

# INDEPENDENT BATTERY CERTIFICATE



CERTIFICATE NUMBER: 391B1DD2-D02E-4C68-BEF5-71879DFC154A

## VEHICLE

**BRAND:** Volvo  
**MODEL:** XC40 Recharge - 69 kWh

**MILEAGE:** 90,332 km  
**VIN:** YV1XZEFVXP2993472  
**DATE AND TIME:**  
16.12.2025, 10:24:14

**EXECUTED BY:** Carla AB

## RESULTS

### STATE OF HEALTH (SOH)

# 93.6 %

#### ENERGY

63kWh | 67kWh



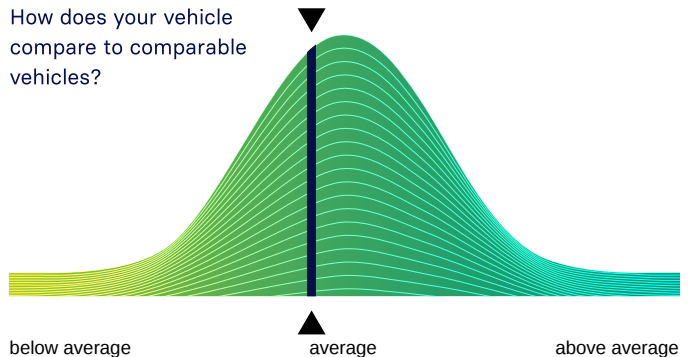
#### WLTP RANGE

447km | 477km

## RATING

### BENCHMARKING

How does your vehicle compare to comparable vehicles?



## CHECKS

Battery Management System (BMS) ✓

Battery Sensor ✓

Battery Measurements ✓

Battery Cell Voltages ✓

Vehicle Communication ✓



SCAN FOR DETAILS

## EVALUATION

### GOOD HEALTH - NO ABNORMALITIES DETECTED

Based on the detailed battery diagnostics performed with the AVILOO FLASH Test, we hereby certify that the drive battery of this vehicle is in good condition.

The drive battery is therefore officially AVILOO Certified.

*Marcus Berger*

Dr. Marcus Berger, CEO



## ENERGY

|          | Gross   | Net (Nominal) | Usable  |
|----------|---------|---------------|---------|
| Current: | 64.6kWh | 62.7kWh       | 60.2kWh |
| New:     | 69.0kWh | 67.0kWh       | 64.3kWh |

## RANGE

|          | WLTP      | Typical | Individual |
|----------|-----------|---------|------------|
| Current: | 396-447km | 315km   | 296km      |
| New:     | 423-477km | 337km   | 316km      |

## EXECUTION PROTOCOL

AVILOO Box connected. 10:24:10

|                            |   |
|----------------------------|---|
| FLASH Test started.        | ✓ |
| Vehicle detected.          | ✓ |
| Starting data acquisition. | ✓ |
| Finished data acquisition. | ✓ |
| Analyzing data.            | ✓ |
| Analysis completed.        | ✓ |

## SENSORS

|                      |   |
|----------------------|---|
| Voltage Sensor       | ✓ |
| Current Sensor       | ✓ |
| Temperature Sensors  | ✓ |
| Cell Voltage Sensors | ✓ |

## BMS

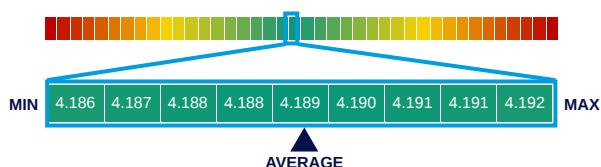
|                             | Value | Status |
|-----------------------------|-------|--------|
| BMS State of Charge (SoC)*: | 93%   |        |
| SoC calculation accuracy:   |       | ✓      |
| BMS State of Health (SoH)*: | 92%   |        |
| SoH calculation accuracy:   |       | ✓      |

## MEASUREMENTS

|                     | Min    | Max    | Delta | Status |
|---------------------|--------|--------|-------|--------|
| Battery Temperature | 11.9°C | 15.0°C | 3.1°C | ✓      |
| Cell Voltage        | 4.186V | 4.192V | 6mV   | ✓      |
| Pack Voltage        | 402.2V |        |       |        |
| Average Current     | -5.4A  |        |       |        |

## CELL VOLTAGES DIAGRAM

|         | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 - 20  | 4.189 | 4.190 | 4.190 | 4.189 | 4.189 | 4.186 | 4.189 | 4.189 | 4.189 | 4.188 | 4.189 | 4.186 | 4.189 | 4.189 | 4.187 | 4.188 | 4.188 | 4.189 | 4.189 | 4.189 |
| 21 - 40 | 4.189 | 4.189 | 4.189 | 4.187 | 4.190 | 4.189 | 4.190 | 4.191 | 4.189 | 4.188 | 4.189 | 4.189 | 4.189 | 4.190 | 4.188 | 4.188 | 4.188 | 4.189 | 4.186 | 4.189 |
| 41 - 60 | 4.192 | 4.188 | 4.189 | 4.189 | 4.189 | 4.188 | 4.189 | 4.189 | 4.189 | 4.190 | 4.188 | 4.189 | 4.189 | 4.188 | 4.189 | 4.189 | 4.189 | 4.189 | 4.189 | 4.189 |
| 61 - 80 | 4.186 | 4.187 | 4.189 | 4.189 | 4.189 | 4.189 | 4.189 | 4.189 | 4.189 | 4.188 | 4.189 | 4.189 | 4.190 | 4.188 | 4.189 | 4.188 | 4.189 | 4.188 | 4.189 | 4.188 |
| 81 - 96 | 4.188 | 4.189 | 4.188 | 4.189 | 4.189 | 4.189 | 4.191 | 4.188 | 4.189 | 4.187 | 4.189 | 4.190 | 4.189 | 4.187 | 4.190 | 4.189 | /     | /     | /     | /     |



\*The values shown here were not calculated by AVILOO but correspond to the values read out from the battery management system (BMS) and were calculated by the manufacturer. AVILOO therefore assumes no liability for their accuracy.

**DISCLAIMER:** The test result includes the currently calculated state of health (SoH) of the drive battery. The determination is based on data provided by the vehicle. These are evaluated by AVILOO's algorithms using statistical and analytical models. Manipulation of the data in the control unit leads to an incorrect result. The indicated SoH has a technically induced fluctuation range (deviation) of no more than 3% in at least 95% of reference measurements. It should be noted that this tolerance applies to the SoH determination at the cell level and not to the SoH of the entire battery. This is because the state of charge of individual cells may vary, which can negatively affect the current SoH of the battery. However, this can be compensated by the Battery Management System (BMS) or during a calibration. The result reflects the condition of the battery at the time of the test. No conclusions can be drawn about the future state of health of the battery from this. Statements about mechanical damage or external influences are not part of this diagnosis.