VirtualEdge® VELGX-30 Universal Panel, with 3 LGX-Type Positions

1. GENERAL

1.1 Document Purpose

This practice describes Westell's VirtualEdge® VELGX-30 Universal Panel with three, LGX®-type, cut-out positions, shown in Figure 1. Westell offers a variety of panels, couplers, cables, and other orderable options for terminating services for use with the VELGX-30 or other models in the VirtualEdge family. Contact Westell for details.

> *- NOTE -*
> *Hereafter, the Westell VirtualEdge VELGX-30 Universal Panel may be referred to as "the panel" or the "VELGX-30."*

1.2 Document Status

Whenever this practice is updated, the reason will be stated in this paragraph. Revision B updates Figure 1 to show the towel bar attached (as shipped).

1.3 Product Purpose and Description

The VirtualEdge (VE) VELGX-30 is a universal, LGX-compatible, interface panel used at the CPE point of demarcation. It has three, empty, rectangular cut-outs designed to accept LGX-type panels and/or LGX-sized fiber cassettes. A circuit identification (ID) card is provided inside a clear plastic packet, which allows installers to label each coupler position. The VELGX-30 comes equipped with the towel/lacer bar mounted and with the components shown in Table 1. Optional features include adapter panels, couplers, D-rings, and a front tray for additional cable management at the front of the VELGX-30.

1.4 Product Mounting

The panels can be rack or wall mounted using the included reversible mounting ears (included in the bag of parts). These ears allow flush or projected positions in both 19" and 23" standard EIA relay racks, or they can be flipped and repositioned at the back of the panel for wall-mounting. See Part 2 and Figure 3 for more detailed mounting information.
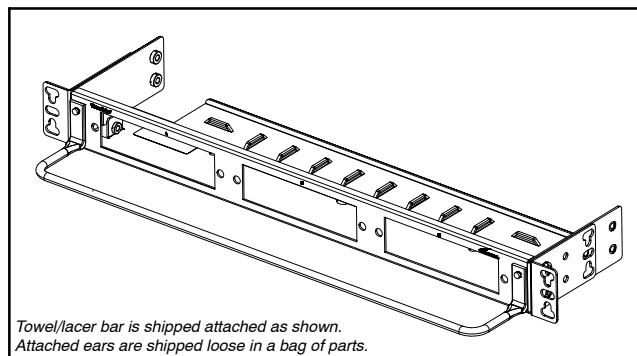

Towel/lacer bar is shipped attached as shown.
Attached ears are shipped loose in a bag of parts.

Figure 1. Isometric View of VELGX-30 Panel

Quantity	Component	Description
1	Panel	1.75 inches (1 RU) high panel, with three empty LGX-type positions for adapter panels/plates or for LGX-sized fiber cassettes
2	Mounting ear	Adjustable/reversible ear for 19 or 23" racks or for wall-mounting, shipped in bag of parts
1	Tray (rear)	Built-in cable management tray, with multiple cable tie-downs, located at *rear* of front panel
1	Lacer bar	Front-mounted lacer bar for convenient cable support & management at the front of the panel
10	Screw	Three types; to attach ears to panel, panel to a rack, and to attach the lacer bar
1	Parts bag	Contains 2 mounting ears and screws
1	ID card	Circuit ID card, in a clear plastic packet, for easy customer or coupler identification

Note: D-rings, front tray, couplers, and LGX panels and cassettes are optional equipment.

Table 1. VELGX-30 Features and Components

1.5 Applications

To enable a greater variety of service and interface offerings, service providers are putting more fiber into customer premises, either with Fiber-to-the-Premise or placing more fiber multiplexers and IP aggregation devices closer to subscribers. In business markets, the strong demand for Transparent LAN and Virtual Private Network services creates numerous applications for Westell's VirtualEdge panels. These panels are intended to be simple, sturdy, and versatile mechanical platforms, used to terminate high-speed Ethernet, fiber, or copper services in any combination(s). Additional interfaces can also be installed on a per-circuit basis.

1.6 Product Features

The VELGX-30 panel offers the following features.

1310IARB

- 1 Rack Unit (RU) high

- Three, horizontal, empty, LGX-type cut-outs, to accept any field-provided <u>LGX-sized</u> panel or insert, such as:

  • Fiber trays or cassettes

  • SC/LC [fiber] coupler panels

  • RJ45/48 [Cat5e for Ethernet and DS1] coupler panels

  • BNC [DS3] coupler panels, or

  • Any other LGX panels

- Mounts on wall or in 19" or 23" relay racks or data cabinets

- Adjustable, reversible, mounting ears

- Rear steel tray provides cable support and cable tie-downs for cables coming from the Network/Telco

- Lacer (towel) bar for convenient front panel cable management

- Steel construction

- Circuit identification card with clear plastic packet

- Rack mounting hardware included

- Ground lug, nut, and stud

- Optional couplers, adapter panels, front cable management tray, cable management D-rings, and combination kits available (contact Westell for details)

- PRECAUTIONARY STATEMENT -

Never install telephone wiring during a lightning storm.

Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

Use caution when installing or modifying telephone lines.

- INSPECTION NOTE -

Visually inspect the unit for damages prior to installation. If the equipment has been damaged in transit, immediately report the extent of the damage to the transportation company and to Westell (see Part 4 for telephone number).

2. INSTALLATION

The VELGX-30 panel can be mounted on a wall or in 19" or 23" relay racks with standard EIA 1.75" hole spacing. When rack mounting, the panel can be installed so the front of it is flush with the front of the rack, or mounted in a projected position in the rack. The following paragraphs and Figure 3 provide further details. Screws to attach the mounting ears to the panel are provided, as well as screws to mount the panel to a rack.

2.1 Mounting in a 19" Rack

The panel is shipped from the factory pre-assembled. Each panel includes two, L-shaped, reversible mounting ears (located in the bag of parts). For 19" rack mounting, the mounting ear's short flange attaches to the rack channel.

1. **Determine vertical position in rack.** Select the vertical mounting location in the rack. This panel requires one vertical Rack Unit (RU) in a standard Telco relay rack.

2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.

3. **Determine horizontal position (shelf projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection in the rack. If a *projected look* or orientation in the rack is desired, the ears should be attached in the last ear hole position on the panel's side flanges, so that the panel will be projected further forward from the mounting ears. If a *flush look* in the rack is desired, the mounting ears should be attached in the first or forward ear hole position on the panel's side flanges.

4. **Attach long flange of ear to panel.** Attach both ears to the panel in the desired position as determined in the step above, using the hardware provided. The ear's long flange abuts the panel.

5. **Attach panel to rack.** Lift the panel and attach it to the rack channels in the correct vertical rack position. Align the holes in the ear's <u>short flange</u> with the proper holes in the rack channels. Insert the provided screws into the aligned set of holes, then tighten the screws. Repeat for both ears.

2.2 Mounting in a 23" Rack

The panel is shipped from the factory pre-assembled. Each panel includes two, L-shaped, reversible mounting ears (located in the bag of parts). For 23" rack mounting, the mounting ear's long flange attaches to the rack channel.
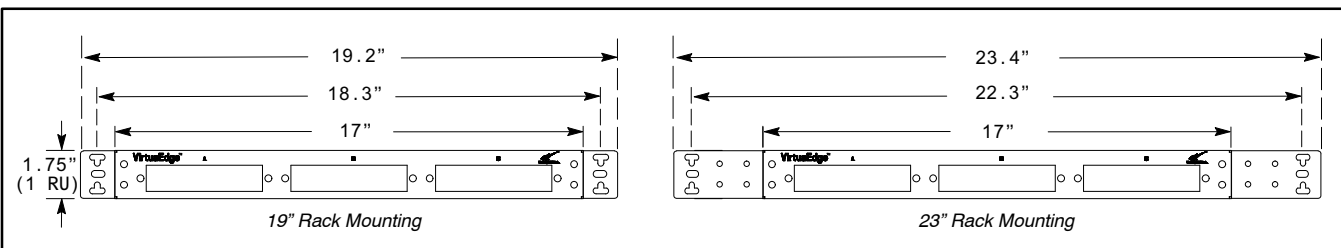

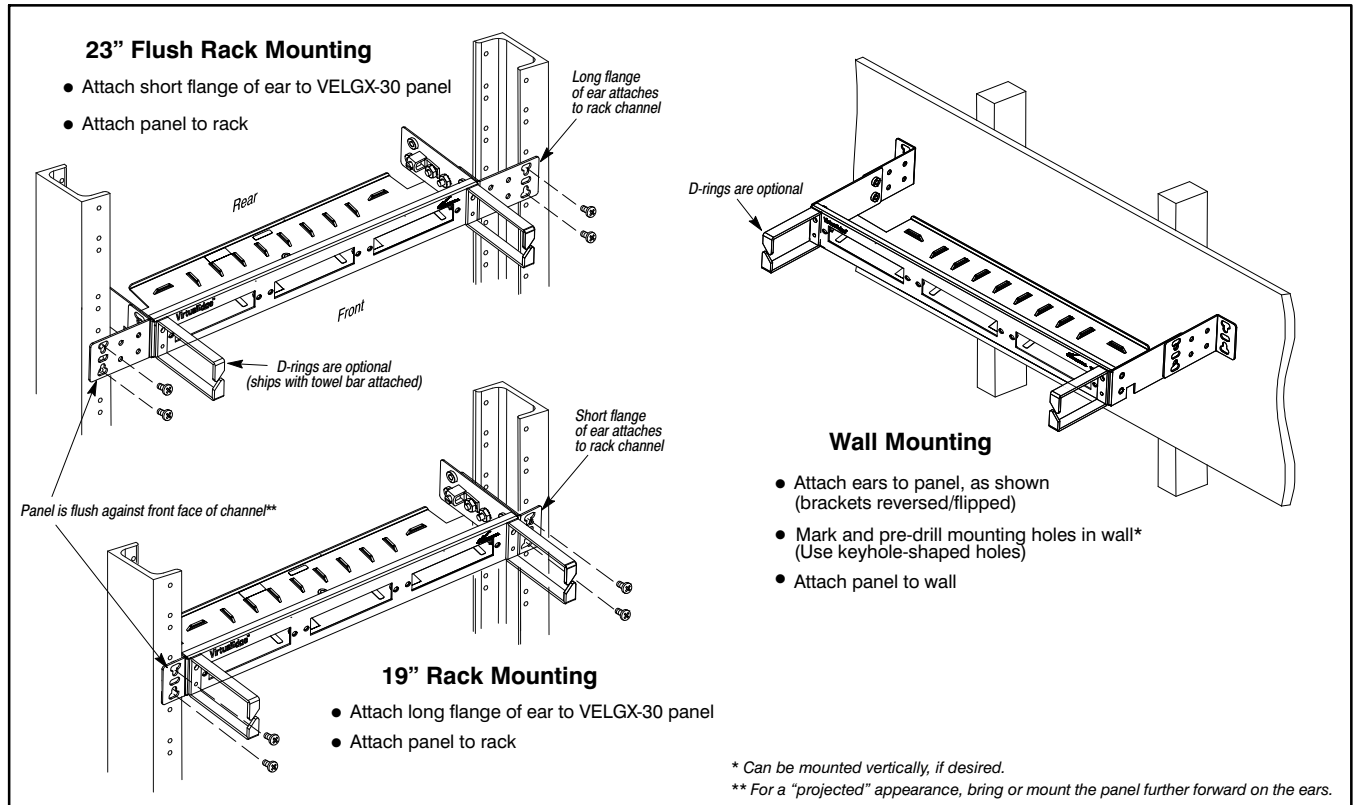**Figure 2. Dimensions for Rack Mounting**

23" Flush Rack Mounting
- Attach short flange of ear to VELGX-30 panel
- Attach panel to rack

Long flange of ear attaches to rack channel

Rear

Front

D-rings are optional (ships with towel bar attached)

Panel is flush against front face of channel**

Short flange of ear attaches to rack channel

19" Rack Mounting
- Attach long flange of ear to VELGX-30 panel
- Attach panel to rack

D-rings are optional

Wall Mounting
- Attach ears to panel, as shown (brackets reversed/flipped)
- Mark and pre-drill mounting holes in wall* (Use keyhole-shaped holes)
- Attach panel to wall

* Can be mounted vertically, if desired.
** For a "projected" appearance, bring or mount the panel further forward on the ears.

Figure 3. Mounting Views

1. **Determine vertical position in rack.** Determine and select the vertical mounting location in the rack. This panel requires one *vertical* Rack Unit (RU) in a standard Telco relay rack.

2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.

3. **Determine horizontal position (shelf projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection in the rack. If a *projected look* or orientation in the rack is desired, the ears should be attached in the last, rear-most, ear hole position on the panel's side flanges, so that the panel will be projected further forward from the mounting ears. If a *flush look* in the rack is desired, the mounting ears should be attached in the first or forward-most ear hole position on the panel's side flanges.

4. **Attach short flange of ear to panel.** Attach both ears to the panel in the desired projection position as determined in the step above, using the hardware provided. The ear's short flange abuts the panel.

5. **Attach panel to rack.** Lift the panel and attach it to the rack channels in the correct vertical rack position. Align the holes in the ear's <u>long flange</u> with the proper holes in the rack channels. Insert the provided screws into the aligned set of holes, then tighten the screws. Repeat for both ears.

2.3   Mounting on a Wall

The mounting ears can be attached for wall mounting. Follow local codes and company practices for the proper wall type.

1. **Determine position on wall.** Select the mounting location on the approved wall. This panel requires one *vertical* Rack Unit (RU) in a standard Telco relay rack. *Note that the panel can be mounted in a vertical position, if desired.*

2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.

3. **Determine horizontal position (wall projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection from the wall. If a *more projected position* on the wall is desired (allows greater rear access), the ears should be attached in the last, rear-most, ear hole position on the panel's side flanges. If a *less projected position* on the wall is desired (allows more front access), the mounting ears should be attached in the first or forward-most ear hole position on the panel's side flanges.

4. **Attach ears to panel.** Attach both ears to the panel in the desired projection position as determined in the step above, using the hardware provided.

5. **Mark mounting hole locations.** Lift and place the panel on the wall in the desired final position and mark the mounting holes to be drilled in the wall with a marking utensil.
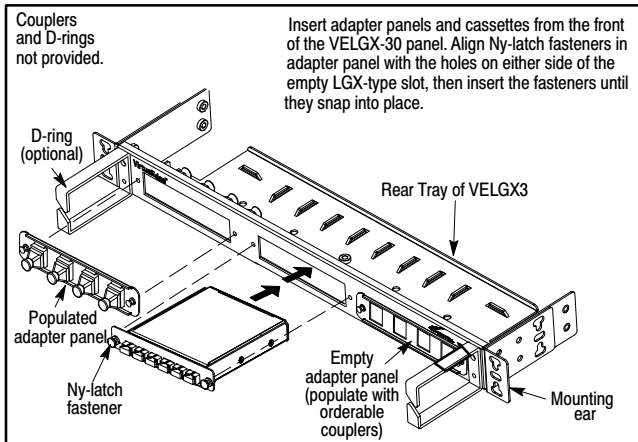
Figure 4. Inserting Adapter Panels and Fiber Cassettes

6. **Drill holes.** Set aside the panel and drill the holes. Do not make the holes too big.

7. **Attach panel to wall.** Lift the panel and align the holes in the mounting ears with the drilled holes in the wall, then insert and tighten the mounting screws (not provided).

> *- GROUNDING NOTE -*
> *Always follow local safety precautions and standard operating procedures for grounding the equipment when installing, upgrading, repairing or maintaining equipment. Any instructions or information contained herein is subordinate to local codes, operating procedures or practices.*

2.4 Making Ground Connections

The Westell VE panels are shipped from the factory with a ground lug (see Figure 3) capable of accepting #6 ground wire for wall-mount applications. The installer makes a ground connection to the ground lug using a #6 ground wire and then grounds the panel to an earth ground or according to local installation procedures for grounding and bonding equipment.

2.5 Making Installer Connections

After the panel is mounted, installer connections can be made at the front and rear of the three adapter panels of the VELGX-30 panel.

> **- CAUTION -**
> **Use care when installing and removing couplers and adapter panels -** *do not force into place*. **If a coupler resists insertion, remove it and check for debris in or near the coupler or hole. Then gently re-insert the coupler.**

2.5.1 *Installing Adapter Panels and Couplers*

The VELGX-30 panel supports 3 LGX-type adapter panels or cassettes. Order and install LGX-type adapter panels or cassettes per the specific application, company practice, or service desired. Follow the steps below to install the cassettes, couplers and adapter panels in the VELGX-30.

1. Call Westell to order the cassettes, couplers or LGX-type adapter panels of choice for the application (see Table 3).

2. Install the desired couplers into their proper or designated positions in the provided Keystone-type adapter panels.

3. Align the two, plastic, Ny-latch fasteners on each side of the cassette or adapter panel with the holes at both sides of the empty LGX-type cut-out position on the panel. Insert the fasteners into the holes, and press them until they click, snap, or lock in place. Verify the adapter panel is securely attached to the panel (see Figure 4).

4. Populate the adapter panels and/or cassettes as needed and make all installer connection per company practice.

5. Use the circuit ID card to properly identify all coupler positions.

6. Repeat for all adapter panels to be installed.

> *- LGX-SIZED CASSETTES NOTE -*
> *If LGX-sized cassettes or trays are installed in the VELGX-30 panel, follow the manufacturer's instructions for installer connections at the tray or cassette.*

2.5.2 *Labelling Circuit Positions*

A circuit identification card (label) and a clear plastic packet is provided for quick and easy circuit labelling and identification. The ID card and packet hangs from the panel using the provided, beaded, removable, cable tie. Use the card per company practice.

3. ACCESSORIES (OPTIONAL)

3.1 Front Cable Management Tray

To facilitate cable management at the front of the VELGX-30, Westell offers a optional, front, metallic, cable management tray (Figure 5). This tray attaches to the unit as shown in Figure 5. The tray is designed to allow jumpers and cables to cross in front of the panel without putting unnecessary downward force or strain on the couplers, when installed. The tray also has bridge-forms or cable tie-downs to allow technicians to dress and secure cables to the tray, if desired. The tray can be mounted to the panels at two different depths to allow customization based on the amount of cables and jumpers running across the panels. Use alone or with one or more D-rings described in Paragraph 3.2 for a customized cable-management solution.

3.2 Cable Management D-Rings

Optional, metallic D-rings (Figure 6), installed at either or both ends of a VirtualEdge panel (or on the mounting ears) provide guidance and support of the cables that run across the front of the panel to the couplers. A diagonal slit in the front of the ring allows existing or newly-installed cables/jumpers to be easily inserted into the ring, without re-feeding or re-routing, and the 3" ring depth easily accommodates up to 24 or more cables. Use one or more D-rings alone or with the tray described in Paragraph 3.1 for a customized cable-management solution.
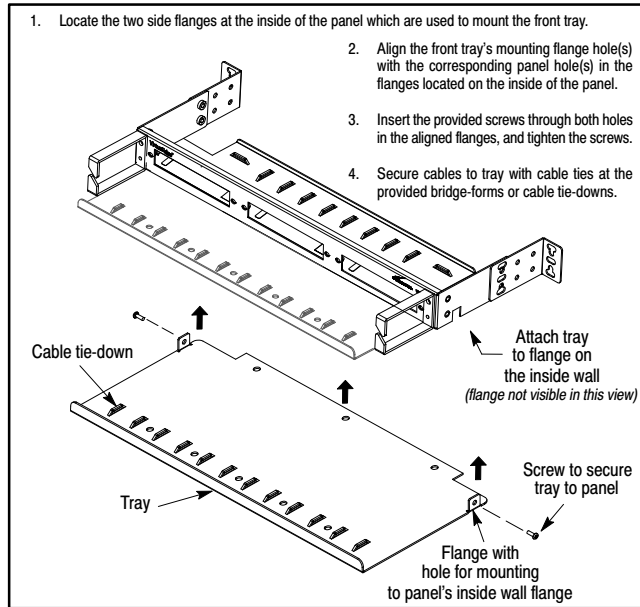
1. Locate the two side flanges at the inside of the panel which are used to mount the front tray.

2. Align the front tray's mounting flange hole(s) with the corresponding panel hole(s) in the flanges located on the inside of the panel.

3. Insert the provided screws through both holes in the aligned flanges, and tighten the screws.

4. Secure cables to tray with cable ties at the provided bridge-forms or cable tie-downs.

Cable tie-down

Attach tray to flange on the inside wall
(flange not visible in this view)

Tray

Screw to secure tray to panel

Flange with hole for mounting to panel's inside wall flange

Figure 5. Installing a Front, Cable Management Tray

D-ring also can be mounted here

Mounting ear

D-ring

D-ring also can be mounted here

D-ring

Slit for cable access

1. Decide which set of holes in the panel or ear to use to mount the D-ring.

2. Insert the provided peg/insert into the bottom hole of the D-ring; this will prevent circular rotation of the D-ring when installed.

3. Align top D-ring hole(s) with corresponding panel or ear hole(s) and insert provided screw, from the back side, through the panel front ear hole and through the hole of the D-ring. Tighten screw.

4. Route cables through slit in the front side of the D-ring.
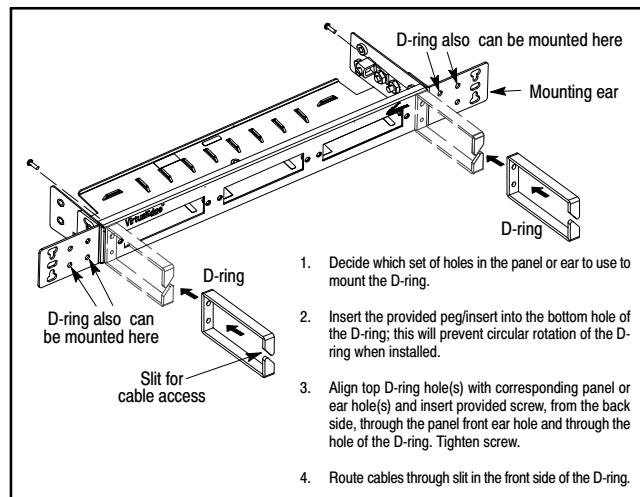
Figure 6. Installing Cable Management D-Rings

3.3   LGX-type Adapter Panels and Couplers

LGX-type adapter panels can be ordered from Westell and installed in the VELGX-30 panel, as well as couplers for installation in the panels. Call Westell for information.

3.4   LGX-type Fiber Cassettes and Trays

LGX-sized fiber cassettes and trays can be ordered from Westell and installed in the VELGX-30 panel. Call Westell for ordering information.

4   CUSTOMER & TECHNICAL SERVICES

4.1   Customer Service & Technical Assistance

If technical or customer assistance is required, contact Westell by calling or using one of the following options:

> Voice: (800) 377-8766
> email: *global_support@westell.com*

For additional information about Westell, visit the Westell World Wide Web site at http://**www.Westell.com**.

4.2   Part Numbers

This equipment is identified by a product number (A90-VELGX30), which consists of three parts: the issue letter of the equipment (A), the assembly type (90), and the specific model number (VELGX30). Each time a change is made to the product which changes the form, fit, or function of the product, the issue letter is incremented or advanced by one. Be sure to indicate the issue level as well as the model number when making inquiries about the equipment.

5.   WARRANTY & REPAIRS

5.1   Warranty

Westell warrants this product to be free of defects at the time of shipment. Westell also warrants this product to be fully functional for the time period specified by the terms and conditions governing the sale of the product. Any attempt to repair or modify the equipment by anyone other than an authorized Westell representative will void the warranty.

5.2   Repair and Return

Westell will repair or replace any defective Westell equipment without cost during the warranty period if the unit is defective for any reason other than abuse, improper use, or improper installation. To return defective equipment, first request a Return Material Authorization (RMA) number from Westell by calling or using one of the options shown below. Once an RMA number is obtained, return the defective unit (freight prepaid), along with a brief problem description, to the address we will provide to you when you contact us.

> Voice: (630) 375-4457
> email: rgmdept@westell.com

Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Westell will continue to repair or replace faulty equipment beyond the warranty period for a nominal charge. Contact Westell for details.

Feature	U.S.	Metric
Height	1.75 inches (1 RU)	4.45 cm
Width, w/o ears	17 inches (approx.)	43.2 cm
Width, w/ears in 19" rack position	19.325" (overall) 18.312" (mounting holes)	49.1 cm 46.5 cm
Width, w/ears in 23" rack position	23.525" (overall) 22.312" (mounting holes)	59.8 cm 56.7 cm
Depth, minimum	4.3 inches	10.92 cm
Depth, *with towel bar*	6.55 inches	16.65 cm
Weight	29 ounces	822 g
Operating Temp.	-40° to 149°F	-40° to 65°C
Humidity	0 to 95% (non-condensing)	

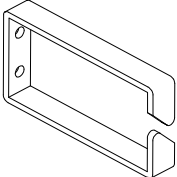**Table 2. Physical Specifications**

6.   SPECIFICATIONS

6.1   Physical Specifications

The physical specifications are shown in Table 2.

6.2   Ordering Specifications

To order units, call the telephone number shown in Paragraph 4.1 and please specify a specific part number shown in Table 3.

Part #	Description
A90-VELGX30	VirtualEdge® Universal Connection Panel for LGX-type fiber cassettes/trays and/or LGX-type fiber panels, with 3 LGX-sized cut-out positions, rear cable management tray, and lacer bar. Rack/wall mountable (1 RU high).
Orderable Options*	
A90-VECMTRAY	Cable management tray (front projection)
A90-VECMRING3	Cable management D-ring (Qty = 1)

A variety of cables and fiber jumpers also are available. Call Westell for details.

Table 3.   Ordering and Option Information