

Technical data sheet RoviMo®

Vehicle data

Height	99.8 cm
Wide	105.2 cm
Length	272.7 cm
Fz weight RoviMo® without spindle and battery	290 kg
Gauges	580mm (58cm)
Tyre width 18"	9.50" = 241.3mm (24.13cm)
Turning circle from RoviMo®	Required circle diameter approx. 3m
Ground clearance vehicle without working module:	Approx. 130 mm
Drive	Two actively braked wheel hub motors with freewheel at the front, one trolling/swivel wheel at the rear
Vehicle speed	3-7km/h during work; up to 6km/h manually
Ground pressure of the vehicle per cm2 with 4 batteries and raised spindle (basic equipment)	Drive wheels (per wheel) : 0.763 kg/cm ² Drag wheel : 0.843 kg/cm ²
Ground pressure of the vehicle per cm2 with 4 batteries and spindle on the ground (basic equipment)	Drive wheels (per wheel) : 0.632 kg/cm ² Drag wheel : 0.697 kg/cm ²
On-board voltage from RoviMo®	48VDC nominal for consumers (motors); 24VDC control voltage
Battery charging place	In the vehicle or in the charging station
On board charging plug specification	CEE (400V, 3P+N+PE, 16A, 6h) -> Customer must install socket matching the upper connector
Working time	8 hours with 10kW (4 battery modules) / 12 hours with 15 kW (6 battery modules)
Incline drive with raised spindle mower module	See figure 1
Tilt drive vehicle without spindle	Possible up to 31° / See figure 1
Lane accuracy	+/- 2.5 cm
Vehicle service life	
First Life	10 years
Second Life	10 years after repair for approx. 20% of the new acquisition value
Warranty	5 years or 4'000 operating hours, whichever comes first. Excluded from this warranty are: Third party components such as; 2D lidar scanners, consumables such as tyres or vehicle lighting.
Vehicle service	
Annual service costs	CHF 2'580.- (excl. VAT)
Annual additional costs Data connection via 2 SIM cards (robot and RTK base station)	Approx. CHF 750.- p.a. (excl. VAT)
Vehicle communication:	
Vehicle localisation	via GNSS
Communication interfaces	LTE/4G / Bluetooth, (WLAN currently only for Ronovatec internal use)
Remote diagnosis and maintenance	Possible via secure connection
1 RTK base station is sufficient for	Covering a sports field area with several sports fields also in neighbouring municipalities (depending on the terrain topography).

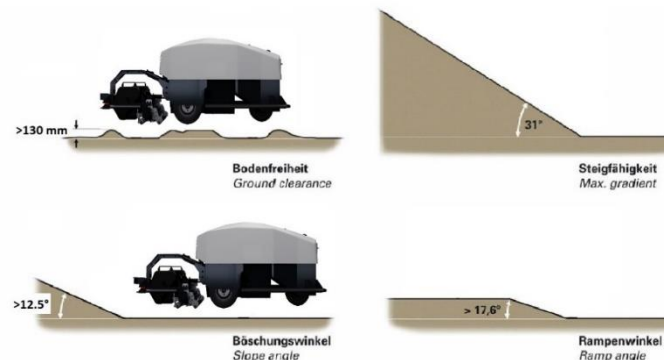


Figure 1

Brief description (Real Time Kinematics for the transmission of correction signals) of the installation/commissioning process

No boundary cables, no fixed installations required (except RTK base station)

Event messages via

SMS, phone call and/or e-mail

Vehicle/system operation:

App iOS and Android (smartphone and pad) for the following functions

Display number of visible satellites, display fix/float RTK status, speed selection, pattern selection, FOC (spindle), field localisation, warning and error status display.

Joystick and cable for

the manual drive from RoviMo® to the green area

Rotary knob on the vehicle for the following functions

Display of number of visible satellites, display of fix/float RTK status, speed selection, pattern selection, field localisation, warning and error status display (and acknowledgement option).

Three basic patterns available in variations as standard

Mowing lengthwise, crosswise or chessboard easily selectable with rotary knob

- RoviMo® automatically recognises green spaces recorded in the system (field localisation) and can be put into operation with three command inputs
- RoviMo® automatically changes the lane on a previously promptly cultivated green area and thus reduces lane formation; "intelligent mowing".

FOC setting

Constant cutting speed (spindle speed dependent on travel speed)

- Discharged batteries can be replaced with charged batteries in one minute with one handle per battery, provided that exchangeable batteries are available.

Vehicle Safety

Laser scanner front

2D laser scanner , 180° monitoring angle

Contact strips

on the side and rear of the vehicle

Number of emergency stops on the vehicle

Two

Front drive wheels

Two, actively braked

The vehicle is protected outside and inside against the ingress of wetness and

Exterior: Tool IP67
Under the bonnet: >IP54

Vehicle safety

according to Machinery Directive 2006/42/EC

TÜV

Audited in Q4 2022

Environmentally friendly / sustainability / lasting value

- Fully electric (no hydraulic fluids)
- Very low noise emissions
- No CO2 emissions
- Production takes place in Switzerland with logistically shortest possible transport routes

- Second Life for 10 more years after repair for approx. 20% of the new acquisition value
- >50% of the materials installed on and in the vehicle can be used for a further 10 years of service life after 10 years have elapsed
- After 10 years, the residual value of a RoviMo® is approx. 20% of the new purchase value.
- Swiss Made

Battery charging station

Dimension of the battery charging station	775x570x615mm / for 4 and 6 batteries
Weight of the battery charging station for 4 and 6 batteries	54kg (without batteries)
Charging plug type description	CEE 5P 6h 16A female 400V (380 V - 400 V)
Length of the battery charging station cable	2m
Normal charging time	8 hrs.
Duration quick charge	3 hrs.
Recycling	All materials of the batteries can be recycled at the end of their life on request at a Ronovatec partner to more than 95%.
Battery charge	The batteries can be charged in the vehicle or in the battery charging station. The vehicle is to be driven manually to the electrical connection for charging
Manufacturer's warranty: Swiss made	2 years

Batteries

Number of cycles > 2000 with normal charging time (8h)

Decibel calculation

Distance to mower in metres (input)	5	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	68.4	73.8	75.8	81.7

Distance to mower in metres (input)	10	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	62.4	67.8	69.8	75.7

Distance to mower in metres (input)	20	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	56.4	61.8	63.8	69.7

Distance to mower in metres (input)	100	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	42.4	47.8	49.8	55.7

Distance to mower in metres (input)	200	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	36.4	41.8	43.8	49.7

Distance to mower in metres (input)	300	m		
Mower speed (rpm)	500	1000	1500	2250
Driving speed (km/h)	4.4	4.4	4.4	6.3
Calculation Lp in dB(A)	32.9	38.3	40.3	46.2

Weight	12.5kg
kW	2.4kWh
Temperature sensitivity	- Charging: +1 - 45°C - Discharge: -20 - 60°C
Manufacturer's warranty; Swiss made	2 years
Including	Battery Management System (BMS)
Spindle mower unit	
Infinicut spindle in cassette system (into the cassette housing optionally available modules such as	Spikers, scarifiers or brushes can be inserted/replaced in a few easy steps
Weight of the 30" infinicut spindle mower unit	78kg with grass container/spindle guard
Spindle suspension	the spindle is raised by means of a mechanism. In the lowered state, the spindle is pushed floating from the vehicle
Number of knives	7
Number of knives optional	11
Constant cutting speed (spindle speed dependent on travel speed)	Ensured by the FOC function in the controller algorithm
Maximum cutting height	35 mm
Minimum cutting height	3.5 mm
Dimension of the spindle (BXL):	118x80cm
Manufacturer's warranty; Made in UK	2 years