VirtualEdge® VEUE-30 12-Port Wall-mount Universal Enclosure

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1. GENERAL

1.1 Document Purpose

This document describes Westell's VirtualEdge® VEUE-30 secure-access, 12-port, wall-mount universal enclosure designed for flexible services hand-off to subscribers. The VEUE-30 is shown in Figure 1.

1.2 Document Status

When this practice is updated, the reason will be stated here. Revision B added optional splice trays. Revision C updates Table 1.

1.3 Product Purpose and Description

The VEUE-30 VirtualEdge Universal Enclosure (VEUE) is a wall-mountable, compact, two-door, secure-access universal enclosure that serves as an interface for an ethernet hand-off point by the Telco to terminate any 10Base-T, 100Base-T, Cat5E, fiber, or Coax services (or a combination thereof), typically at the CPE point of demarcation. The service terminated is determined by the coupler type used inside the enclosure, and the enclosure accommodates up to 12 field-provided couplers that can be installed in one of three, detachable, 4-position, LGX®-type panels. Cable access to either the padlockable Customer side of the enclosure or the key-lockable Network side is made through either top, bottom, or side-wall rubber grommets. Also on the Network side is a two-piece spool for fiber cable storage (removable if space is a concern). A removable divider wall between the compartments doubles as a mounting plate for the three LGX-type panels.

To enable a greater variety of service and interface offerings, service providers are putting more fiber into customer premises, via either 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, where the customer's LAN is extended over the Service Provider Network to provide native Ethernet service, creates numerous applications for Westell's VirtualEdge Enclosures.

1.4 Product Mounting

The VEUE-30 is typically mounted to a wall or equipment backboard at the customer premises hand-off point.

1.5 Product Features

The VEUE-30 offers the following features.

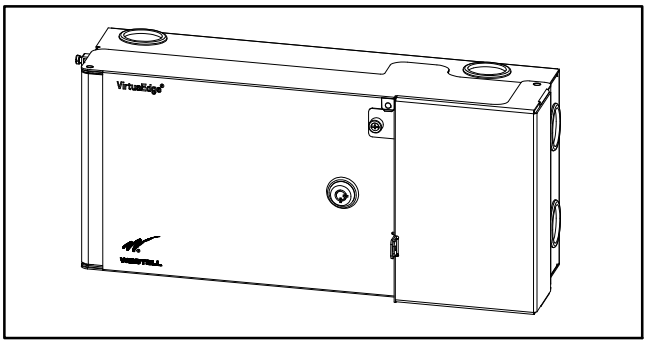


Figure 1. VEUE-30 Wall-mount Enclosure

- Separate access for Network and subscriber
- Secure access demarcation
- Hinged, key-locking, Network door allows full access for Network-side technicians
- Network-side two-piece spool for surplus fiber cable
- Interior fiber containment lips for fiber management
- Interior, slide-out, compartment divider wall with 3 detachable LGX-type panels facilitates access to and connections for both Network and Customer sides
- 12 empty coupler positions for flexible hand-off (fiber, DS3, Ethernet)
- Accepts two splice trays (up to 24 splices)
- Smaller, hinged, padlockable and screw-locking front door for Customer side access
- Cable access via eight rubber grommets
- Predrilled, keyhole-shaped, mounting holes in rear wall
- Cable tie-downs on enclosure's back wall
- Wing-nut clamp to secure fiber cable strength members
- Ground lug
- Transparent LAN Services
- 10/100M Ethernet Services
- GigE Optical hand-off
- Optional LGX-type panels available (one with 6 SC couplers, one with 6 BNC couplers)

2. INSTALLATION

Installation consists of inspecting the equipment for damages, following proper safety precautions, gathering the required tools and equipment, determining the mounting location, mounting the enclosure, and making the appropriate grounding, power, and wiring connections. The following paragraphs provide detailed instructions for performing these procedures.

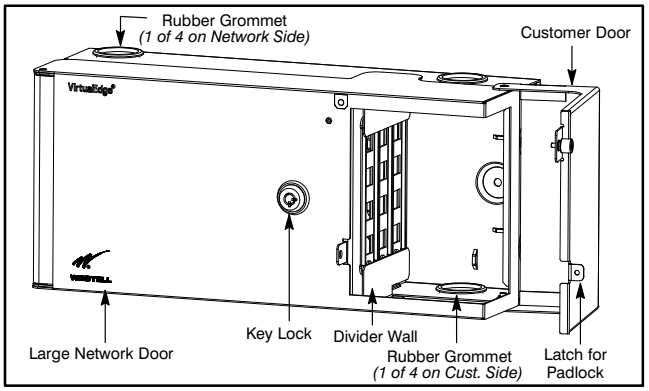


Figure 2. VEUE-30 with Customer Door Open

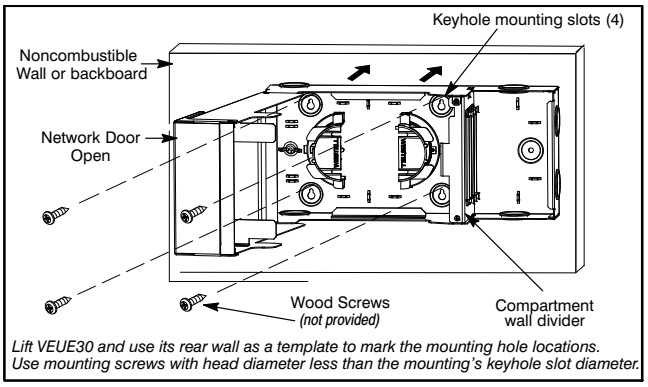


Figure 3. Wall-Mounting the VEUE-30

- INSPECTION NOTE -

Inspect the unit for damages prior to installation. If the equipment was damaged in transit, report the damage to the transportation company and to Westell (see Part 6).

2.1 Following Safety Precautions

- CAUTION -

Risk of electric shock. Voltages up to 140 VDC (with reference to ground) may be present on telecommunications circuits.

- 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.

This equipment is intended to be used behind devices that provide primary lightning protection.

2.2 Gathering Tools and Supplies

The following tools and supplies are recommended to mount the enclosure.

- ☐ Awl or drill with assorted bits
- ☐ Screwdrivers (slotted-head and/or Phillips-head)
- ☐ Wood screws, or other appropriate wall fasteners
- ☐ Marking utensil
- ☐ Level (optional)

2.2.1 Wall-Mounting the Enclosure

Mount the enclosure per local company practice, or if none exist, per the instructions below. This enclosure is typically wall-mounted at the customer premises. Westell recommends mounting the enclosure to a backboard, concrete surface, or other noncombustible surface. The enclosure has a rear wall with five keyhole-shaped mounting holes, for easier mounting.

1. Open the larger Network door with the provided key, lift and place the enclosure against the wall in the desired mounting location (level it if desired), then with a marking utensil, mark the mounting hole locations. For easier access to all keyhole-shaped mounting holes, also unscrew then pull out the removable, interior, compartment wall divider.

- MOUNTING NOTE -

Leave enough space on both sides of the enclosure (approximately 3 inches) to allow the doors to open.

2. After marking the mounting screw-hole locations, set aside the enclosure. Drill appropriately-sized pilot holes (to accommodate the mounting screws being used) at the marked locations before the next step. *Hardware for mounting the enclosure to the wall is not included.* Do not make the holes too large, to help insure a snug fit.
3. Partially install all screws, leaving approximately ¼-inch protruding for hanging the mounting from the keyhole-shaped holes provided in the rear wall.
4. Lift the enclosure again, align the mounting holes on the enclosure rear wall with the partially-installed screws, and hang the enclosure on the protruding screws.
5. Tighten all screws in place. Close and lock the door if installer connections will not be made at this time.

- 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.

2.3 Making Ground Connections

The enclosure is shipped from the factory with a ground lug (in a bag of parts) capable of accepting #6 ground wire for wall-mount applications. The installer should locate the ground lug and hex-nut from the bag of parts shipped with the panel and install the lug (using the provided screw) on the post located on the left outside wall of the enclosure (see Figure 4), securing the ground lug via the threaded hole in the enclosure. The installer then makes the ground connection to the ground lug using a #6 ground wire and then grounds the enclosure to an earth ground or according to local installation procedures for grounding and bonding equipment.

2.4 Installer Connections

After mounting the enclosure, installer connections may be performed. Figure 4 and Figure 5 show the interior removable compartment divider wall where the couplers will be installed.

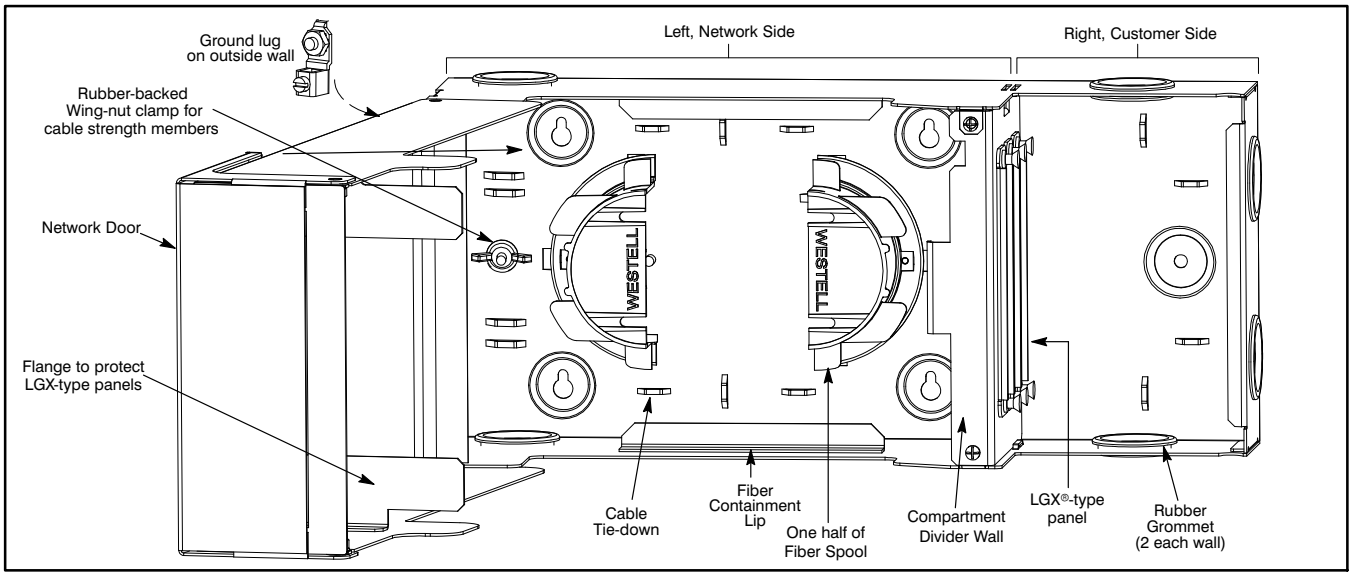


Figure 4. VEUE-30 with Network Door Open

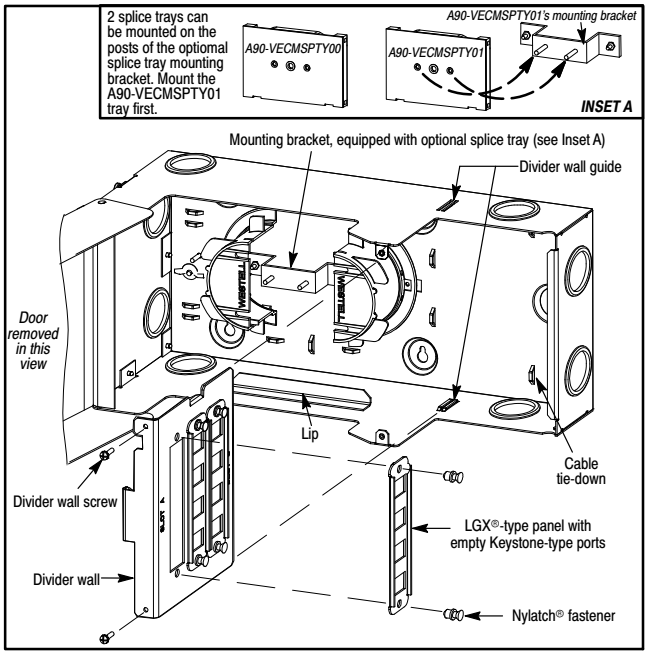


Figure 5. Detaching the Divider Wall and Panels

2.4.1 Making Network Connections

The Facility or Network side wiring and termination connections are made in the left-side compartment of the enclosure.

1. Open the large Network-side door (Figure 4) with the key.
2. For easy hand access, optionally remove the interior compartment divider wall (see Figure 5) by loosening the two Phillips-head screws at the front of the divider and sliding or pulling out the divider wall.
3. Install the couplers of choice (up to 12) into the empty Keystone coupler holes provided in the three LGX®-type panels mounted on the wall divider. If desired, the panels also can be detached by removing (pull out on plungers) the Nylatch® fasteners. Couplers used vary per the application and company practice. To re-attach the panel, simply press the Nylatch fasteners into their corresponding mounting holes, then press on the plungers.
4. If removed, re-install the compartment divider wall, which is now equipped with the couplers of choice. Tighten the screws that hold the divider wall in place.
5. Select which of the four cable access hole(s) on the Network side will be used for Network cable entrance. The cable may enter the enclosure through any of the rubber grommets provided in the cable access holes. At the selected grommeted cable access hole, carefully cut one or two slits through the rubber grommet with a sharp object or knife, placing the slit(s) within the "+" shaped indentation in the grommet. Make the slit just large enough to allow the fiber, wire, or cable of choice to fit through the grommet.
6. Route all Network fiber, wires, or cables through the grommet. Make the grommet slit larger if needed.
7. Prepare the cable per any company practice and cable type.
8. Per company practice, after pulling the proper length of cable inside the enclosure, use the cable tie-downs located on the back wall near each cable access hole and the rubber-backed washer and wing-nut to secure the cable(s) at the point of enclosure entrance. Per company practice and cable type, expose the cable's strength members or Kevlar, slip them under the tie-downs and then under the loosened wing-nut and rubber-backed washer, then firmly tighten the wing-nut (wing-nut serves as a cable strength member clamp). Any Kevlar also may be wrapped around the tie-downs and stud.
9. Perform any required splicing, per company practice. *Up to 2 optional fiber splice trays (for up to 24 splices) can be mounted inside the VEUE-30 (see Table 2 for ordering information). To mount the trays: 1) Remove the 2-piece fiber spool, 2) install the bracket equipped with the A90-VECMSPTY01 splice tray to the posts [Figure 5] on the enclosure's rear wall, 3) re-install the 2-piece spool, and 4) mount the trays to the bracket <u>after splicing is performed</u> by aligning the holes in the tray(s) with the mounting posts provided for them on the bracket.*
10. Manage any cable slack or lengths of surplus cable by wrapping or looping it around the provided cable management spool (take-up reel). Tuck any loose loops of cable or fiber behind the wide cable containment lips located at the top and bottom walls of the enclosure.

11. Insert all Network cables (or pigtails) into their proper couplers on the Network side of the compartment divider wall.
12. If no Customer connections are to be made at this time, secure the divider wall by tightening the two locking screws.
13. After all connections are made, secure/lock the large exterior Network door.

2.4.2 Making Customer Interface Connections

The Customer wiring and termination connections are made in the right-side compartment of the enclosure.

1. Open the Customer-side door (see Figure 2) by unscrewing the two screws and removing any optional padlock.
2. Using any of cable access holes, with a sharp object or knife carefully cut one or two slits through the rubber grommet provided in the cable access hole. Make the slit just large enough to allow the wires and cables to fit through the grommet.
3. Route all Customer wires or cables through the grommet.
4. Attach or secure each Customer's cable plug or connector to the appropriate customer-side coupler on the LGX-type panel mounted on the compartment divider wall.
5. Per company practice, use the tie-downs located on the wall near each cable access hole to secure the cable(s) as it enters the enclosure.
6. After all Customer connections are made, secure and lock all doors.

3. CUSTOMER & TECHNICAL SERVICES

3.1 Customer Assistance. For 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 Website at http://www.Westell.com.

3.2 Part Numbers. This equipment is identified by a part number (A90-VEUE30), which consists of an issue letter of the equipment (A), the assembly type (90), and the specific model number (VEUE30). When a change is made to the product which changes the form, fit, or function of the product, the issue letter is incremented by one. Please indicate the issue level *and* model number when making inquiries about the equipment.

3.3 Part Numbers

4. WARRANTY & REPAIRS

4.1 Warranty. Westell warrants this product to be defect free at shipment time, and warrants the product to be fully functional for the time period specified by the terms and conditions governing the product sale. Equipment repairs/modifications by unauthorized persons will void the warranty.

4.2 Repair and Return. Westell will repair or replace this unit 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

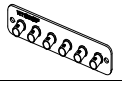
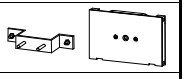
Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Westell will continue to repair or replace faulty equipment beyond the warranty period for a nominal charge. Contact Westell for details.

5. SPECIFICATIONS

To order units, call the telephone number shown in Paragraph 3.1 and please specify the part number shown in Table 2. The physical specifications are shown in Table 1.

Physical Feature	U.S.	Metric
Height	7.25 inches	18.4 cm
Width (closed)	18 inches	45.7 cm
Depth (including locks)	5.5 inches	14 cm
Weight (approx.)	7.5 pounds	3.4 Kilograms
Operating Temp.	-40° to +167°F	-40° to +75°C
Humidity	5 to 95% (non-condensing)	

Table 1. Physical Specifications

Part #	Description
A90-VEUE30	VirtualEdge® 12-port wall-mount universal enclosure with interior 2-piece fiber spool, 3 LGX®-type panels (4 ports each), full-size Network door and smaller customer door.
A90-VECE30	VirtualEdge® 12-port wall-mount universal enclosure with interior 12-splice fiber tray, 2-piece fiber spool, 3 LGX-type panels (4 ports each), 4 SC couplers, fiber pigtail, fiber cable compression fitting, and full-size door.
Other Panels, and Panel Accessories and Options*	
A90-VE118BNC6	LGX-type panel with 6 BNC couplers 
A90-VE118SCU6	LGX-type panel with 6 SC/UPC couplers
A90-VE118SCA6	LGX-type panel with 6 SC/APC couplers
A90-VE118SCA8	LGX-type panel with 8 SC/APC couplers
A90-VECMSPTY00	Fiber splice tray with holders for 12 splices 
A90-VECMSPTY01	Same as above tray (12 splices) but with a mounting bracket. 
023-700200	Fiber cable, 4 SC male connector to stub (2 meters)
A90-VECPL5E10	CAT 5e RJ48 Keystone style coupler (Qty = 10) 
A90-VECPLBNC10	BNC COAX coupler (Qty = 10) 
A90-VECPLSC1	Fiber coupler with SC connectors (Qty = 1) 
A90-VECPLLC1	Fiber coupler with LC connectors (Qty = 1) 
A90-VECPL5EIDC10	CAT 5e coupler with IDC termination on Network side (Qty = 10)

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

Table 2. Ordering and Option Information