-32 x 1/2"L Mounting Screws (Qty. 4)

Drop Fan Tray Into Fixed Bottom Portion of Chimney - Notches Should Fall Onto Studs in Chimney

Mounting Holes For #10-32 Screws (Qty. 4)

Install Nuts Onto Studs from Bottom Inside Enclosure (Qty. 4)

Use Screwdriver to Punch Out Rear Knockout

MESH CONTOUR DOOR - ES SERIES

The mesh contour door for the 24"W enclosures will accept a two (2) hole fan assembly, (7217LE2). The mesh contour door for the 30" and 29"W enclosures will accept a three (3) hole fan assembly (7217LE3). Both of these fan assemblies simply need to be attached to the door using the supplied #10-32 hardware. The fans should be placed where you need to alleviate a hot spot.
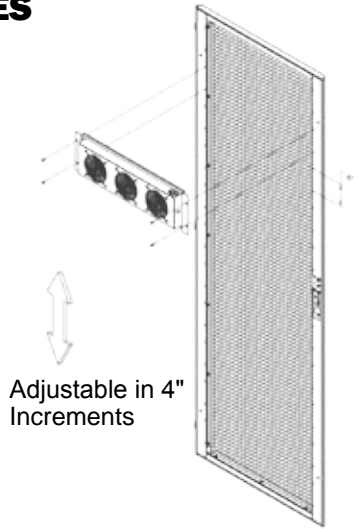
Adjustable in 4" Increments

BRUSH GROMMET KIT - ES SERIES

The brush grommet kit is best installed before any equipment is installed in the enclosure. Please refer to detail A for mounting and hardware usage. BGRK24 is for use with 24"W ES enclosures, while the BGRK30 is for use with 30"W ES enclosures.

19" EIA Equipment Mtg. Rails Shown for reference Included with Enclosure

Brush Strips. Flexible PVC, 1"L Trim Slides Onto Outside Edge of Mounting Plates that are Installed Onto Front Face of the Equipment Rails

19" EIA Equipment Mtg. Rails Shown for Reference. Include with Enclosure

Top Cross Plate

DETAIL A

Vertical Brush Strip Mtg. Plates

Tool-less Hardware Push/Pull Nylon Rivet

Brush Strips. Flexible PVC, 1"L Trim Slides Onto Outside Edge of Mounting Plates that are Installed Onto Front Face of the Equipment Rails
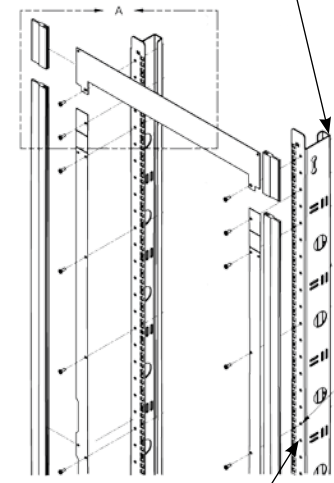
Mount 1/4" Thru Holes on Front Face of Rails
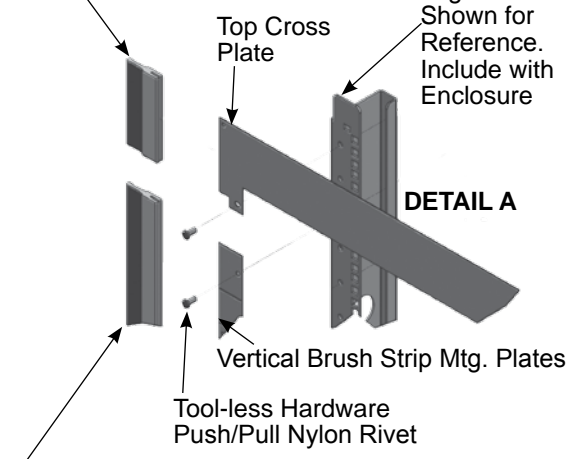
BAFFLE KITS

Baffle Kits can be installed in ES Enclosures and Great Lakes EN Enclosures (visit werackyourworld.com for installation instructions). While this user's manual is specific to ES/E enclosures, please note that the chart and following information also references EN Enclosures.

Baffle Kits create proper airflow for switches and side-to-side airflow equipment, as suggested by manufacturers such as CISCO. Cool air is channeled into the equipment along the right side and exhaust air is directed out along the left side of the equipment. Kits are tool-less and easily attach to rails outside of the EIA mounting profile. Kits (available for 25, 19, 14, and 11 RMU equipment) are unique to ES and EN enclosures, creating the perfect fit between switch and enclosure.
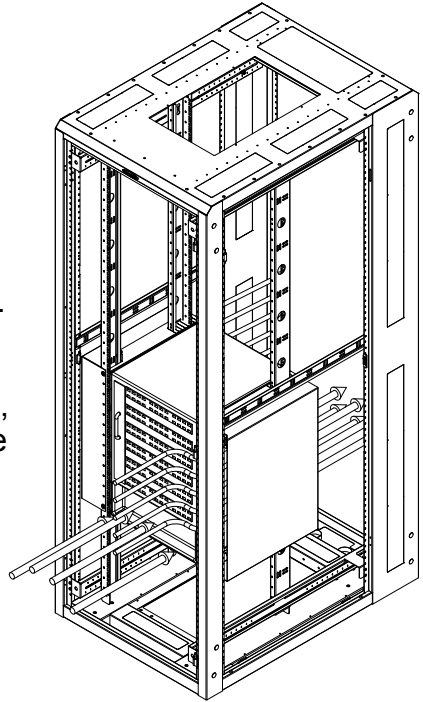
	Recommended Great Lakes Enclosure		Great Lakes Baffle Kit Part No.	
	EN Series Enclosure	ES Series Enclosure	EN Baffle Kit	ES Baffle Kit
7000 Series				
7018[1]	8401EN-4048	N/A	ENSAB25	N/A
9000 Series				
9513	8401EN-3242	XX01ES-30XX	ENSAB14D	ESSAB14D
9509[2]	8401EN-3242	XX01ES-30XX	ENSAB14	ESSAB14
6000 Series				
6513(-E)	8401EN-3242	XX01ES-30XX	ENSAB19	ESSAB19
6509(-E)	8401EN-3242	XX01ES-30XX	ENSAB14	ESSAB14
6506(-E)	8401EN-3242	XX01ES-30XX	ENSAB11	ESSAB11

[1] Four post mounting is required with a rail placement of 24".
[2] An additional 0.75" of height is required for rail mount brackets; brackets can be removed after chassis is installed.

CHOOSING YOUR BAFFLE KIT & ENCLOSURE

Based on your switch/equipment, choose the appropriate EN or ES enclosure. Take into consideration your cable management, cooling, and power needs; each enclosure addresses these needs in different ways. Baffle Kit part numbers are specific to ES or EN Enclosures.

The chart below shows which kits accommodate various CISCO switches. Other brands of side-to-side airflow equipment can also be mounted. To determine the correct enclosure and baffle kit, compare physical equipment dimensions to what is listed.

For detailed instructions on how to install your baffle kit, please refer to the instructions provided with your baffle kit. These instructions are also available at werackyourworld.com

Although equipment may physically fit into a Great Lakes enclosure, with or without brackets, customers must also review and comply with the equipment manufacturer's installation and other requirements. For example, the E and ES Series Enclosures, when in an open frame configuration, can physically support the installation of a Cisco 7018 Series switch; however, the E and ES Series Enclosure frame designs do not provide the airflow space clearance required by Cisco.

Great Lakes' EN (Enhanced Networking) Series of enclosures is designed to support the installation of Cisco switches and other side-to-side airflow equipment. The EN Series has the airflow space clearances that are currently required and has accessories (including baffle kits) that are designed to support proper operational conditions. For more information, please contact your Great Lakes representative or call 1-866-TRY-GLCC.

When any equipment or accessory is installed in a Great Lakes product, the installation procedures, recommendations and product warranty requirements of the equipment manufacturer must be followed. Great Lakes will not be responsible for any losses or claims arising from a customer's installation of electrical, electronic or other third party products in any Great Lakes enclosure, unless caused solely by a written configuration prepared by Great Lakes for that customer or by a configuration provided by Great Lakes' website, any configuration relies on complete and accurate information from the customer.

Physical Equipment Dimensions			CISCO Recommended Clearances	
RMU	Height	Depth	Equipment to Wall	Equipment to Equipment
25 RMU	43.75"	32.00"	11.00"	22.00"
14 RMU	24.50"	28.00"	6.00"	12.00"
14 RMU	24.50"	18.40"	2.50"	6.00"
19 RMU	33.30"	18.10"	6.00"	12.00"
14 RMU	25.20"	18.10"	6.00"	12.00"
11 RMU	20.10"	18.10"	6.00"	12.00"

NOTE: It is important to read and understand CISCO installation guides that are associated with each switch.

NETWORKING/ GANGING

Enclosures can be networked using the following networking/ganging kits:

G101   Networking/Ganging Kit to gang two E Enclosures (pictured)
G101ES   Networking/Ganging Kit to gang two ES Enclosures
G101EN2ES   Networking/Ganging Kit to gang an EN Enclosure to an ES Enclosures

Washer   Washer
Lock Washer

Wing   Thumb
Nut   Screws

No Tools Required!
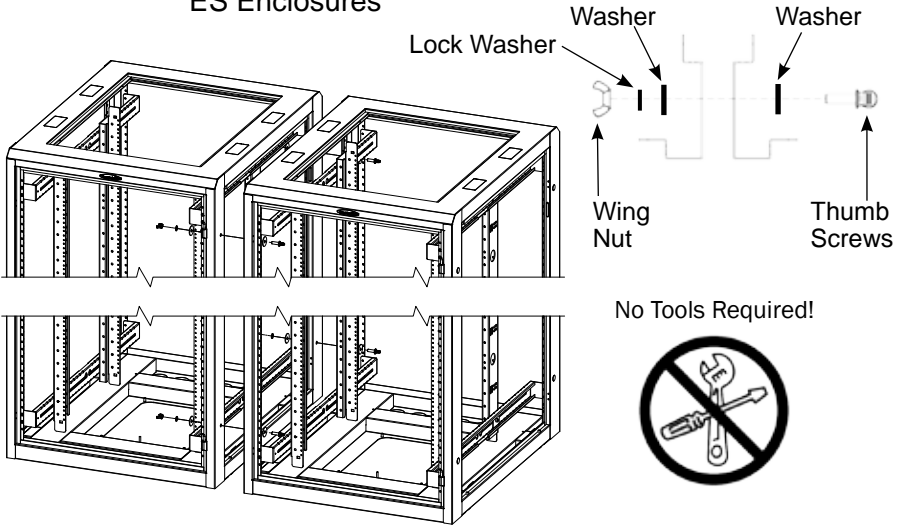
GROUNDING

GROUNDING KIT, GR101

Grounding studs in our E and ES Series enclosures provide a point to which the doors may be grounded to the enclosure and from which the enclosure may be connected to the facility's common ground. The studs are made from copper which is a conducting metal. E Enclosures have three ground studs in the frame: two in top and one in the bottom. ES Enclosures have two ground studs in the bottom rear of the frame.

Ground Stud:
#10-32 x 1 7/8 LG
or M6 x 50mm LG
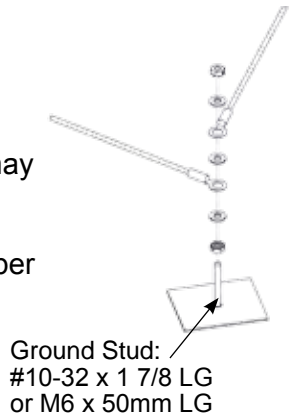
This kit allows you to ground the enclosure so that it is ready to be connected to the common building ground.

Using the grounding straps supplied, connect one end of the strap to copper ground stud on the side panels and/or doors and the other end to copper ground stud on the frame of the enclosure. Once all straps have been connected to a copper frame stud, have at least one frame stud connected to the common building ground.

COPPER BUS BARS

It is important to note that grounding the enclosure does not ground the equipment mounted within it. In order for any individual devices and components mounted within an enclosure to be grounded, they must be connected to a copper bus bar. Available copper bus bars include:

- CBB-19 Copper Bus Bar for 19" rack mounting (Isolated)
- CBB-48 Copper Bus Bar for 48"H enclosures (Isolated)
- CBB-60 Copper Bus Bar for 72"H enclosures (Isolated)
- CBB-72 Copper Bus Bar for 78" and 84"H enclosures (Isolated)
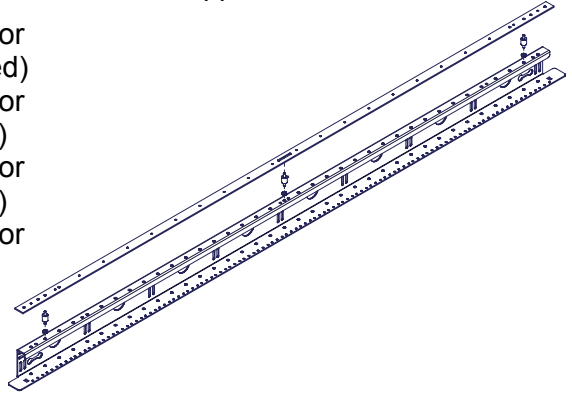
PROTECTIVE GROUNDING

Protective grounding studs are provided along with grounding jumper wires that electrically bond the enclosure doors to the enclosure frame.

WARNING: To avoid injury to persons or loss of life, ground each enclosure individually to the dedicated branch circuit ground.

CONNECTING MAIN PROTECTIVE GROUNDING STUD TO THE DEDICATED BRANCH CIRCUIT GROUND

Connect the dedicated branch circuit ground connector to the main protective grounding stud located inside at the bottom rear of the enclosure frame using a listed ring or closed-loop terminal.

CONNECTING MAIN PROTECTIVE GROUNDING STUD TO THE PROTECTIVE BONDING CONDUCTORS

Connect the rear doors to the main protective grounding studs located inside at the bottom and top rear of the enclosure chassis using a listed ring or closed-loop terminal. Connect the front door to the grounding stud located inside at the bottom front of the enclosure frame using a listed ring or closed-loop terminal.

PARTS NOT BONDED TO PROTECTIVE EARTHING TERMINAL

The following parts are not effectively bonded to the protective earthing terminal: rails and front to back rail horizontals. If these parts need to be bonded to the protective earthing terminal, do so in accordance with Article 250 of the National Electric Code.

ACCESSORIES

STATIONARY SHELVES: 19" Rack Mount

PART NO.	WIDTH	DEPTH	MAX TAB PMT.*	WT. CAP.
7206-FM	17.25"	18.00"	-	60 lbs.
7206-EIA	17.46"	18.00"	-	80 lbs.
7206-FR-AHD	17.50"	22.25"	26.125"	200 lbs.
7206-FR-ADHD	17.50"	27.25"	32.250"	150 lbs.
7206-FR-A28HD	17.50"	28.00"	30.180"	300 lbs.
7206-FR-A32HD	17.50"	32.00"	36.000"	300 lbs.
7206-BT	17.00"	20.75"	25.250"	300 lbs.

SLIDING SHELVES: 19" Rack Mount

PART NO.	WIDTH	DEPTH	MAX TAB PMT. *	WT. CAP.
7206-FRSL-AHD	17.50"	22.00"	26.125"	110 lbs.
7206-FRSL-ADHD	17.50"	26.00"	32.125"	110 lbs.
7206-FRSLA300	14.33"	30.00"	36.12"	300 lbs.
7206-SL	16.34"	17.50"	-	40 lbs.
7206-DR	16.00"	18.875"	25.500"	100 lbs.

SPECIALTY SHELVES: 19" Rack Mount

PART NO.	WIDTH	DEPTH	MAX TAB PMT.*	WT. CAP.
7206-MKM	17.00"	24.00"	36.12"	200 lbs.
7206-PKB-MT	20.62"	9.50"	36.12"	N/A

VERTICAL POWER STRIPS

PART NO.	OUTLETS	LENGTH/FEATURES
7215	16	49" Circuit Breaker, 5-15P Plug, 5-15R Receptacle
7215-S	16	49" Surge Suppressor, C.B, 5-15P Plug, 5-15R Receptacle
7215-ARTLP	16	49" C.B., Twist Lock Plug L5-20P, 5-20R Receptacle
7215-20AR	16	49" Circuit Breaker, 5-20P Plug, 5-20R Receptacle
7215-30A	24	48" Two banks of 12 NEMA 5-20R Receptacles, L5-30P Plug
7218-24	8	25" Circuit Breaker, 5-15P Plug, 5-15R Receptacle (for use with 48" and 60"H enclosures

* Measure your vertical EIA rails front to back for shelf compatibility. Shelf mounting tabs are adjustable beyond the shelf surface depth for maximum flexibility.

Visit our web site at www.werackyourworld.com for a complete list of available accessories.
NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS

READY

SET

GO!

CONFIGURED ENCLOSURES: ANY WAY YOU WANT, SHIPPED WITHIN 24-48 HOURS!

READY - CHOOSE A STANDARD ENCLOSURE PICK THE GREAT LAKES ACCESSORIES YOU NEED

SET - WE'LL CONFIGURE THE ENCLOSURE EXACTLY HOW YOU SPECIFY. EVERYTHING IS WRAPPED IN ONE ENCLOSURE

GO - CONFIGURED ENCLOSURE WILL SHIP WITHIN 24-48 HOURS OF RECEIPT OF ORDER

GREAT LAKES
CASE & CABINET

Invest in Solid Engineering

Thank you for your business!