Precise Concrete Leveling Machine

Professional motorized auger-based leveling machine for large floors and fiber-reinforced or fluid concrete

Product Overview

The Concrete Wolf Precise Concrete Leveling Machine is a high-precision, motorized concrete leveling tool designed for large-scale and industrial floor pours. It operates on the principle of screw-threaded auger-based concrete transfer, resting on three contact points on the concrete subbase. In addition to rotary laser guidance, it uses six inertial measurement sensors analyzing height changes across six axes, providing height corrections at 200 Hz. This allows it to maintain its set height for approximately 5 seconds (around 1 metre of travel) without laser input — ideal for momentary signal blockages.

The machine does not include a vibrating screed on the standard model (vibration would interfere with the sensor array); instead, a bull float can be used to finish the surface. The machine is made of stainless steel and is suitable for both small and large concrete pours.

Technical Specifications

MACHINE	
Manufacturer	Concrete Wolf, Estonia
Working width	1485–1495 mm (58.5–58.9 in / ~4 ft 11 in)
Height	1200 mm (47.2 in / 3 ft 11 in)
Max transport speed	80 cm/s (2.62 ft/s)
Max working speed	30 cm/s (0.98 ft/s)
Weight (with batteries)	74 kg (163 lbs)
Wheel traction	145 Nm (107 ft-lb)
Leveling accuracy	±1 mm
Height control rate	200 Hz (200 corrections/sec)
Pouring capacity	300 m²/hour (3,229 ft²/hour)
Pour thickness (above support surface)	20–200 mm (0.8–7.9 in)
Construction material	Stainless steel
Laser beam height	Recommended 30–60 cm above concrete surface Maximum 100 cm above concrete surface
HEIGHT CONTROL SYSTEM	
Primary guidance	Red-beam rotary laser (300–600 rpm)

Auxiliary sensors	Inertial measurement unit, 6-axis analysis (3 rotational axes, 3 linear axes)
Laser-free hold time	~5 seconds (~1 metre at max working speed)
Laser data processing	250 kHz
Recommended laser	600 rpm
POWER SYSTEM	
Energy source	Battery (included)
Battery type	4 × 12 V 38 Ah AGM (operating voltage: 24 V)
Working time (max load)	~2 hours
Charger	AGM 24 V 20 A (included)
Charging — normal	10 A / 24 V → ~8 hours
Charging — fast	20 A / 24 V → ~4 hours

LASER RECEIVERS (×2, INCLUDED)	
Manufacturer	Concrete Wolf, Estonia
Positioning accuracy	±0.5 mm
Reception radius	360°
Data sampling rate	250 kHz (4 µs)
Position output speed — 600 rpm laser	100 ms (10×/sec)
Position output speed — 300 rpm laser	200 ms (5×/sec)
Reception distance — 300 rpm	≤ 70 m (230 ft)
Reception distance — 600 rpm	≤ 50 m (164 ft)
Laser detection speed	4 nanoseconds
Data transmission time	30 ms after beam detection

Package Contents

- Precise Concrete Leveling Machine with 4 × 12 V 38 Ah AGM batteries
- Laser receivers × 2
- Battery charger — AGM 24 V 20 A

Not Included — Required to Operate

- Red-beam rotary laser (300–600 rpm) — any brand; 600 rpm recommended
- Measuring tape

Concrete Viscosity Compatibility

Recommended: S4–S5 (6.3–9+ in slump)

Also suitable: S3 (4.0–6.3 in slump)

Not suitable: S1, S2 (too stiff — use Fast or Vibration Laser Screed)

Minimum pour thickness: 20 mm (2 cm)

CLASS	SLUMP (MM)	SLUMP (IN)	DESCRIPTION	FLOW (EN 12350-5)
S1	10–50 mm	0.4–2.0 in	Very stiff	≤340 mm
S2	50–100 mm	2.0–4.0 in	Stiff	340–420 mm
S3	100–160 mm	4.0–6.3 in	Standard	420–500 mm
S4	160–210 mm	6.3–8.3 in	Flowable	500–600 mm
S5	≥220 mm	>8.7 in	Very flowable (SCC)	>600 mm

Base Surface Compatibility

Flat / prepared subbase	Ideal — full working speed
Rebar / reinforcement mesh	Possible at ~50% speed. Rests on subbase at 3 points, so uneven surfaces reduce speed.
Underfloor heating pipes	Possible but not recommended. Very slow speed required. Fast or VLS preferred.
Sand / gravel base preparation	Not suitable. Use Fast Concrete Leveling Machine for base prep.

Operating Modes

Power Button

- Press 1: Activates device — the logo and battery symbol on laser receiver light up, machine in neutral
- Press 2: Deactivates device — working body lowers, sleep mode

Three-Stripe Button (Mode Selector)

- Press 1: Forward / transport mode — max 80 cm/s, working body raises automatically
- Press 2: Neutral — working body stays raised, no functions active

- Press 3: Reverse / working mode — max 30 cm/s, auger activates, device searches for laser beam and levels automatically, arrows on laser receivers light up

Speed Button (Thumb)

- In working mode: activates auger rotation and increases reverse speed

Laser Receiver Indicators

Both red arrows flashing (no direction)	Laser beam not detected for >0.6 seconds
Red arrow DOWN flashing	Working element above set height → moving down
Red arrow UP flashing	Working element below set height → moving up
Green '0' light	Working element at correct set height
3 squares — all green	Battery 83–100%
3 squares — 2 green	Battery 50–83%
3 squares — 2 yellow	Battery 33–50%
3 squares — 2 red	Battery 16–33%
3 squares — 2 flashing red	Battery <16%

Package Dimensions

Package dimensions	80 × 60 × 165 cm
Package weight	95 kg

Maintenance & Warranty

Before use	Spray with biodegradable oily substance
After use	Wash with running water and brush. Pressure washing acceptable at low pressure; protect laser receiver connectors and laser receivers.
Warranty	1 year (official manufacturer warranty)
First assembly	~10 minutes

Key Features & Differentiators

- Auger-based concrete transfer — moves excess concrete to the right while maintaining level
- Six-axis inertial measurement sensor array — maintains height even without laser signal (~5 sec / ~1 m)
- Suitable for very fluid S5 concrete — unique among Concrete Wolf models
- Best-in-class for large industrial floors and fiber-reinforced concrete
- 200 Hz height correction rate vs. ~4 Hz for hydraulic competitors
- Stainless steel construction
- No training required