

# What is the most efficient 12 volt compressor fridge?

March 6, 2020 By [Zeb Elliott](#)

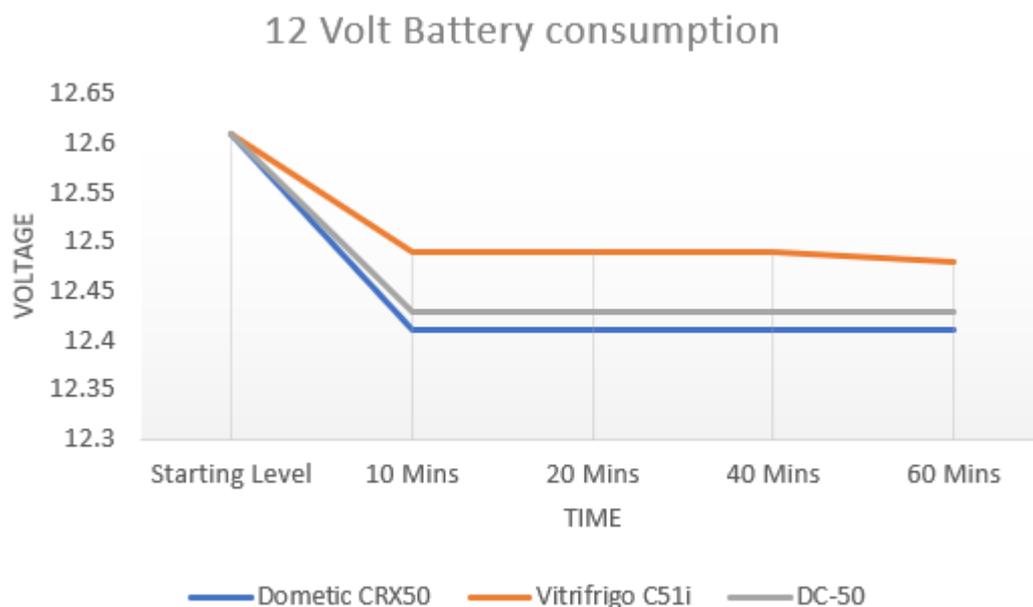
Lee at Magnum Motorhomes has been selling 12 volt compressor fridges for campervans and motorhomes for many years and understands the best way to specify and install them correctly. One question he is continually asked is which fridge is best? Specifically, which 12 volt compressor fridge will give them the best cooling and last longest on their 12V leisure battery.

To find out Lee decided to run his own test on three of the fridges that Magnum Motorhomes sell – the Dometic CRX50, our Vitrifrigo C51i and the Chinese DC-50. The test was simple and straightforward, running all three fridges on their maximum thermostat setting at the same time from their own fully charged 110A/H battery. Thermometers were used to record the temperature from the middle of the fridge and the freezer compartment of each the 12V fridges and the battery voltage was checked throughout the test.

## The results

### 12 VOLT BATTERY CONSUMPTION

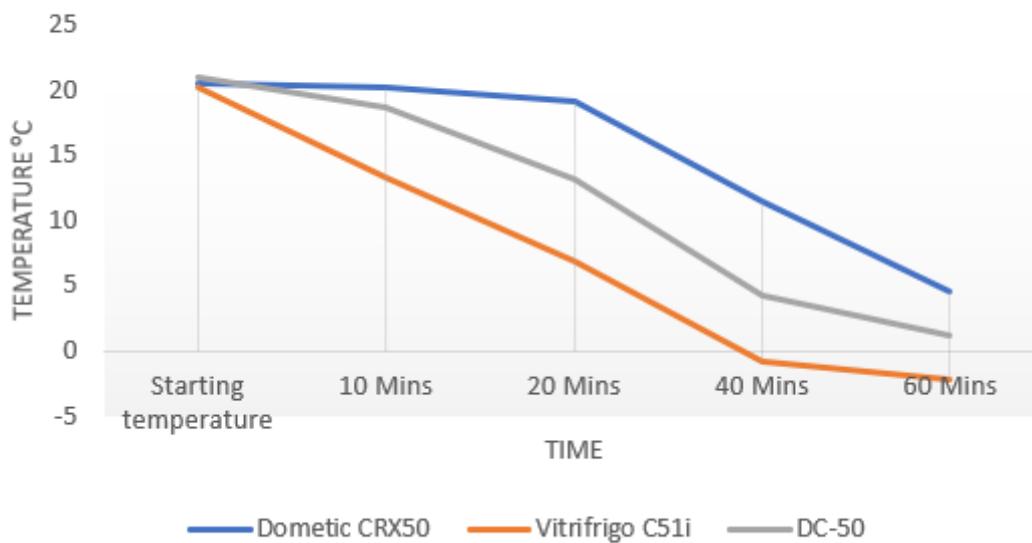
The battery level on the Vitrifrigo C51i remained the highest of the three fridges tested, reaching temperature quickest it cycled on and off twice on the maximum thermostat setting with the battery condition remaining closest to 12.5V.



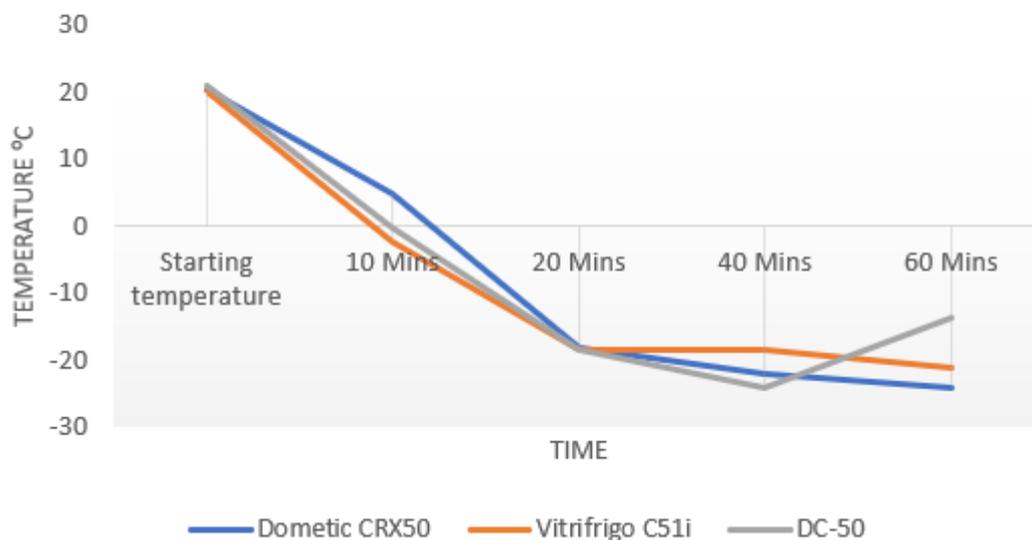
## TEMPERATURE PERFORMANCE

The Vitrifrigo C51i cooled fastest and stayed the coldest in the fridge, with the freezer compartment maintaining a temperature below  $-18^{\circ}\text{C}$ . The Dometic CRX50 took the longest to cool down and ran continuously the entire hour with the fridge temperature failing to get to  $4^{\circ}\text{C}$ , although the freezer was at  $-24^{\circ}\text{C}$ . The DC-50 took 48 minutes to reach temperature  $4^{\circ}\text{C}$  on the thermostat with the freezer at  $-24^{\circ}\text{C}$ . It also appeared to have the largest variation in temperature on the thermostat with the freezer temperature rising to  $-13.7^{\circ}\text{C}$  with the fridge temperature continuing to drop to  $1.2^{\circ}\text{C}$ .

### Fridge compartment temperatures



### Freezer compartment temperatures



## Conclusions

The Vitrifrigo C51i clearly outperformed in this test of 12 volt compressor fridges in both the speed and efficiency of cooling and power consumption. It reached temperature faster, cycling on and off on the thermostat twice in the one hour test period and the condition of the battery remained higher than the other two fridges tested.

Although Dometic claim their CRX 50 is 25% more efficient, in this test by Magnum Motorhomes, the Dometic CRX proved to be less efficient in terms of both cooling time and battery draw than either the Vitrifrigo C51i or the DC-50. (if you read the small print the 25% increase in efficiency they claim is actually compared to the old Waeco CR50, which we know was a really power hungry fridge).