

# Power Card Kit for Enclosure Size B4

## VLT® FC Series 11–37 kW

### 1 Introduction

#### 1.1 Description

This Installation Guide explains how to mount the extra foil required when replacing the power card in a B4-enclosure drive produced before May 1<sup>st</sup> 2021.

The extra foil is required to attain electrical safety insulation from heat sink to pulse transformer.

#### 1.2 Kit Code Numbers

Table 1: Code Numbers

Kit code number	Kit description	Kit code number	Kit description	Kit code number	Kit description
130B1458	Power card, 15 kW, 200 V	130B1906	Power card, 15 kW, 200 V	130B1987	Power card, 22 kW, 400 V
130B1459	Power card, 18 kW, 200 V	130B1907	Power card, 18 kW, 200 V	130B1988	Power card, 30 kW, 400 V
130B1577	Power card, 22 kW, 460 V	130B1924	Power card, 22 kW, 400 V	130B1991	Power card, 37 kW, 400 V
130B1578	Power card, 30 kW, 460 V	130B1926	Power card, 30 kW, 400 V	130B1993	Power card, 22 kW, 500 V
130B1579	Power card, 37 kW, 460 V	130B1927	Power card, 37 kW, 400 V	130B1994	Power card, 30 kW, 500 V
130B1605	Power card, 22 kW, 575 V	130B1943	Power card, 22 kW, 500 V	130B1995	Power card, 37 kW, 500 V
130B1606	Power card, 30 kW, 575 V	130B1944	Power card, 30 kW, 500 V	130B9185	Power card, 15 kW, 690 V
130B1607	Power card, 37 kW, 575 V	130B1945	Power card, 37 kW, 500 V	130B9186	Power card, 18 kW, 690 V
130B1626	Power card, 15 kW, 240 V	130B1963	Power card, 22 kW, 600 V	130B9187	Power card, 22 kW, 690 V
130B1627	Power card, 18 kW, 240 V	130B1964	Power card, 30 kW, 600 V	130B9188	Power card, 30 kW, 690 V
130B1642	Power card, 22 kW, 460 V	130B1965	Power card, 37 kW, 600 V	130B9189	Power card, 37 kW, 690 V
130B1643	Power card, 30 kW, 460 V	130B1983	Power card, 15 kW, 200 V	130B9191	Power card, 11 kW, 690 V
130B1644	Power card, 37 kW, 460 V	130B1984	Power card, 18 kW, 200 V	–	–

## 2 Safety Instructions

### 2.1 Qualified Personnel

Only qualified personnel are allowed to install the parts described in this Installation Guide. Make sure to read and save this guide.

### 2.2 Safety Precautions

Only Danfoss authorized, qualified personnel is allowed to repair this equipment.

## ⚠ W A R N I N G ⚠

### 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 indicator lights are off.

Failure to wait the specified time after power has been removed before performing service or repair work could result in death or serious injury.

- Stop the motor.
- Disconnect AC mains, permanent magnet type motors, and remote DC-link supplies, including battery back-ups, UPS, and DC-link connections to other drives.
- Wait for the capacitors to discharge fully. The minimum waiting time is specified in the table *Discharge time* and is also visible on the nameplate on the top of the drive.
- Before performing any service or repair work, use an appropriate voltage measuring device to make sure that the capacitors are fully discharged.

Table 2: Discharge Time, VLT® HVAC Drive FC 102

Voltage [V]	Minimum waiting time (minutes)					
	4	7	15	20	30	40
	[kW (hp)]					
200–240	1.1–3.7 (1.50–5)	–	5.5–45 (7.5–60)	–	–	–
380–480	1.1–7.5 (1.50–10)	–	11–90 (15–121)	–	–	315–1000 (450–1350)
400	–	–	–	90–315 (121–450)	–	–
500	–	–	–	110–355 (150–500)	–	–
525	–	–	–	75–315 (100–450)	–	–
525–600	1.1–7.5 (1.50–10)	–	11–90 (15–121)	–	–	–
690	–	–	–	90–315 (100–350)	–	–
525–690	–	1.1–7.5 (1.50–10)	11–90 (15–121)	–	400–1400 (500–1550) 450–1400 (600–1550)	–

Table 3: Discharge Time, VLT® Refrigeration Drive FC 103

Voltage [V]	Minimum waiting time (minutes)				
	4	7	15	20	40
	[kW (hp)]				
200–240	0.25–3.7 (0.34–5.0)	–	5.5–37 (7.5–50)	–	–
380–480	0.25–7.5 (0.34–10)	–	11–75 (15–100)	110–315 (150–450)	355–450 (500–600) 355–560 (500–750)
525–600	0.75–7.5 (1.0–10)	–	11–75 (15–100)	–	–
525–690	–	1.5–7.5 (2–10)	11–75 (15–100)	55–400 (75–550)	450–630 (600–750) 450–800 (600–1075)

Table 4: Discharge Time, VLT® AQUA Drive FC 202

Voltage [V]	Minimum waiting time (minutes)					
	4	7	15	20	30	40
	[kW (hp)]					
200–240	0.25–3.7 (0.34–5.0)	–	5.5–37 (7.5–50)	–	–	–
380–480	0.25–7.5 (0.34–10)	–	11–75 (15–100)	110–315 (150–450)	–	315–1000 (450–1350) 355–560 (500–750)
525–600	0.75–7.5 (1–10)	–	11–90 (15–121)	–	400–1400 (550–1550)	–
525–690	–	1.1–7.5 (1.5–10)	11–90 (10–125)	75–400 (100–550)	–	450–800 (600–1075)

Table 5: Discharge Time, VLT® Automation Drive FC 301/FC 302

Voltage [V]	Minimum waiting time (minutes)					
	4	7	15	20	30	40
	[kW (hp)]					
200–240	0.25–3.7 (0.34–5)	–	5.5–37 (7.5–50)	–	–	–
380–500	0.25–7.5 (0.34–10)	–	11–75 (15–100)	90–200 (150–350)	250–500 (450–750)	250–800 (450–1350) 315–500 (500–750)
400	–	–	–	90–315 (125–450)	–	–
500	–	–	–	110–355 (150–450)	–	–
525	–	–	–	55–315 (75–400)	–	–

Voltage [V]	Minimum waiting time (minutes)					
	4	7	15	20	30	40
	[kW (hp)]					
525–600	0.75–7.5 (1–10)	–	11–75 (15–100)	–	–	–
525–690	–	1.5–7.5 (2–10)	11–75 (15–100)	37–315 (50–450)	355–1200 (450–1550)	355–2000 (450–2050) 355–710 (400–950)
690	–	–	–	55–315 (75–400)	–	–

### 3 Installation

#### 3.1 Mounting the Foil

The foil with code number 134B7441 is only to be mounted when the heat sink looks as in [Illustration 1](#).

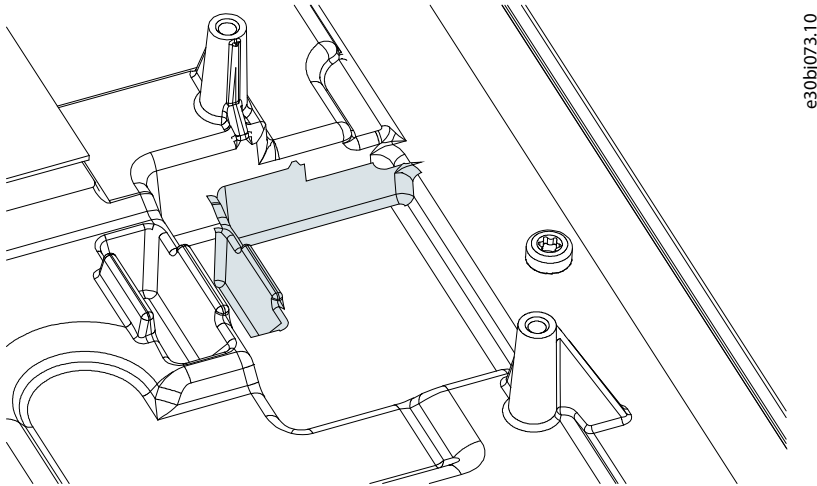
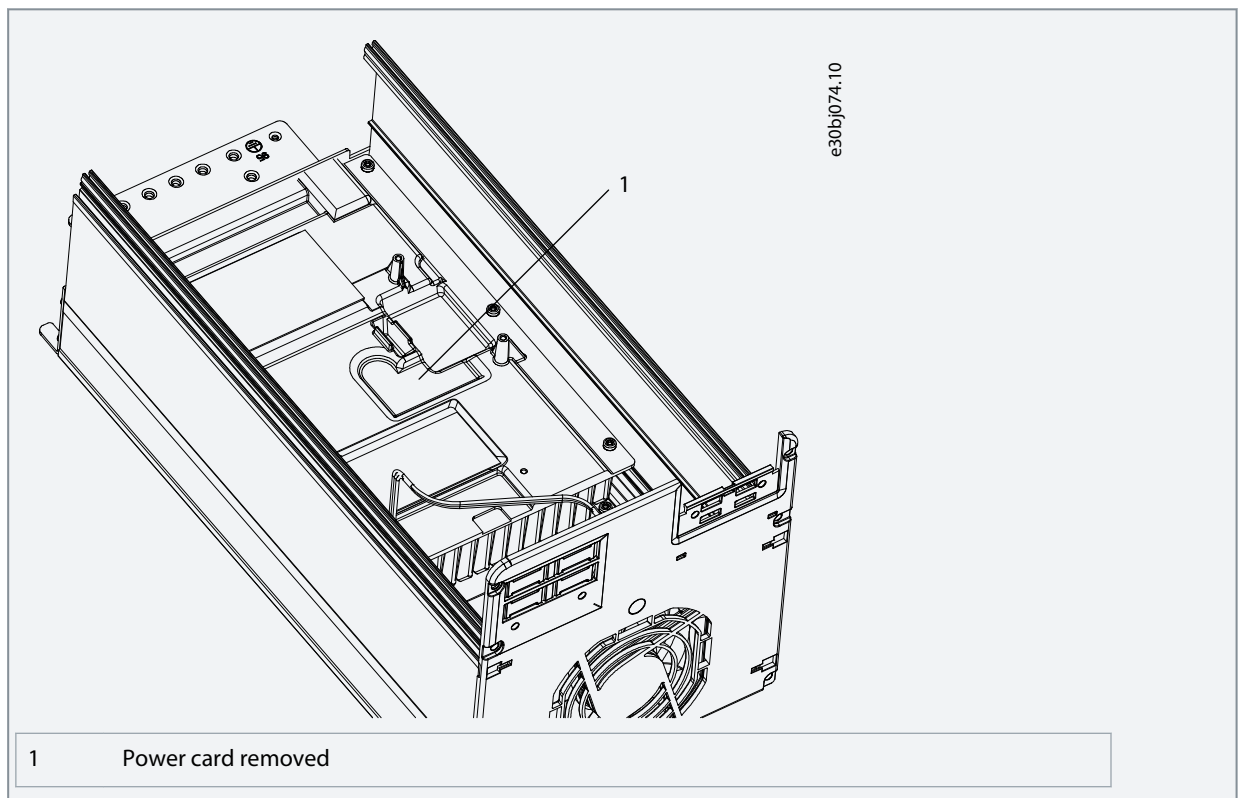


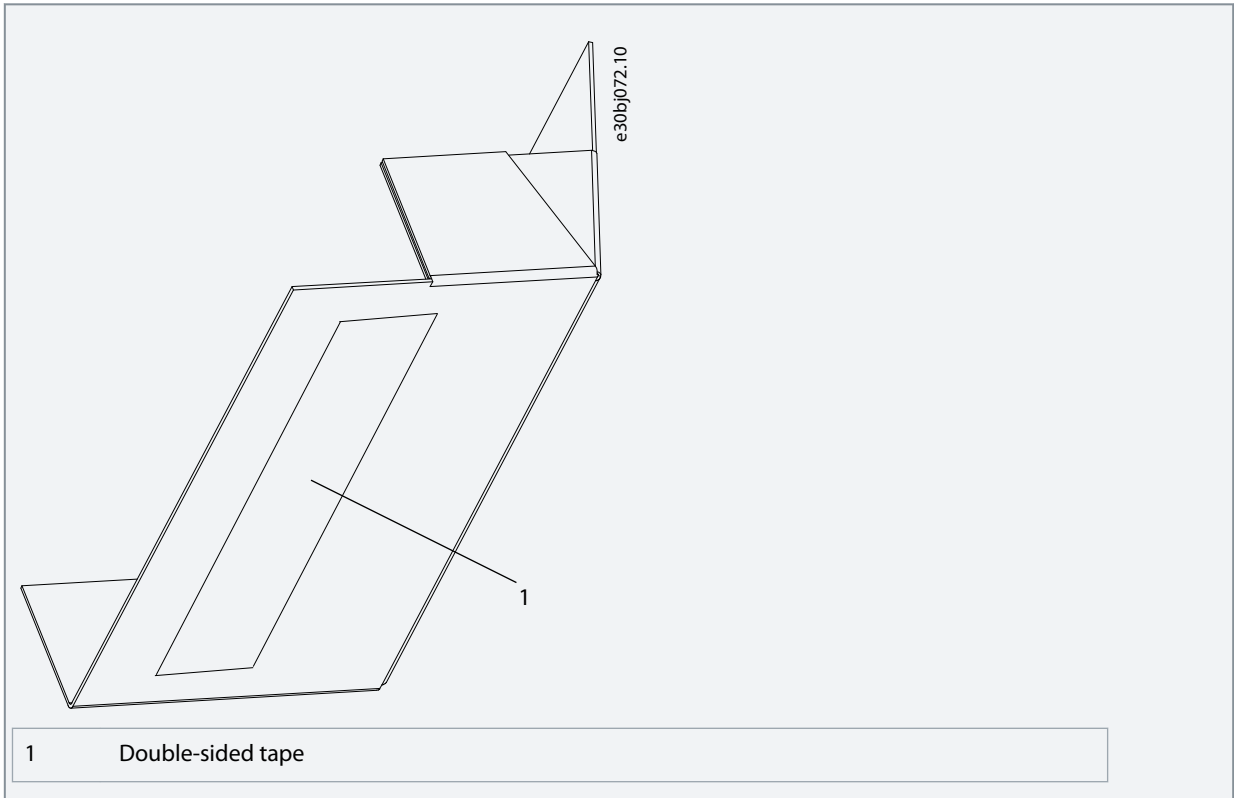
Illustration 1: Heat Sink Design Where Foil Should be Used

#### Procedure

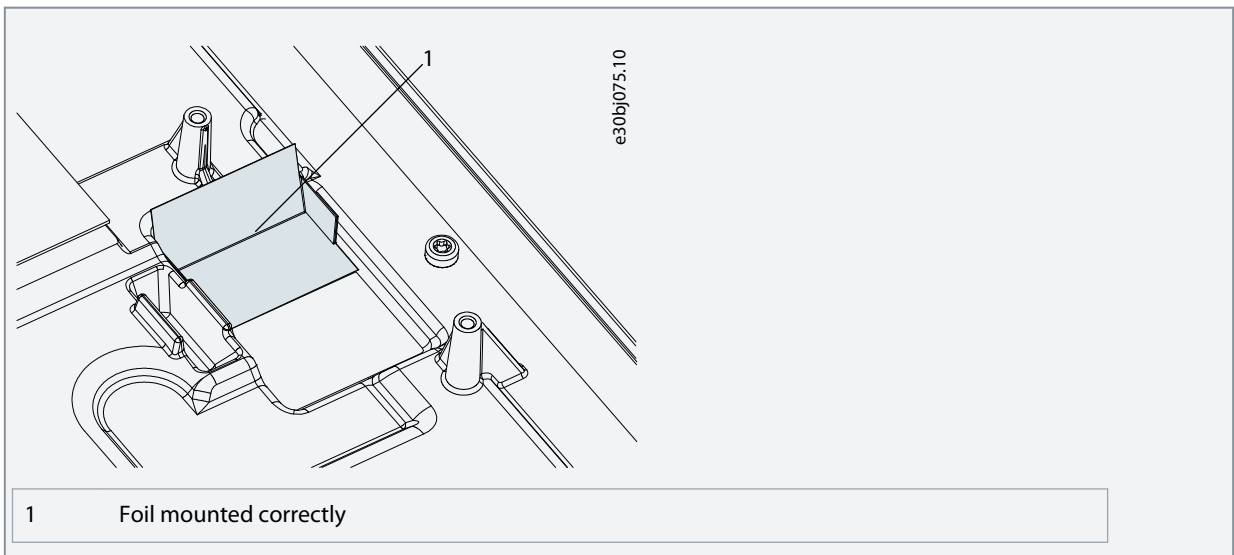
1. Disassemble the power card.



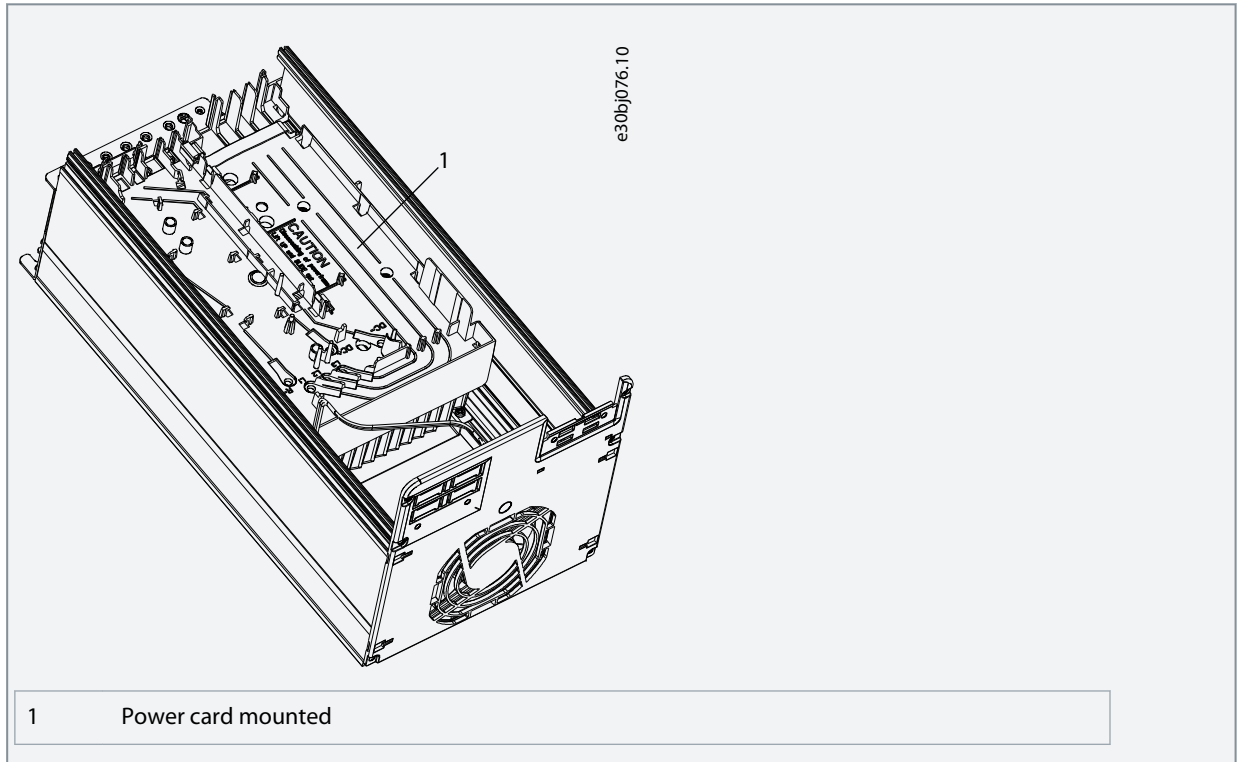
2. Remove the peel-off sheet from the double-sided tape of the foil.



3. Fix the foil in the cavity of the heat sink, and make sure that the foil sticks firmly to the heat sink.



4. Mount the new power card.



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