

Machine Comparison

Vibration Laser Screed · Precise Concrete Leveling Machine · Fast Concrete Leveling Machine

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All three machines deliver ±1 mm leveling accuracy with fully automatic height control guided by a red-beam rotary laser. The differences lie in working principle, suitable concrete class, base surface conditions, productivity, and portability. This document provides a complete side-by-side reference to guide machine selection.

1. Key Metrics at a Glance

	Vibration Laser Screed	Precise Concrete Leveling Machine	Fast Concrete Leveling Machine
OPERATION			
Operation type	Manual pull (operator pulls; automation controls height)	Motorized wheel — operator steers	Motorized wheel — operator steers
Max working speed	— (Manual pull, depends on operator)	30 cm/s (0.98 ft/s)	30 cm/s (0.98 ft/s)
Max transport speed	— (No powered wheel)	80 cm/s (2.62 ft/s)a	80 cm/s (2.62 ft/s)
Pouring capacity	~200 m²/hr (~2,150 ft²/hr)	300 m²/hr (~3,230 ft²/hr)	350 m²/hr (~3,770 ft²/hr)
Height control rate	At the speed of the rotary laser beam 10hz for 600rpm, 5hz for 300rpm	200Hz	At the speed of the rotary laser beam 10hz for 600rpm, 5hz for 300rpm
Leveling accuracy	±1 mm	±1 mm	±1 mm
DIMENSIONS & WEIGHT			
Working width	1250 mm (1300 model) / 1750 mm (1800 model) [4 ft 1 in / 5 ft 9 in]	1495 mm (~4 ft 11 in)	1180 mm vibrating bar(~4 ft 11 in)
Machine height	1200 mm (47.2 in)	1200 mm (47.2 in)	1200 mm (36.1 in)
Weight	14 kg (30.9 lb) + battery / 19 kg (41.9 lb) + battery	74 kg (141 lb) incl. batteries	68 kg (163 lb) incl. batteries
CONCRETE & MATERIAL COMPATIBILITY			

Suitable concrete classes	S2 / S3 / S4	S3 / S4 / S5	S1 / S2 / S3 / S4
Optimal concrete class	S3	S4–S5	S2–S3
Very fluid concrete (S5)	Not suitable	Ideal	Not suitable
Semi-dry / stiff (S1–S2)	S2 suitable	Not recommended	S1–S2 suitable
Minimum pour thickness	None (unlimited)	20 mm (0.8 in)	No minimum
Maximum pour thickness	Unlimited (rests on concrete)	200 mm (7.9 in) above support surface	300 mm (11.8 in) above support surface
Fiber-reinforced concrete	Ideal	Ideal — full speed on flat subbase	Ideal
Sand / base leveling	Possible — better with Fast	Not possible	Excellent — primary strength
Crushed rock (0–4, 0–8 mm)	Yes; stones >12 mm cause drag	Not possible	Yes; stones >12 mm cause drag
Foam concrete	Possible (1800 model)	Ideal	Not suitable for very fluid mixes
BASE SURFACE CONDITIONS			
Rebar / steel mesh	Ideal — rests on concrete, unaffected	Possible — ~50% speed; rests on subbase	Ideal — rests on concrete, unaffected
Underfloor heating pipes	Ideal — base irrelevant	Not recommended (slow speed required)	Ideal — base irrelevant
Pre-leveled sand/gravel base	Ideal — base irrelevant	excellent	Ideal — base irrelevant
POWER SYSTEM			
Energy source	18 V power-tool battery (NOT included)	4 × 12 V 38 Ah AGM (included)	2 × 12 V 38 Ah AGM (included)
Compatible brands	Milwaukee, Makita, DeWalt, Bosch, Metabo, Hilti	Standard AGM	Standard AGM
Battery included	No — customer supplies	Yes	Yes
Working time	~0.5–2 h depending on battery capacity	~2 h at max load	~2 h at max load
Charging — normal	N/A — swap battery	10 A / 24 V → ~8 h	10 A / 24 V → ~4 h
Charging — fast	N/A — swap battery	20 A / 24 V → ~4 h	20 A / 24 V → ~2 h

Runtime extension	Use higher Ah battery or two batteries, or hot-swap batteries	Second machine / battery not hot-swappable	Second machine / battery not hot-swappable
HEIGHT CONTROL TECHNOLOGY			
Primary guidance	Rotary laser receivers (×2)	Rotary laser receivers (×2)	Rotary laser receivers (×2)
Auxiliary sensors	none	6-axis inertial measurement unit/accelerometers (linear movement and rotation) + ground gravity	Inertial measurement unit/accelerometers (to change plow angle in according to pour height)
Laser-free hold time	Brief — no extended hold	~5 seconds (~1 m travel)	Brief — no extended hold
Update frequency	At the speed of the rotary laser beam	200hz	At the speed of the rotary laser beam
WORKING MECHANISM			
Leveling method	Vibrating screed + plow blade	Auger (screw thread) transfers concrete	Vibrating bar + plow blade
Concrete finishing	Vibration screed smooths surface	Bull float finish (no vibrating screed on standard model)	Vibrating bar smooths surface
Operator pull assist	~30–50 kg equivalent force reduction (vibration-directed)	Motorized wheel — no pulling needed	Motorized wheel — no pulling needed
Rests on	Poured concrete surface	Subbase at 3 contact points	Poured concrete surface (+wheel)
Vibration power	750 N (1300) / 1500 N (1800)	None (standard model)	750 N
PORTABILITY & TRANSPORT			
Assembly time	~15 min (first time)	~15 min (first time)	Initial assembly ~15 min; assembly and dissassembly for transport ~30 seconds
Transport width	Fits through a 35cm opening	Package: 80×60×165 cm	Fits through 45 cm opening in transport mode
Package weight	1300: 20 kg / 1800: 27 kg	85 kg	70 kg
Transport to height	Excellent — very light	Manageable (comes in parts)	Good — 2 parts, 68 kg total
Construction material	Stainless steel	Stainless steel	Stainless steel
PACKAGE CONTENTS			
Included	Machine + laser receivers ×2 + battery	Machine + batteries + charger + laser	Machine + batteries + charger + laser

	adapter	receivers ×2	receivers ×2
NOT included	Batteries, rotary laser, measuring tape	Rotary laser, measuring tape	Rotary laser, measuring tape
MAINTENANCE & DURABILITY			
Before use	Spray biodegradable oil on working surfaces	Spray biodegradable oil on working surfaces	Spray biodegradable oil on working surfaces
After use	Wash with running water and brush. Pressure washing acceptable at low pressure; protect laser receiver connectors and laser receivers	Wash with running water and brush. Pressure washing acceptable at low pressure; protect laser receiver connectors and laser receivers	Wash with running water and brush. Pressure washing acceptable at low pressure; protect laser receiver connectors and laser receivers
Wear parts	Bolts (standard bolts) Universal plastic washers	Bolts (standard), wheel tire (standard). Auger (Available from Concrete Wolf)	Bolts (standard), wheel tire (standard), plow and vibration bar (Available from Concrete Wolf)
Warranty	1 year	1 year	1 year

2. Compatibility Quick-Check

✓ = Yes | ✗ = No | ~ = Partial / with limitations

	Vibration Laser Screed	Precise Concrete Leveling Machine	Fast Concrete Leveling Machine
CONCRETE VISCOSITY			
S1 — Very stiff (10–50 mm slump)	✗	✗	✓
S2 — Stiff (50–100 mm slump)	✓	✗	✓
S3 — Standard (100–160 mm slump)	✓	✓	✓
S4 — Flowable (160–210 mm slump)	~	✓	~
S5 — Very fluid (≥220 mm slump)	✗	✓	✗
BASE SURFACE			
Rebar / reinforcement mesh	✓	~	✓
Underfloor heating pipes	✓	✗	✓
Very uneven subbase	✓	✗	✓
Flat / prepared subbase	✓	✓	✓
MATERIAL			
Fiber-reinforced concrete	✓	✓	✓
Sand leveling	~	✗	✓
Crushed rock 0–8 mm	~	✗	~
Foam concrete	~	✓	✗
Self-leveling compound	✗	✓	✗
Semi-dry / cement screed	✓	✗	✓

PROJECT TYPE			
High-rise / elevated slabs	✓	~	✓
Large industrial floor	~	✓	✓
Small / residential floor	✓	~	~
Tight / hard-to-reach areas	✓	✗	~
Sloped surfaces	✓	✓	✓

3. Use-Case Suitability Ratings

★★★★★ = Ideal ★★★★★ = Excellent ★★★ = Good ★★ = Marginal ★ = Possible with limitations — = Not Possible

Use Case / Application	Vibration Laser Screed	Precise	Fast
Residential floor slabs (houses, garages, basements)	★★★★★	★★★	★★★★★
Large industrial / warehouse floors	★★★	★★★★★	★★★★★
High-rise / elevated slab (transport challenge)	★★★★★	★★★	★★★★★
Tight or awkward access areas	★★★★★	★★	★★★
Fiber-reinforced concrete on flat base	★★★★★	★★★★★	★★★★★
Fiber-reinforced concrete over rebar/mesh	★★★★★	★★★	★★★★★
Underfloor heating — concrete pour	★★★★★	★★	★★★★★
Sand base preparation	★★★	—	★★★★★
Very fluid concrete (S5)	—	★★★★★	—
Semi-dry / stiff concrete (S1–S2)	★★★★★	—	★★★★★
Slopes and graded surfaces	★★★★★	★★★★★	★★★★★
Sports court / padel court base	★★★	—	★★★★★
Foam concrete	★★★	★★★★★	★
Multiple operators / large crew — <i>VLS: buy multiple units cheaply</i>	★★★★★	★★★	★★★
F3 / F4 finish quality	★★★★★	★★★★★	★★★★★

Please note: the Vibration Laser Screed has high suitability ratings, but it is not equipped with a motorized wheel, and therefore less automatic.

4. Machine Selection Guide

Choose the Vibration Laser Screed when:

- You need to work in confined, tight, or high-rise spaces where a motorized machine cannot be easily transported
- Your pour thickness varies or is very large — the VLS has no minimum or maximum thickness restriction
- Your base surface is highly uneven (rebar, mesh, underfloor heating) — it rests on poured concrete, not the subbase
- You need multiple machines operating simultaneously — lower cost per unit makes it practical to field multiple VLS
- Your concrete is S2 / S3 / S4 (not very fluid S5, not very stiff S1)
- You need to level sand, dry screed, or crushed rock in addition to concrete
- You want power-tool battery compatibility (Milwaukee, Makita, DeWalt, Bosch, Metabo, Hilti)
- You are doing residential work — driveways, garages, basements, house slabs
- You want an affordable entry point that still delivers professional ± 1 mm accuracy

Choose the Precise Concrete Leveling Machine when:

- You pour large-scale floors every day and need the highest throughput and precision
- Your concrete is fluid to very fluid — S3, S4, or S5
- You are working with fiber-reinforced concrete on a flat or prepared subbase
- Your base surface is relatively flat — the Precise rests on 3 subbase contact points
- You need the machine to maintain level even when laser signal is briefly lost (gyroscopes hold height ~5 sec / ~1 m)
- You are pouring industrial floors, warehouses, or large commercial projects
- You are pouring foam concrete or self-leveling compounds
- Pour thickness is within 20–200 mm above the support surface

Choose the Fast Concrete Leveling Machine when:

- You need to level sand or base material as well as concrete — this is the Fast machine's primary strength
- Your base surface is very uneven (underfloor heating pipes, mesh, rebar) — it rests on poured concrete
- Your concrete is S1 / S2 / S3 / S4 — suitable for stiff to flowable mixes

• You need to access the work area through narrow openings (fits through 45 cm door)
• You need the highest pouring speed: up to 350 m²/hour
• You are working on sports court bases, padel courts, or driveways
• You need a versatile dual-purpose machine: base preparation AND concrete leveling
• Your pour thickness can be up to 300 mm above the support surface
• You want motorized wheel (145 Nm) to reduce operator workload