



EV FACT SHEET

Volvo C40 Recharge

Created and written by:
Bryce Gatton
Contact:
Bryce@EVChoice.com.au



Volvo C40 Recharge. Image: Volvo Europe.

INTRODUCTION

The Volvo C40 Recharge is classed in Australia as a 'medium SUV' and is built on the same platform as Volvo's XC40 Recharge and Polestar 2. As such it shares its motor, battery and many other components with both the Polestar and the XC40. However, unlike the XC40, the C40 is offered as a full battery EV (BEV) only with no ICE or hybrid variants. Whilst the European C40 Recharge is built in Belgium, the Australian versions are built in China (as are the Polestar 2 and XC40 Recharge).

At release, two versions of the Volvo C40 are offered:

- front-wheel drive (FWD) with a 69 kWh battery
- all-wheel drive (AWD) with a 78 kWh battery

Mid-2023 update.

Volvo made changes to the battery sizes, motors and improvements to the energy efficiency as well as swapped the two-wheel drive version from front to rear wheel drive (RWD).

Note: Sadly, the longest range C40 – the 82 kWh, RWD offered in Europe and the US is not available in Australia.

DRIVING RANGE

Currently, the official Australian ADR 81/02 test cycle is based on the outdated (and highly over-optimistic) European NEDC test cycle. However few manufacturers now give this figure for their new releases. Instead they quote the more achievable ranges found through the newer European WLTP test cycle.

Therefore, to avoid disappointment always check which test cycle has been used when assessing an EV for your needs. As a guide, NEDC is generally 30% too high, WLTP a good estimate if doing mostly urban and outer suburban driving and US EPA the better guide if doing mostly outer suburban to regional driving.

DRIVING RANGE (continued)

National testing system range estimates			
Version	ADR 82/01 (Aust)	WLTP (Euro)	US EPA
Pre mid-2023			
FWD (69 kWh)	540	434	N/A ¹
AWD (78kWh)	500	432	364
Post mid-2023			
RWD (69 kWh)	Not rated	475	N/A ¹
AWD (82 kWh)	Not rated	530	411

Table 1: Driving range estimates for the Volvo C40 Recharge

Using the US EPA range, an AWD Volvo C40 should manage a return day-trip from the Melbourne GPO to Ararat in Victoria's west, provided the heater or air conditioner are not heavily used. Top-up charging options include a 1hr AC charge over lunch in Ararat's Elizabeth Park or a 10 – 15 minute DC fast charge Ballarat Central. For further charging options and locations, visit: <https://www.plugshare.com/>

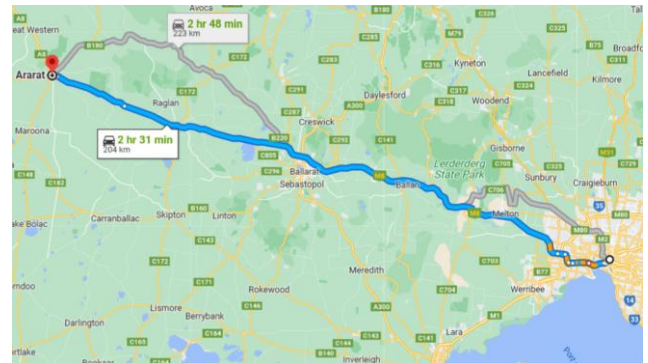


Image: Google maps

CHARGING SPEEDS/REQUIREMENTS

Charging port

The Volvo C40 Recharge is fitted with a CCS2 socket allowing it to charge via Type 2 AC chargers³ as well as CCS2 DC fast-chargers.



CCS2 charging plug and socket

Notes:

1. 69 kWh battery not available in the US.
2. <https://www.greenvehicleguide.gov.au>
3. The C40 Recharge can be charged at any AC EVSE, however an adaptor will be needed to use the (very few) remaining older EVSEs fitted with Type 1 (J1772) plugs.

CHARGING SPEEDS/REQUIREMENTS (continued)

AC charging:

Like all new EVs sold in Australia, the C40 Recharge is fitted with a type 2 AC socket.

Charging rates:

Single phase: maximum of 7.4 kW (32A)

Three phase: maximum of 11 kW (16A per phase)

Charging speeds and times vary on the capacity of the EVSE (Electric Vehicle Supply Equipment) it is connected to and the chosen battery size. Charging times for the C40 recharge are shown in table 2 below.

AC: 0 – 100% time				DC: 0 – 80% time	
10 A (power point)	15 A 1 phase (Caravan outlet)	32 A (1 ph. Home EVSE)	16 or 32 A (3 phase public AC EVSE)	DC Fast charge (50kW)	DC Fast charge (200+kW)
69 kWh: 34h	20h	10h	7h	70m	40m
82 kWh: 41h	23h	12h	8h	80m	32m

Table 2: Approximate charging times for the current C40 Recharge versions

DC fast charging:

The Volvo C40 Recharge has the CCS2 DC fast-charge connector and can charge at up to 135 kW for the rear-wheel drive and 200 kW for the all-wheel drive.

V2X capability:

The Volvo C40 currently does not offer any form of bidirectional charging capability.

Notes:

V2X is the generic term covering the options of getting 230V AC power from the battery and supplying it as:

- V2L: vehicle to load (230V power available from outlet in car)
- V2H: vehicle to home (supply home via special connection)
- V2G: vehicle to grid (supply home or grid via spec. connection)

HOME CHARGING CONSIDERATIONS

General

To get the shortest home charging time for a C40 Recharge, an 11kW three phase AC EVSE would be needed.

However, depending on your existing power supply and/or charging needs, a lower rated EVSE may only be practicable, or needed. (See notes below). Lower capacity EVSEs will increase charging times, as shown in table 2 above.

The C40 Recharge also comes with a Mode 2 portable EVSE for plugging into a 10A power point. Charging the FWD with this EVSE will take around 34 hrs for a 0 – 100% charge or almost 39 hrs for the AWD.

Important notes for any EVSE installation:

1. High charging rates are generally not needed for overnight charging.
2. Homes do not normally have three phase AC connected.
3. Switchboard and/or electrical supply upgrades may be needed if your home or business is more than 20 years old. For more information on this item - read EV Information articles at EVchoice.com.au or see:
 - (a) Renew magazine edition 143. (EVSE wiring)
 - (b) Renew magazine edition 156. (EVSE buyer's guide)

SPECIFICATIONS

Seating capacity: 5

Boot volumes in litres (1 litre = 10 x 10 x 10 cm)

- Seats up: 413/489 L (to seat top/to roof)
- Seats down: 853/1205 L (to seat top/to roof)
- 'Froot' (front boot): 31 L

Dimensions:

- Overall length: 4440 mm
- Overall width:
 - mirrors in: 1873
 - mirrors out: 2034 mm
- Overall height: 1596 mm
- Ground clearance: 177 mm

Battery:

- Rear-wheel drive: 69 kWh (66 usable)
- All-wheel drive: 82 kWh (79 usable)

Charging:

- 1 phase AC: 7.4kW
- 3 phase AC: 11kW
- DC: 135 kW (RWD); 200 kW (AWD)

Charge port location:

- Left side, rear quarter.

Energy consumption: (WLTP)

- 16.9 kWh/100 km (FWD)
- 17.7 kWh/100 km (AWD)

Kerb weight:

- RWD: 2048 kg
- AWD: 2183 kg

Drive configurations:

- Two wheel drive:
 - Front-wheel drive (FWD): pre mid-2023
 - Rear-wheel drive (RWD): post mid-2023
- All-wheel drive (AWD)

Towing:

- 2WD: 1500 kg braked/750 kg unbraked.
- AWD: 1800 kg braked/750 kg unbraked.

Performance:

Variant:	Max. Power (kW)	0 to 100km/h (Sec)
RWD	175	7.3
AWD	300	4.7

IMPORTANT NOTES:

Always check for the latest vehicle specifications with the manufacturer prior to any purchase. No responsibility accepted by AEVA or Bryce Gatton (EV Choice) for errors factual or due to reproduction in this Fact Sheet. Whilst all efforts are made to ensure the accuracy of the material in this Fact Sheet, manufacturers regularly make changes (often unannounced) to their model ranges and specifications.

This Fact Sheet is prepared by EV Choice and provided free to AEVA for non-commercial use.

Other Fact Sheets at: aeva.au/fact-sheets