

## Installation Instructions

# Cable Clamp Kit for E3h/E4h Drives

## VLT<sup>®</sup> FC Series FC 102, FC 103, FC 202, and FC 302

### Description

The cable clamp kit is an option available for E3h and E4h drives. The kit includes all parts required to install cable clamps for mains, motor, and control wiring. E3h and E4h drives with an RFI filter option (H4) include cable clamps as standard equipment.

### Kit Ordering Numbers

Kit number	Kit description
176F6746	Cable clamp kit for E3h
176F6747	Cable clamp kit for E4h

Table 1.1 Numbers for the Cable Clamp Kit

### Items Supplied

The cable clamp kit contains the following items. Refer to *Illustration 1.2*.

Item	Quantity
Cable clamp, 60 mm	6
Cable clamp, 16 mm	1
Cable bracket	1
Extension bracket	1
M6 hex nut	4
M8 hex nut	4

Table 1.2 Items Supplied in Cable Clamp Kit

Only qualified, Danfoss authorized personnel are allowed to install the parts described in these installation instructions. Handling of the drive and its parts must be done in accordance with the corresponding *operating guide*.

### **⚠ WARNING**

#### ELECTRICAL SHOCK HAZARD

VLT<sup>®</sup> FC series drives contain dangerous voltages when connected to mains voltage. Improper installation, and installing or servicing with power connected, can cause death, serious injury, or equipment failure.

To avoid death, serious injury, or equipment failure:

- Only use qualified electricians for the installation.
- Disconnect the drive from all power sources before installation or service.
- Treat the drive as live whenever the mains voltage is connected.
- Follow the guidelines in these instructions and local electrical safety codes.

### **⚠ WARNING**

#### DISCHARGE TIME

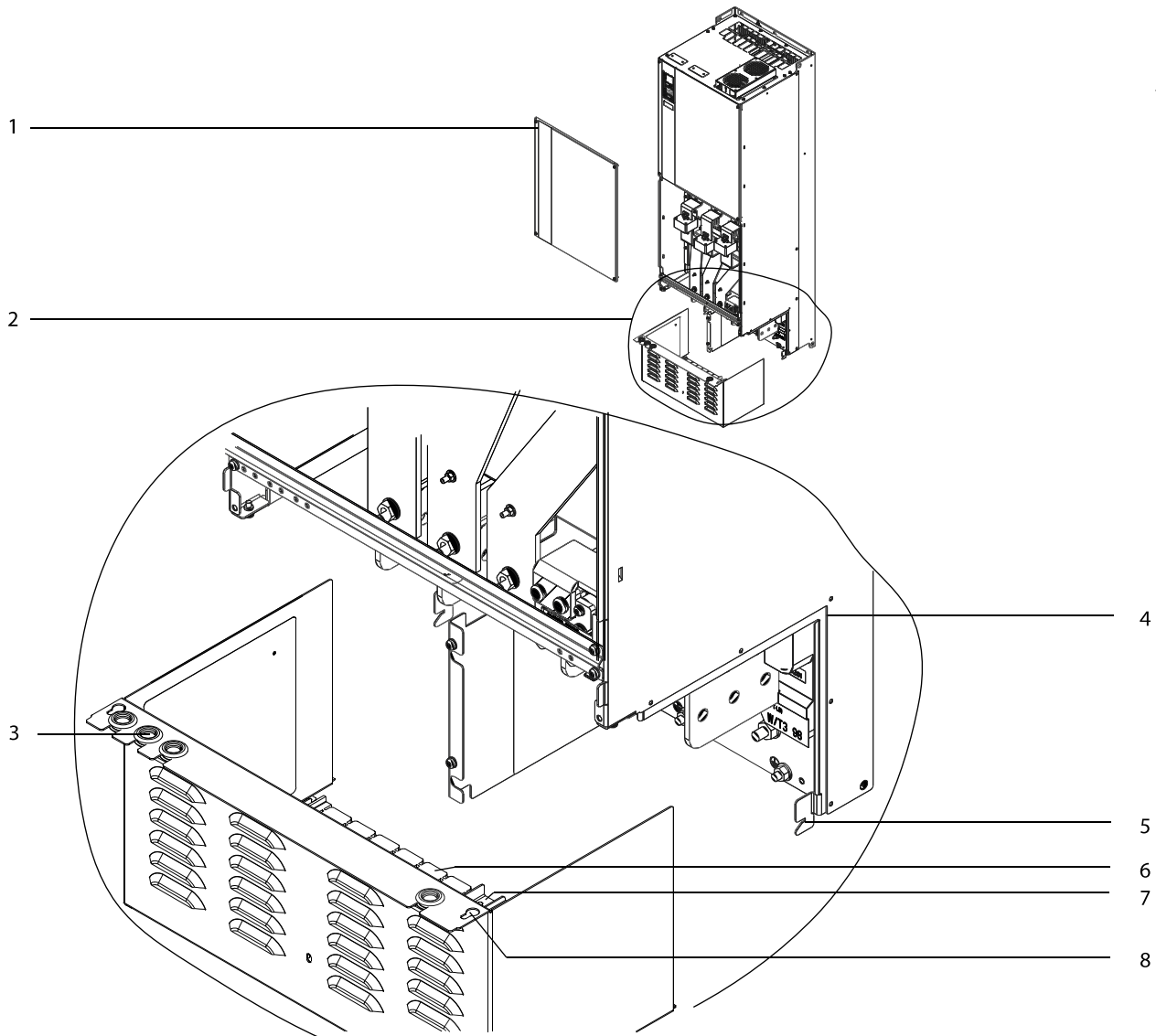
The drive contains DC-link capacitors, which can remain charged even when the drive is not powered. High voltage can be present even when the warning LED indicator lights are off. Failure to wait 40 minutes after power has been removed before performing service or repair work can result in death or serious injury.

- Stop the motor.
- Disconnect AC mains and remote DC-link power supplies, including battery back-ups, UPS, and DC-link connections to other drives.
- Disconnect or lock PM motor.
- Wait 40 minutes for capacitors to discharge fully.
- Before performing any service or repair work, use an appropriate voltage measuring device to make sure that the capacitors are fully discharged.

## Removing the Terminal Cover

The lower cover panel and terminal cover at the bottom part of the drive are required to maintain the IP20/Chassis protection rating. Remove the lower cover panel and terminal cover before installing the cable clamp kit. Refer to *Illustration 1.1*.

1. Unfasten 4 screws (T25) and remove the lower cover panel from the drive.
2. Unfasten 5 screws (T20) securing the terminal cover and remove the cover.



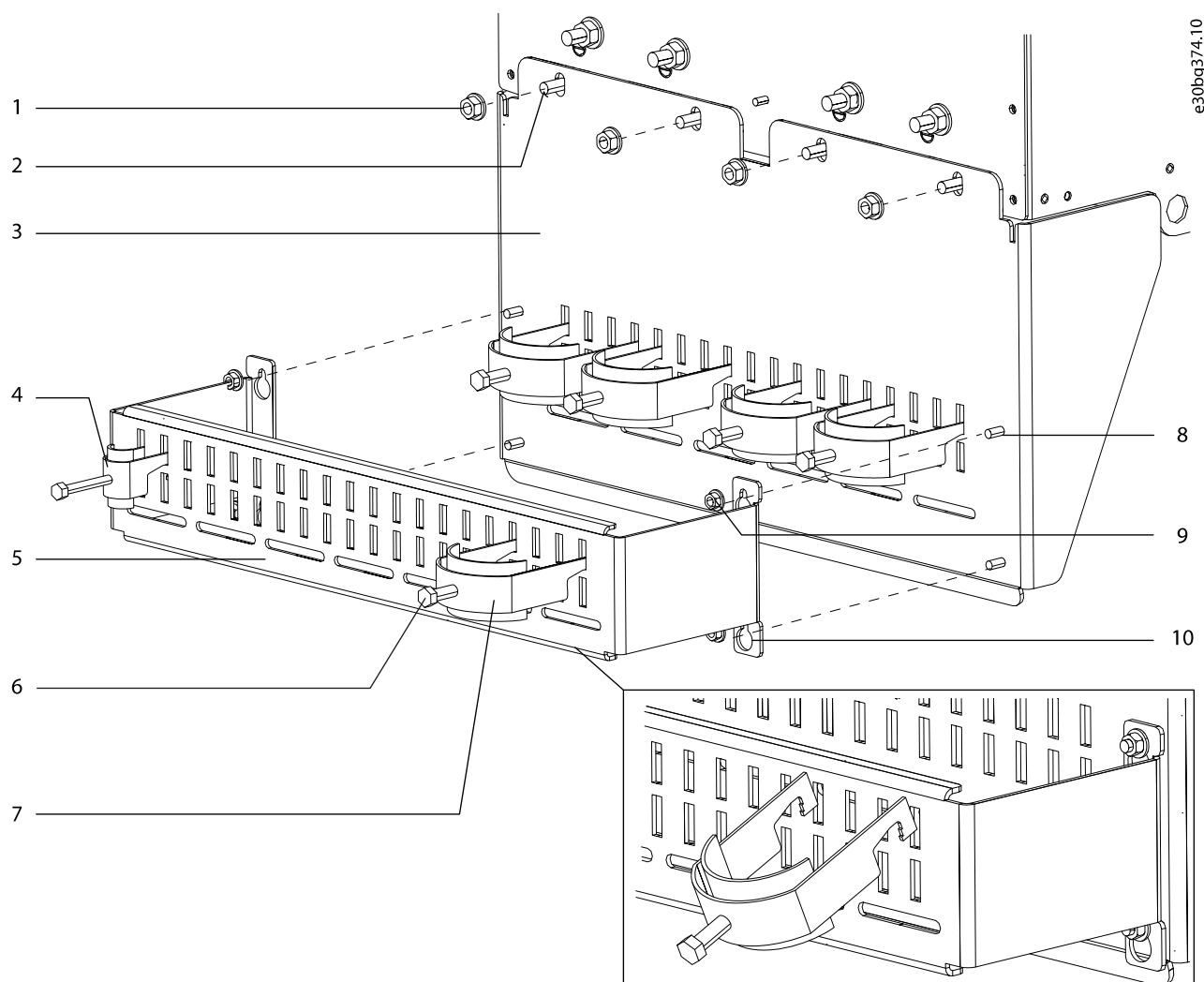
1	Lower cover panel	5	Slotted drive bracket
2	Terminal cover	6	Plastic gland plate
3	Grommet access hole for control wiring	7	Fastener point
4	Track guide	8	Keyhole opening

Illustration 1.1 Terminal Cover Disassembly/Assembly

## Installing the Cable Clamps

Use the following steps to install the cable clamp brackets, 6 large cable clamps, and 1 small cable clamp. Use the large clamps for mains and motor cables, and the small clamp for control wiring.

1. Position the 4 holes in the edge of the extension bracket over the 4 threaded studs on the drive back-channel.
2. Fasten 4 M8 hex nuts (T30), securing the extension bracket to the studs.
3. Position the 4 holes in the corners of the cable bracket over the 4 threaded studs on the front of the extension bracket.
4. Fasten 4 M6 hex nuts (T25), securing the cable bracket to the studs.
5. Tilt each cable clamp at a 45° angle and insert the hooks through any 2 holes in the bracket. Lower to a horizontal position.
6. Insert a cable into each clamp and tighten the cable adjustment screw to secure the cable.



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1	M8 hex nut	6	Clamp adjustment screw
2	Threaded stud	7	Cable clamp, 60 mm
3	Extension bracket	8	Threaded stud
4	Cable clamp, 16 mm	9	M6 hex nut
5	Cable bracket	10	Key hole

Illustration 1.2 Cable Clamp Kit Overview

## Installing the Terminal Cover

After installing the cable clamp kit, replace the terminal cover and lower cover panel using the following steps. Refer to *Illustration 1.1*.

1. Tilt the front of the terminal cover downward until the fastener points rest on the slotted drive brackets.
2. Make sure that the side panels of the terminal cover are on the outside track guide.
3. Push the terminal cover until it is positioned against the slotted drive bracket.
4. Tilt the front of the terminal cover upward until the fastener hole in the drive aligns with the keyhole opening in the terminal cover.
5. Secure the terminal cover with 2 screws (T20). Torque to 2.3 Nm (20 in-lb).
6. Replace the lower cover panel and fasten with 4 screws (T25). Torque to 2.3 Nm (20 in-lb).

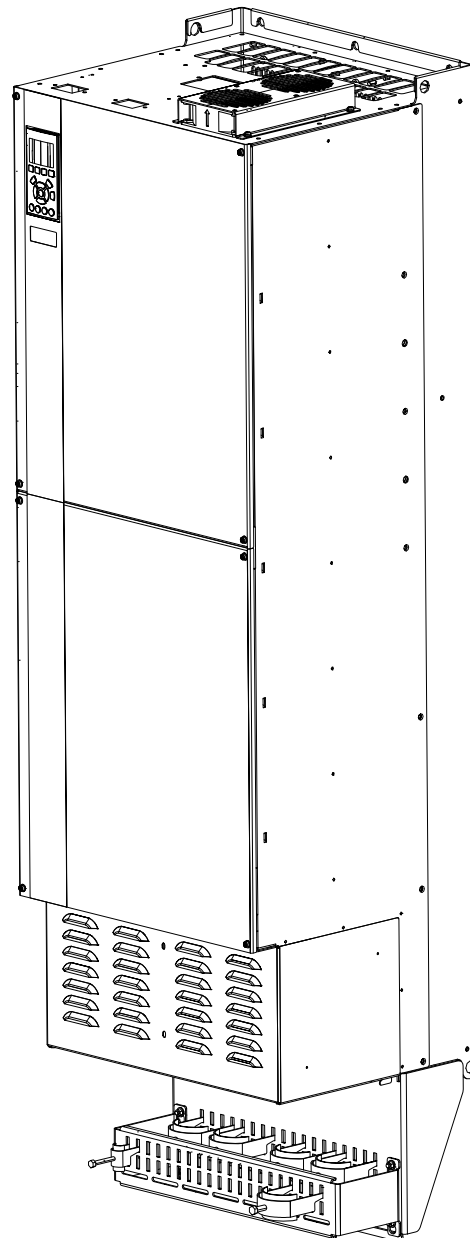


Illustration 1.3 E3h Drive with Cable Clamp Kit Installed

Cable Clamp Kit Dimensions for E3h

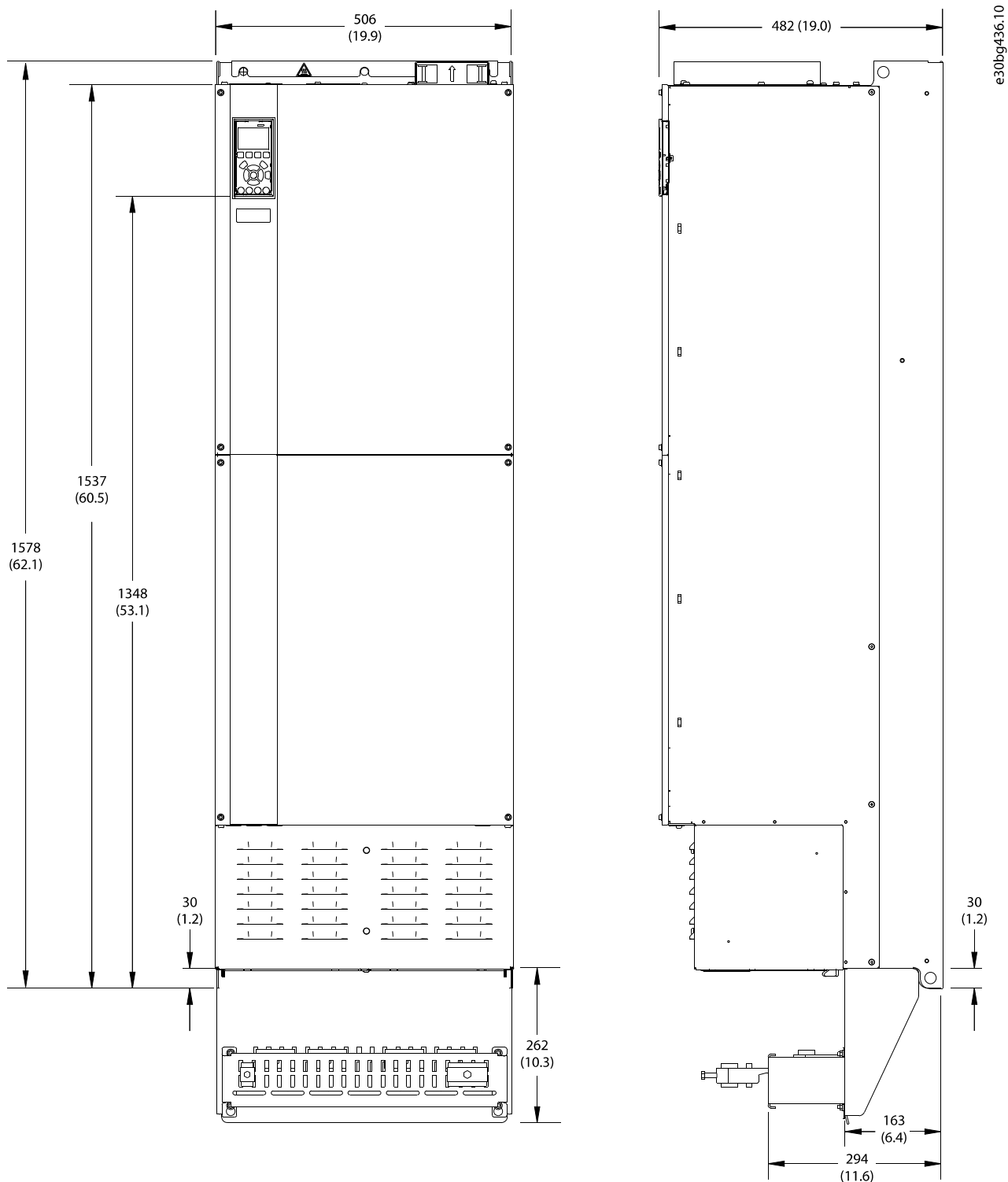


Illustration 1.4 Front and Side Views of E3h with Cable Clamp Kit

## Cable Clamp Kit Dimensions for E4h

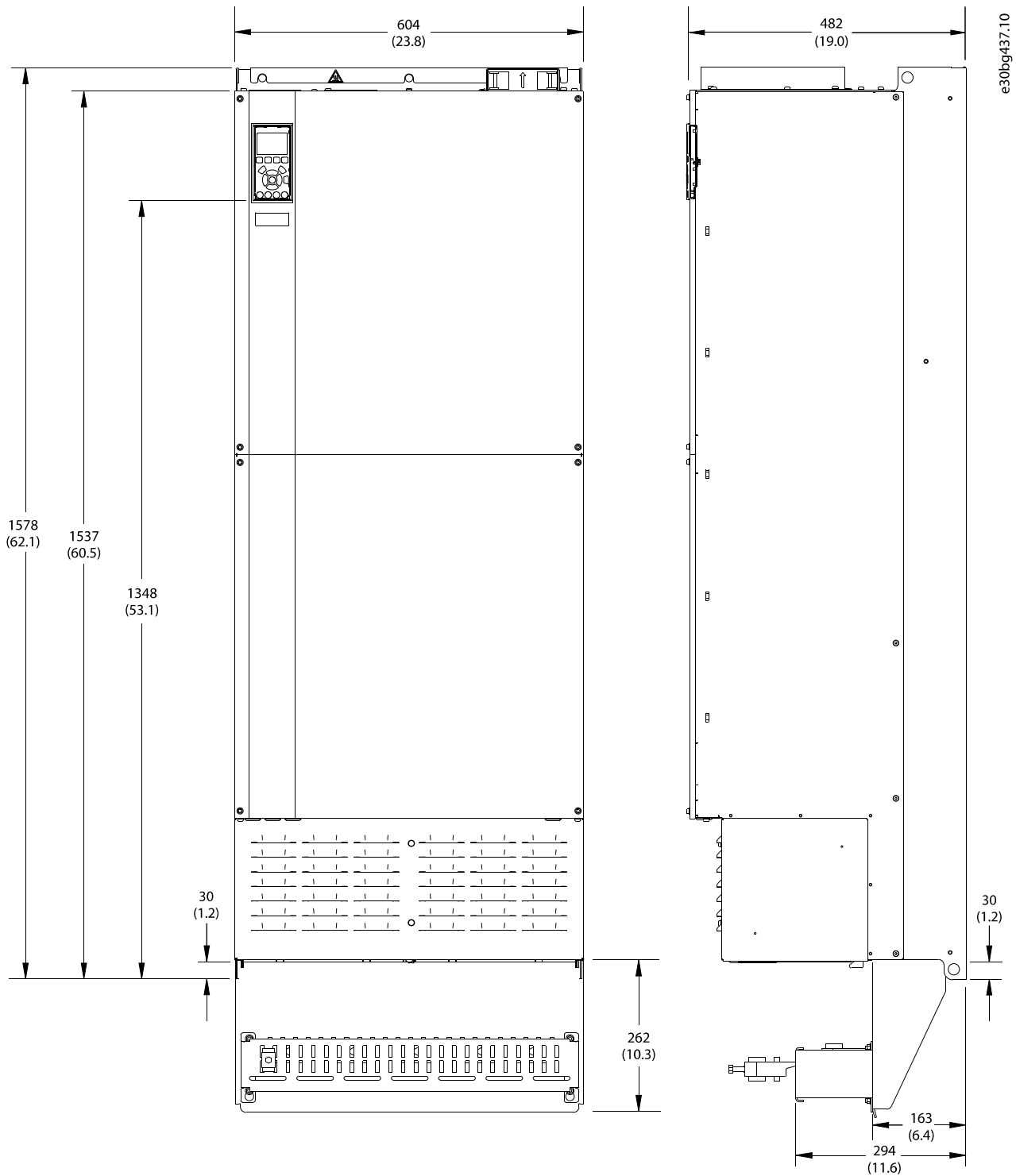


Illustration 1.5 Front and Side Views of E4h with Cable Clamp Kit

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