Installation Instructions
Fan Wire Harness Kit for VLT® AAF/LHD in E1/E9 Enclosure Sizes

1.1 Description

This kit provides all parts required to replace the fan wire harness in VLT® Advanced Active Filters (AAF), and the filter portion of VLT® Low Harmonic Drives (LHD). The fan wire harness kit is designed for the following products in E1/E9 enclosure sizes:

- VLT® Advanced Active Filter (AAF006)
- VLT® HVAC Drive FC 102 Low Harmonic Drive
- VLT® Refrigeration Drive FC 103 Low Harmonic Drive
- VLT® AQUA Drive FC 202 Low Harmonic Drive
- VLT® AutomationDrive FC 302 Low Harmonic Drive

1.2 Kit Part Number

Part number	Kit description
177G4507	Fan wire harness kit for AAF/LHD in E1/E9

Table 1.1 Part Number for the Fan Wire Harness Kit

1.2.1 Items Supplied

The fan wire harness kit contains the following parts.

Quantity	Item description
1	Wire harness
1	Jumper

Table 1.2 Fan Wire Harness Kit Parts List

1.3 Safety Instructions

1.3.1 Qualified Personnel

Correct and reliable transport, storage, installation, operation, and maintenance are required for the trouble-free and safe operation of the frequency converter. Only qualified personnel are allowed to install or operate this equipment.

Qualified personnel are defined as trained staff, who are authorized to install, commission, and maintain equipment, systems, and circuits in accordance with pertinent laws and regulations. Also, the qualified personnel must be familiar with the instructions and safety measures described in this installation guide.

⚠WARNING

ELECTRICAL SHOCK HAZARD

VLT® frequency converters 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 frequency converter from all power sources before installation or service.**
- **Treat the frequency converter as live whenever the mains voltage is connected.**
- **Follow the guidelines in these instructions and local electrical safety codes.**

⚠WARNING

DISCHARGE TIME

The frequency converter contains DC-link capacitors that can remain charged even when the unit is off. High voltage can be present even when the warning indicator lights are off. Failure to wait a minimum of 20 minutes after power is removed before performing service work can result in death or serious injury.

1. **Stop the motor.**
2. **Disconnect AC mains and remote DC-link supplies, including battery back-ups, UPS, and DC-link connections to other frequency converters.**
3. **Disconnect or lock PM motor.**
4. **Wait 20 minutes for the capacitors to discharge.**
5. **To verify full discharge, measure the voltage level.**

1.4 Installation Guidelines

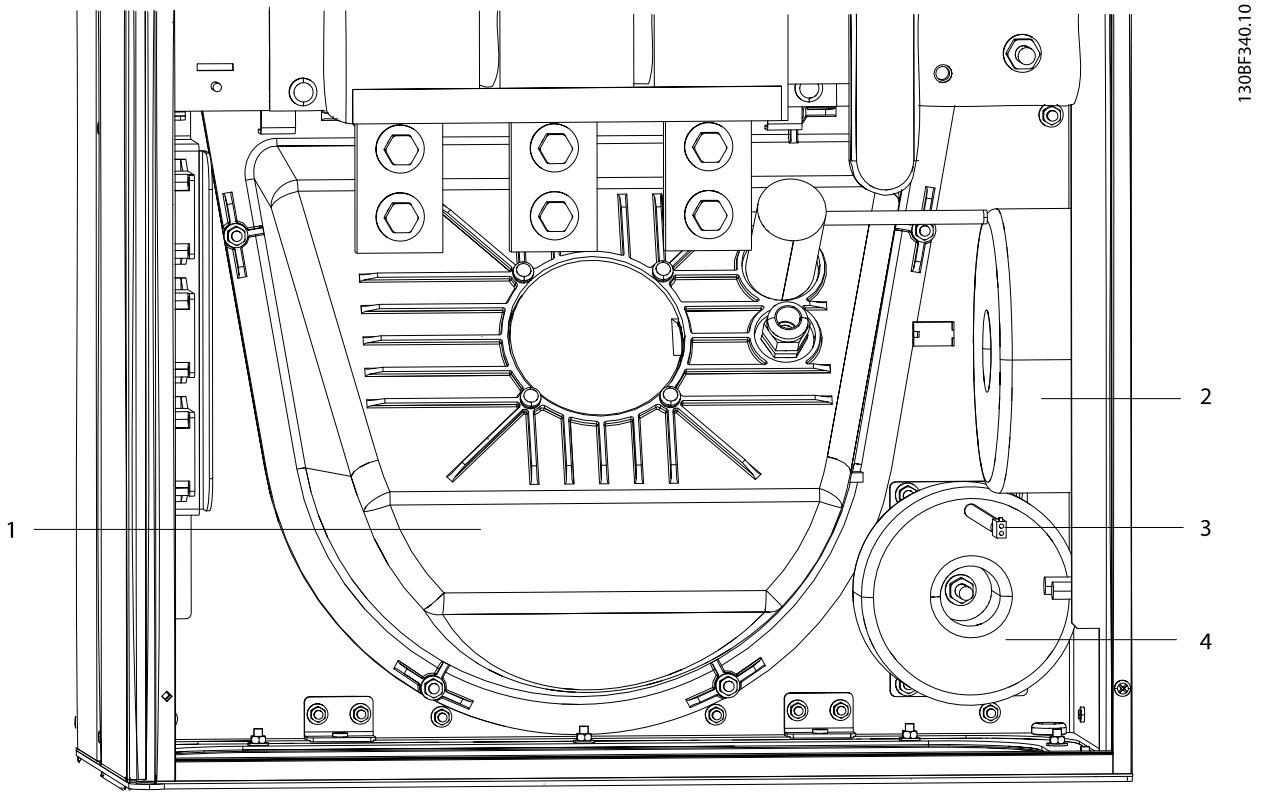
1.4.1 Installing the Fan Inductor Jumper

The fan wire harness kit includes a jumper for units that do not contain a fan inductor. Follow this procedure before installing the fan wire harness.

1. Check whether a fan inductor is present in the unit. To locate the fan inductor, see *Illustration 1.1*.
2. If a fan inductor is present, install the fan wire harness without the jumper.
3. If a fan inductor is not present, install the jumper on the fan inductor leg of the wire harness. See items 6 and 7 in *Illustration 1.2*.

NOTICE

If the fan inductor cable is not connected to either the inductor or the jumper, the circuit remains open and the fan cannot operate.

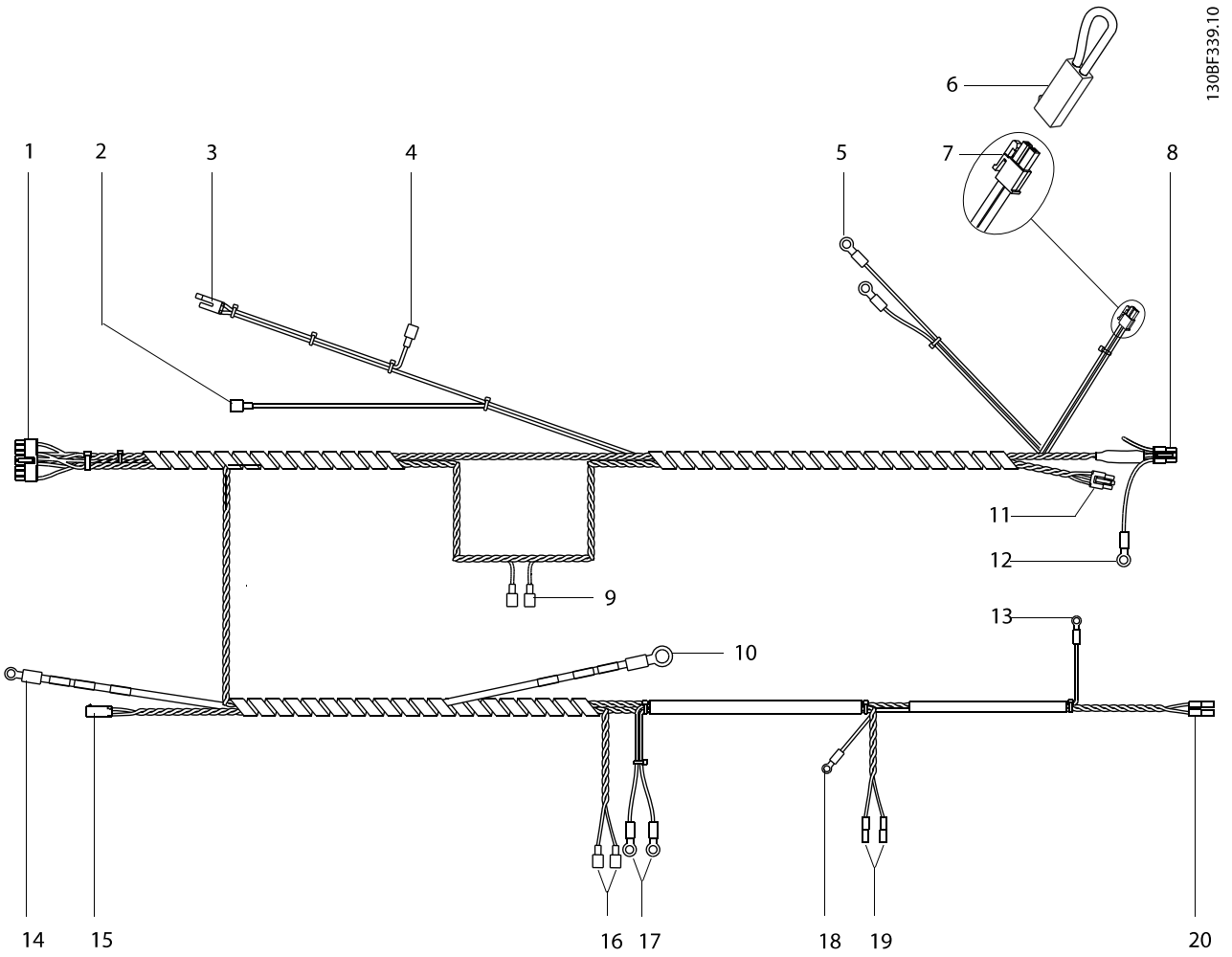


1	Heat sink fan	3	Fan inductor cable connector
2	Fan transformer	4	Fan inductor

Illustration 1.1 Heat Sink Fan with Fan Transformer and Fan Inductor

1.4.2 Installing the Fan Wire Harness

1. Before detaching cables, note which cable attaches to each connector to ensure correct installation.
2. Remove the old fan wire harness from the unit and discard it.
3. Install the new wire harness, running each wire to the appropriate component and connector. See *Illustration 1.2*.



1	Cable to MK107 (on power card)	11	Fan transformer cable
2	Cable to power card fuse	12	Ground for heat sink fan
3	Cable to MK105 (on power card)	13	Ground for door fan 2
4	Cable to power card fuse	14	Damping resistor cable
5	DC (+) and DC (-) cables	15	Control transformer cable
6	Fan inductor jumper	16	Cable to FU6 and H4 fuses
7	Fan inductor cable	17	Ground wire for door fans 1 and 2
8	Heat sink fan cable	18	Ground for door fan 1
9	Fan transformer fuse cable	19	Cable for door fan 1
10	R-phase contactor cable	20	Cable for door fan 2

Illustration 1.2 Fan Wire Harness Connections

Danfoss A/S
Ulsnaes 1
DK-6300 Graasten
vlt-drives.danfoss.com