

Installation Instructions

Tall Pedestal Kit for E1h/E2h Drives

VLT[®] FC Series FC 102, FC 103, FC 202, and FC 302

Description

The tall pedestal kit contains all parts required to install the tall pedestal for E1h and E2h drives. The tall pedestal is 400 mm (15.7 in) and replaces the standard pedestal that ships with the drive.

Kit Ordering Numbers

Kit number	Kit description
176F6764	Tall pedestal kit for E1h
176F6763	Tall pedestal kit for E2h

Table 1.1 Ordering Numbers for the Tall Pedestal Kit

Items Supplied

The tall pedestal kit contains the following items. Refer to *Illustration 1.1*.

Item	Quantity
Pedestal	1
Front panel	1
Front top bracket	1
Front bottom bracket	1
Locking brackets	2
M10x22 screw	6
M8 hex nut	4
M5x14 countersunk screw	6
M10 nylon-insert lock nut	2

Table 1.2 Items Supplied in Tall Pedestal Kit

Safety Information

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[®] 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.

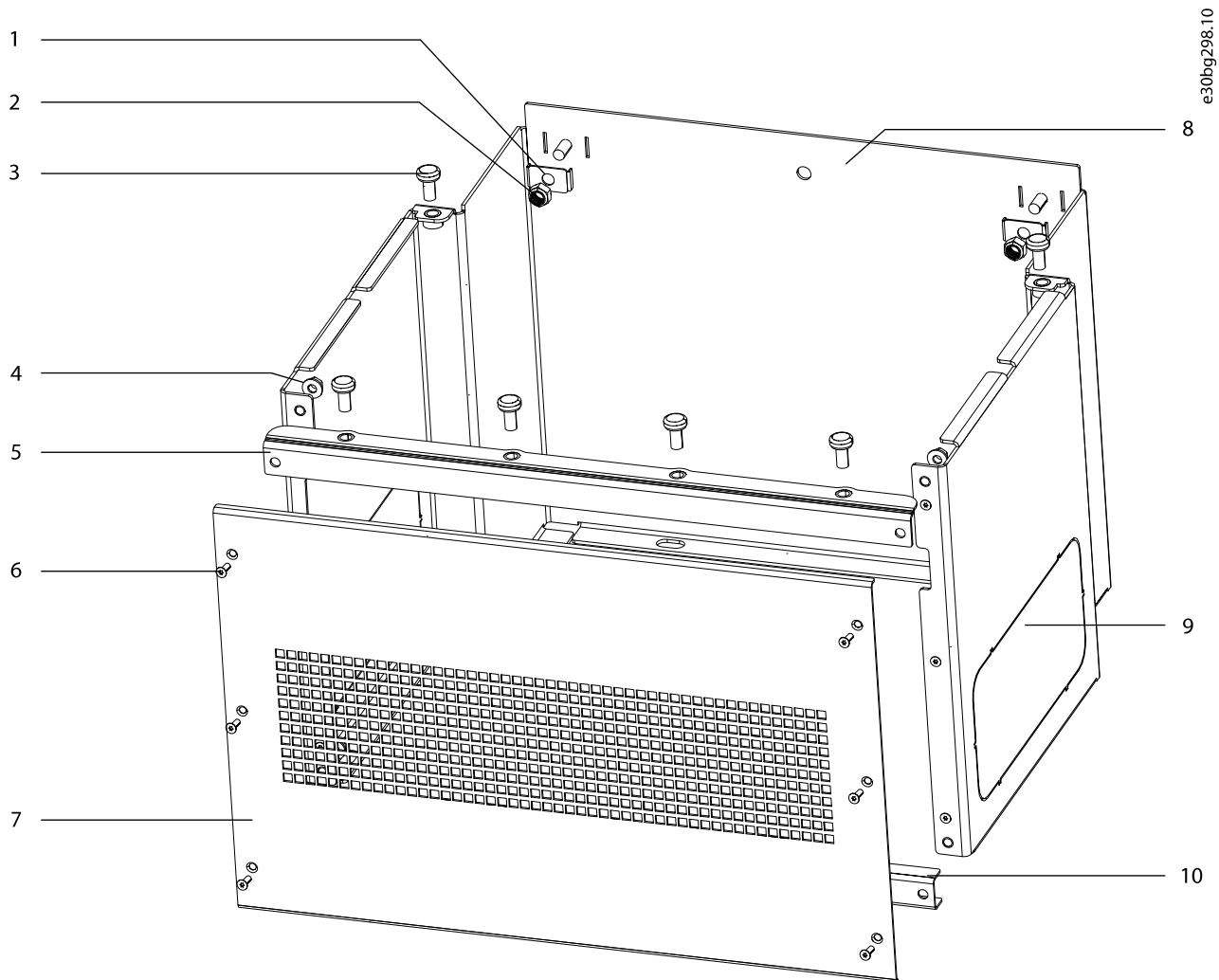
- Stop the motor.
- Disconnect AC mains and remote DC-link power supplies, including battery back-ups, UPS, and DC-link connections to other drives.
- Disconnect or lock PM motor.
- Wait 40 minutes for capacitors to discharge fully.
- Before performing any service or repair work, use an appropriate voltage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

Installation Instructions

Tall Pedestal Installation Overview

E1h and E2h drives are intended for floor installation only. A pedestal and gland plate must be installed for proper operation of the drive. The tall pedestal kit replaces the standard pedestal that ships with the drive. Remove the standard pedestal and properly dispose of it before installing the tall pedestal.

The tall pedestal is 400 mm (15.7 in), and features a front grill to allow the airflow necessary to cool the drive components. The gland plate ships with the drive and is necessary to maintain the IP21/Type 1 or IP54/Type 12 protection rating.



1	Locking bracket	6	M5x14 countersunk screws
2	M10 nylon-insert lock nut	7	Front panel
3	M10x22 screws	8	Pedestal
4	M8 nut	9	Pedestal cutout
5	Front top bracket	10	Front bottom bracket

Illustration 1.1 Tall Pedestal Kit Overview

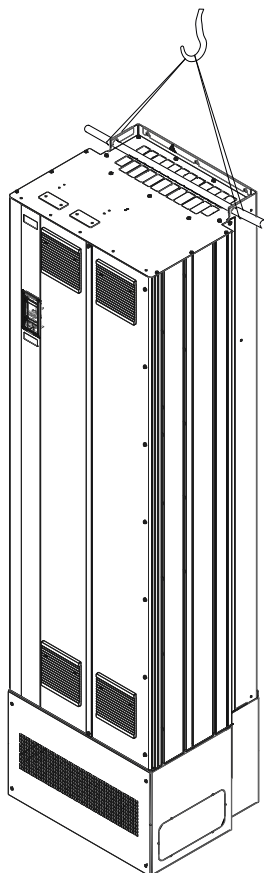
Lifting the Unit

WARNING

RISK OF INJURY OR DEATH

Follow local safety regulations for lifting heavy weights. Failure to follow recommendations and local safety regulations can result in death or serious injury.

- Ensure that the lifting equipment is in proper working condition.
- Always lift the drive using the dedicated lifting eyes. To avoid bending the lifting holes, use a bar. Maximum diameter of bar: 20 mm (0.8 in).
- The angle from the top of the drive to the lifting cable: 60° or greater.
- Test lift the drive approximately 610 mm (24 in) to verify proper center of gravity lift point. To avoid dropping the unit, reposition the lifting point if the unit is not level.
- See the *operating guide* for the weight of the drives.



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Illustration 1.2 Recommended Lifting Method

Securing the Pedestal to the Floor

The pedestal must be secured to the floor using 6 bolts before installing the enclosure.

1. Determine proper placement of the unit, concerning operating conditions and cable access.
2. Access the mounting holes by removing the front panel of the pedestal.
3. Set the pedestal on the floor and secure using 6 bolts through the mounting holes. Refer to the circled areas in *Illustration 1.3*.

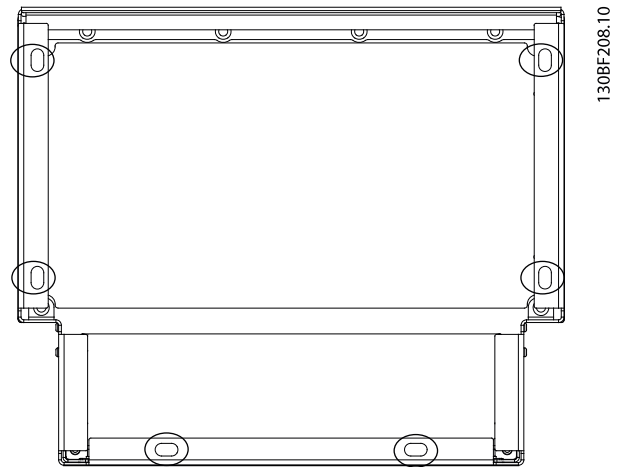


Illustration 1.3 Pedestal-to-Floor Mounting Points

Attaching the E1h/E2h to the Pedestal

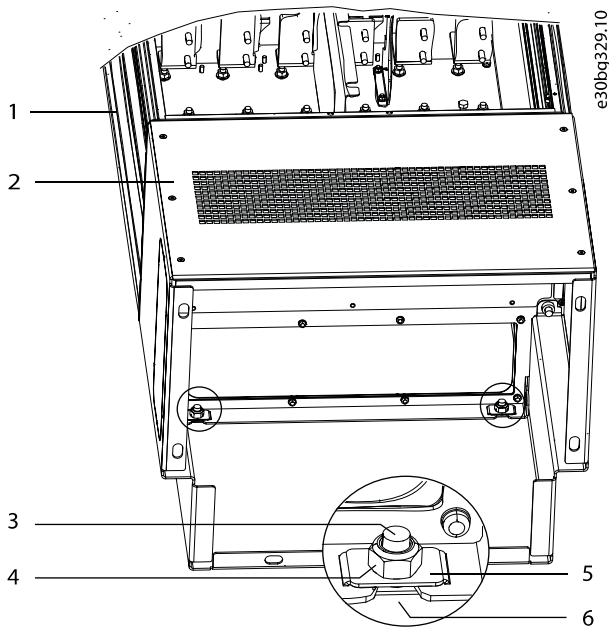
1. Lift the drive and position it on the pedestal. There are 2 bolts in the rear of the pedestal that slide into the 2 slotted holes in the rear of the enclosure. Position the drive by adjusting the bolts up or down. Loosely secure with 2 M10 nylon-insert lock nuts and locking brackets. See *Illustration 1.4*.
2. Verify that there is 225 mm (9 in) top clearance for air exhaust.
3. Verify that the air intake at the bottom front of the unit is not obstructed.
4. Around the top of the pedestal, secure the enclosure using 6 M10x22 screws. Refer to *Illustration 1.5*. Loosely tighten each fastener until all are installed.
5. Torque each fastener to 19 Nm (169 in-lb).

⚠ WARNING

TOP SUPPORT REQUIRED TO PREVENT TIPPING

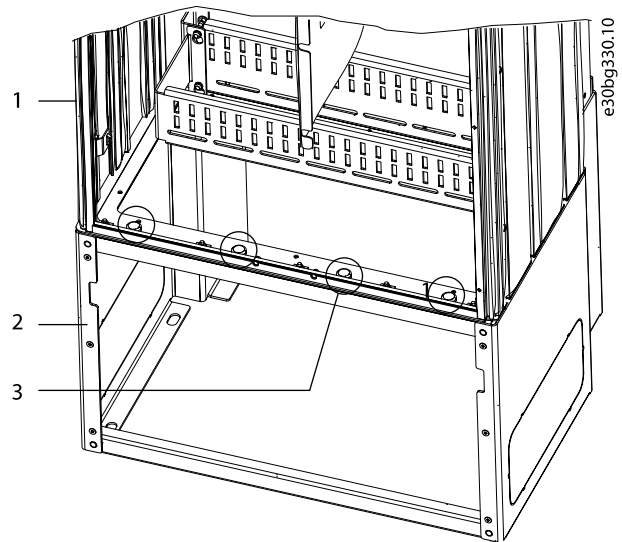
After attaching the pedestal to the drive, secure the top of the drive to prevent the drive from tipping. The drive can cause serious personal injury if it is not secured.

- To secure the drive, fasten 3 M10 bolts at the upper back edge of the drive enclosure. See *Illustration 1.7* and *Illustration 1.9*.



1	Enclosure	4	M10 nylon-insert lock nut
2	Pedestal	5	Locking bracket
3	Bolt at rear of pedestal	6	Slotted hole in enclosure

Illustration 1.4 Pedestal-to-Enclosure Back Mounting Points



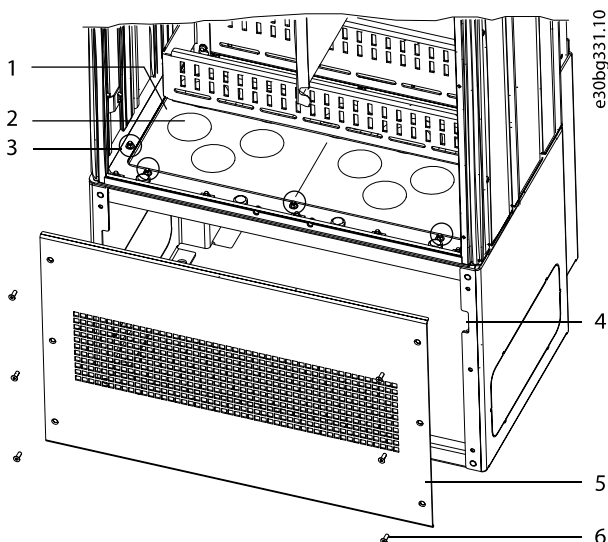
1	Enclosure
2	Pedestal
3	M10x22 screws (rear corner bolts not shown)

Illustration 1.5 Pedestal-to-Enclosure Front Mounting Points

Creating Cable Openings

The gland plate is a sheet of metal with studs along the outer edge. The gland plate provides cable entry and cable termination points, and must be installed to maintain the IP21/IP54 (Type 1/Type 12) protection rating. The gland plate is placed between the drive enclosure and the pedestal. Depending on stud orientation, the plate can be installed from inside the enclosure or by taking off the front cover of the pedestal. To prepare and install the gland plate, use the following steps. Refer to *Illustration 1.6*.

1. Create cable entry holes in the gland plate using a sheet metal punch.
2. If installing the gland plate through the pedestal, remove 6 M5x14 countersunk screws securing the pedestal front plate.
3. Insert the gland plate using 1 of the following methods:
 - 3a To insert the gland plate through the pedestal, slide the gland plate through the slot in the front of the pedestal.
 - 3b To insert the gland plate through the enclosure, angle the gland plate until it slides under the slotted brackets.
4. Align the studs on the gland plate to the holes in the pedestal and secure with 10 M5 nuts.
5. Torque each nut to 2.3 Nm (20 in-lb).
6. If removed previously, reposition the pedestal front plate and fasten it with 6 M5x14 countersunk screws.



1	Gland plate	4	Slot in pedestal
2	Cable entry hole	5	Front cover
3	M5 nut	6	M5 countersunk screw

Illustration 1.6 Installing the Gland Plate

E1h Exterior Dimensions

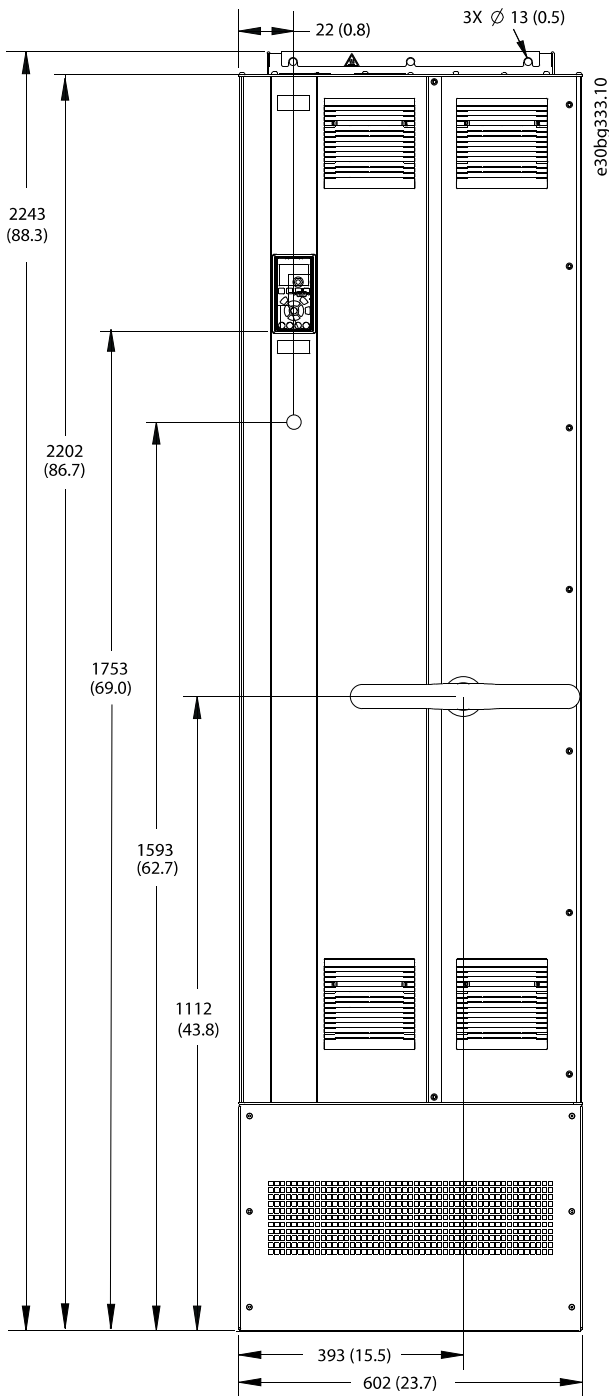


Illustration 1.7 Front View of E1h Drive with Tall Pedestal

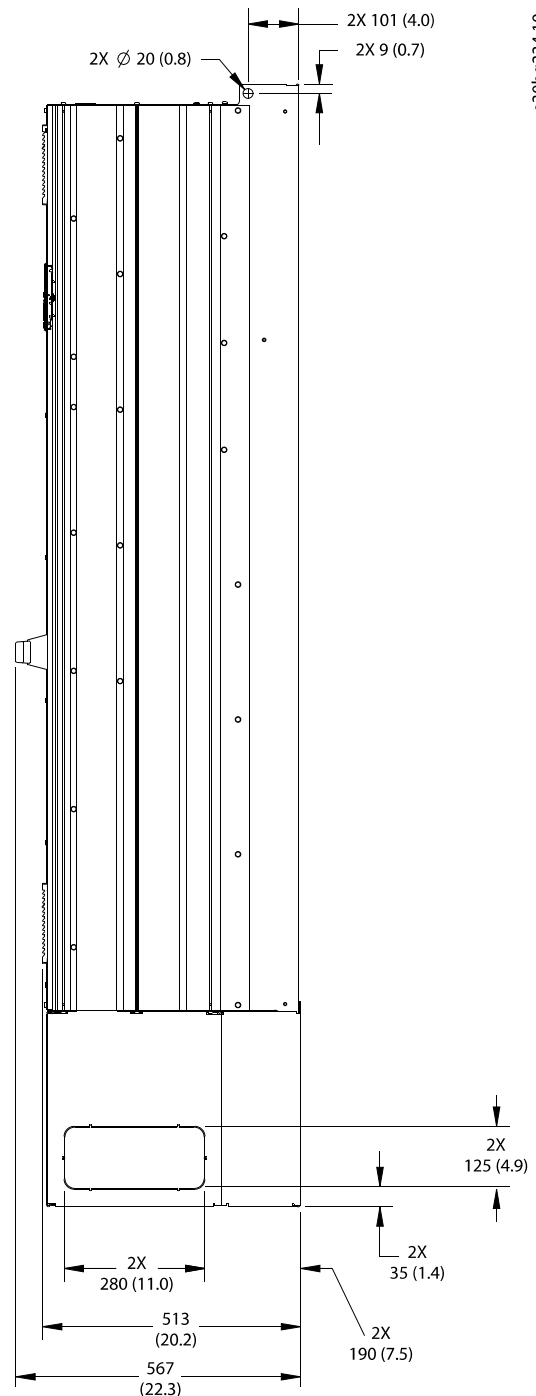


Illustration 1.8 Side View of E1h Drive with Tall Pedestal

E2h Exterior Dimensions

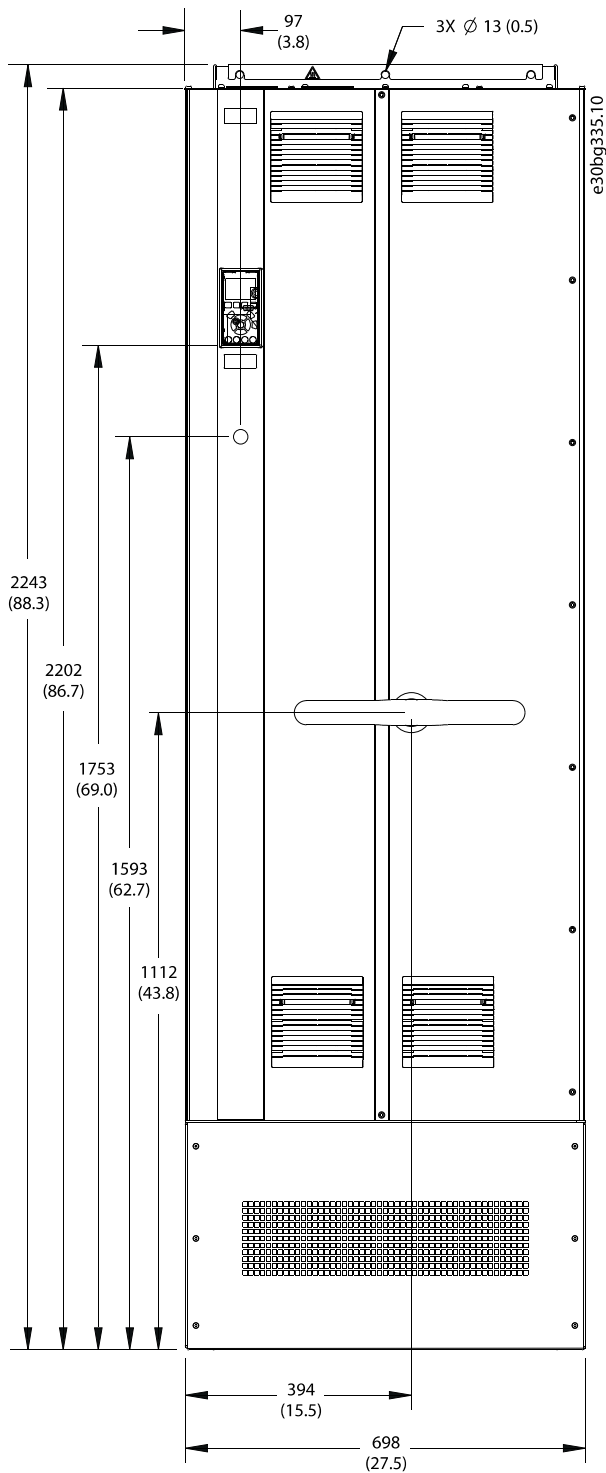


Illustration 1.9 Front View of E2h Drive with Tall Pedestal

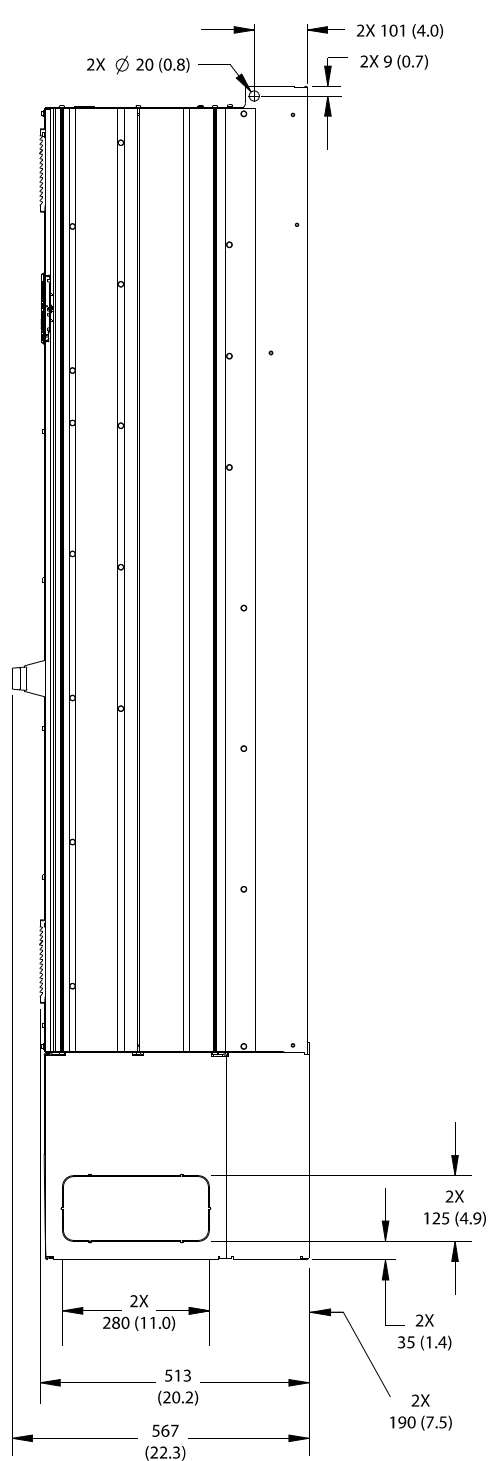


Illustration 1.10 Side View of E2h Drive with Tall Pedestal

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