



Cat[®] CS78B

Smooth Drum Vibratory Soil Compactor

The Cat[®] CS78B features a smooth drum and is ideally suited for granular soil applications or cohesive soil applications with the use of an optional padfoot shell kit.

Comfortable and Ergonomic Operator Station

- Features pivoting seat with integrated multifunction LCD display and control console.
- Outstanding visibility to the front and rear of machine.
- Low sound levels and vibration for greater operator comfort and productivity.

Rear Vision Camera

- The rear vision camera enhances visibility for more complete operator control and safety.

Exceptional Propel System

- Built around the exclusive Cat[®] dual pump propel system, two pumps provide separate dedicated flow to drum drive motor and rear axle motor for exceptional gradeability and traction in forward and reverse.
- Electronic propel control provides more precise machine control.

Virtually Maintenance Free

- Maintenance-free hitch bearings.
- Extended maintenance intervals for vibratory system and hydraulic system, providing more uptime and lower maintenance costs.

Enhanced Compaction Performance

- More weight at the drum and greater amplitude.
- Automated speed control and vibratory system functions make it easy to ensure consistent, high quality compaction.

Technologies that Enhance Quality and Productivity

- Exclusive semi-autonomous Command for Compaction technology automates compaction to offer complete process control and help promote more uniform results.
- Measurement and documentation technologies help the operator determine when compaction has been completed to specification for greater productivity and uniform compaction quality.
- Accelerometer-based (CMV) and exclusive Machine Drive Power (MDP) measurement technologies available.



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Technical Specifications

Engine - Power Train		
Engine Model	Cat® C4.4	
European Emissions	EU Stage V	
Gross Power ISO 14396	129.4 kW	173.5 hp
Gross Power SAE J1995	130.4 kW	174.9 hp
Net Power ISO 9249*	108.7 kW	145.8 hp
Net Power SAE J1349*	108.2 kW	145.1 hp
Displacement	4.4 L	268.5 in³
Stroke	127 mm	5 in
Bore	105 mm	4.1 in
Max. Travel Speed (Forward or Reverse)	11.4 km/h	7 mph
Theoretical Gradeability, no vibration**	53 %	

Vibratory System Specifications		
Frequency		
Standard	28 Hz	1680 vpm
During Eco-mode Operation	25.5 Hz	1527 vpm
Optional Variable Frequency	23.3-28 Hz	1400-1680 vpm
Nominal Amplitude @ 28 Hz (1680 vpm)		
High	2.1 mm	0.083 in
Low	0.98 mm	0.039 in
Centrifugal Force @ 28 Hz (1680 vpm)		
Maximum	335 kN	75,234 lb
Minimum	156 kN	35,153 lb
Static Linear Load		
w/ ROPS/FOPS cab	63.0 kg/cm	352.8 lbs/in
VM Class at High Amplitude	VM5	

Weights		
Operating Weight w/ ROPS/FOPS cab***	18 888 kg	41,641 lb
w/ Oval Padfoot Shell Kit	19 178 kg	42,280 lb
w/ Square Padfoot Shell Kit	19 337 kg	42,631 lb
Weight at Drum w/ ROPS/FOPS cab	13 443 kg	29,637 lb
w/ Oval Padfoot Shell Kit	13 127 kg	28,940 lb
w/ Square Padfoot Shell Kit	13 286 kg	29,291 lb

Service Refill Capacities		
Fuel Tank, total capacity	332 L	88 gal
Diesel Exhaust Fuel refill capacity	19 L	5 gal
Cooling System	28.2 L	7.5 gal
Engine Oil w/ Filter	11.6 L	3.1 gal
Eccentric Weight Housings (combined)	26 L	6.9 gal
Axle and Final Drives	18 L	4.8 gal
Hydraulic Tank (service refill)	50 L	13.2 gal

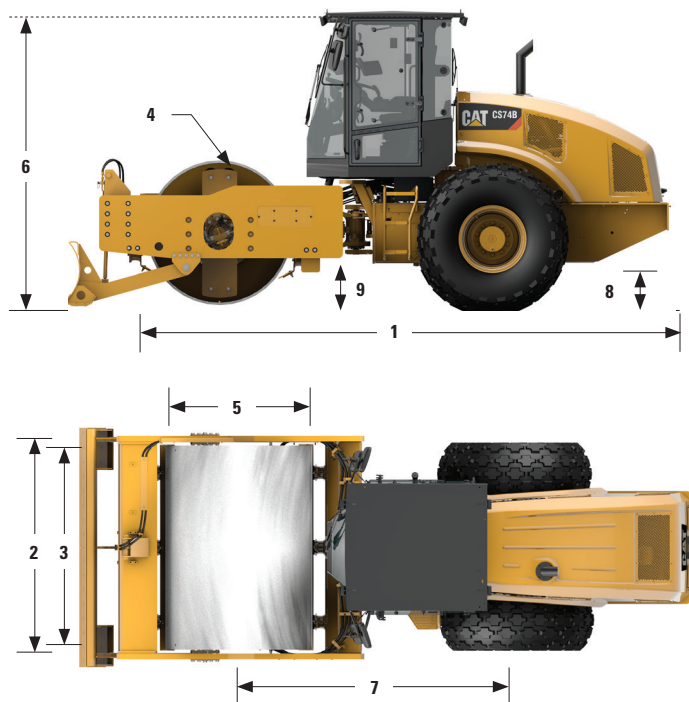
* Net power advertised is the power available at the engine flywheel when equipped with a fan at maximum speed, air cleaner, clean emissions module, and alternator.

** Actual gradeability may vary based on site conditions and machine configuration. Refer to the Operation and Maintenance Manual for more information.

*** Standard operating weight considers full fuel tank, 75 kg operator, flotation tires, smooth drum, and cab with A/C.

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.8 kg of refrigerant which has a CO₂ equivalent 1.144 metric tonne.

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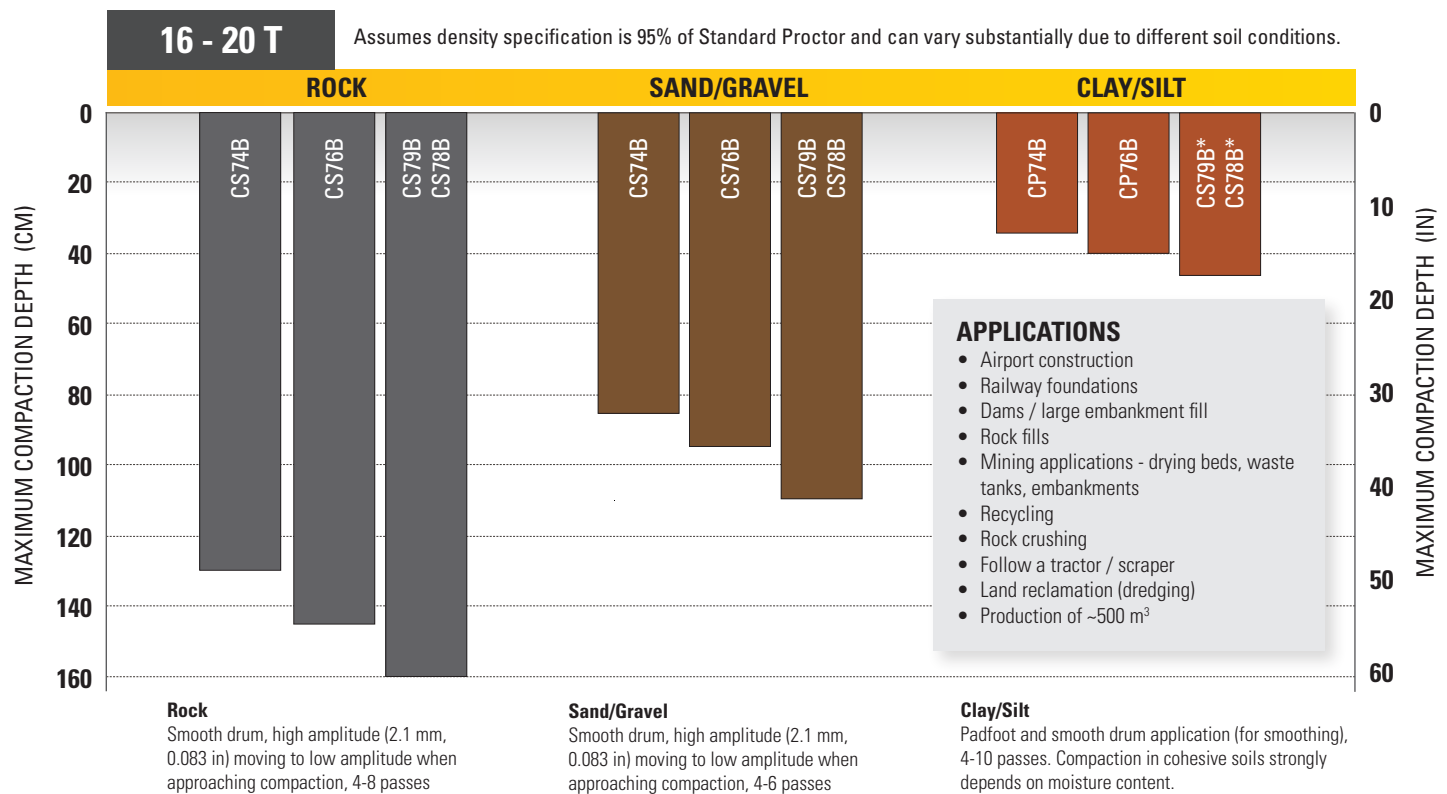
Dimensions

1	Overall Length	6.1 m	20.1 ft
2	Overall Width	2.5 m	8.1 ft
3	Drum Width	2134 mm	84 in
4	Drum Shell Thickness	40 mm	1.6 in
5	Drum Diameter	1535 mm	60.4 in
6	Overall Height	3.1 m	10.1 ft
7	Wheelbase	2.9 m	9.5 ft
8	Ground Clearance	434 mm	17.1 in
9	Curb Clearance	533 mm	21.0 in
	Inside Turning Radius	3.7 m	12.1 ft
	Hitch Articulation Angle	34°	
	Hitch Oscillation Angle	15°	

Optional Padfoot Shell Kit Specifications

Number of Pads	120		
Pad Height, oval pads	89.8 mm	3.5 in	
Pad Face Area, oval pads	63.5 cm ²	9.8 in ²	
Pad Height, square pads	89.8 mm	3.5 in	
Pad Face Area, square pads	105.7 cm ²	16.4 in ²	
Number of Chevrons	16		

Vibratory Soil Compactor Selection Guide



Cat® CS78B Smooth Drum Vibratory Soil Compactor

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
OPERATOR ENVIRONMENT			POWER TRAIN		
ROPS/FOPS Cab with Climate Control, External Rear View Mirrors	✓		Cat C4.4 Diesel Engine	✓	
Cloth Adjustable Pivoting Seat with Integrated Console and LCD Display	✓		Air Cleaner, Dual Element	✓	
Adjustable Tilting Steering Column with Integrated Cup Holders	✓		Three-Speed Throttle Switch, Eco-mode and Automatic Speed Control	✓	
Rear Vision Camera with Color Touchscreen Display	✓		Dual Propel Pumps; One for Drum Drive, One for Rear Axle	✓	
High Visibility Orange 50 mm (2 in) Seat Belt	✓		Fuel Filter, Water Separator, Priming Pump, Water Indicator	✓	
12-volt Power Outlet	✓		Tilting Radiator/Hydraulic Oil Cooler	✓	
Horn, Backup Alarm	✓		Dual Braking System	✓	
Internal Rear View Mirror		✓	Two-speed Hydrostatic Transmission	✓	
Sun Visor		✓	Transmission Guard		✓
Cab Internal Roll-down Sun Screen		✓	ELECTRICAL		
High Visibility Orange 76 mm (3 in) Seat Belt		✓	24 volt Electrical System	✓	
VIBRATORY SYSTEM			100 ampere Alternator	✓	
Smooth Drum	✓		750 Cold-cranking Amps Battery Capacity	✓	
Dual Amplitude, Single Frequency	✓		OTHER		
Dual Pod-Style Eccentric Weight Housings	✓		Product Link™	✓	
Auto-vibe Function	✓		Sight Gauges for Hydraulic Oil Level and Radiator Coolant Level	✓	
Front Adjustable Steel Scraper	✓		S-O-S SM Sampling Valves: Engine Oil, Hydraulic Oil and Coolant	✓	
Padfoot Shell Kit (oval or square pads available)		✓	Machine tie downs - front and rear (meet ISO 15818)	✓	
Variable Frequency		✓	Recording Module		✓
Dual Adjustable Steel Scrapers		✓	Factory Filled Bio Hydraulic Oil		✓
Dual Adjustable Polyurethane Scrapers		✓	Fast Fill Fuel Tank		✓
TECHNOLOGY SOLUTIONS			Upgraded Halogen Light Package		✓
Measure - Machine Drive Power and/or CMV		✓	Upgraded LED Light Package		✓
Map - SBAS GNSS Mapping		✓	Amber Rotating Beacon		✓
Connect - Cloud and Machine Connectivity		✓	Fuel Fill Access Door		✓
Command for Compaction		✓			

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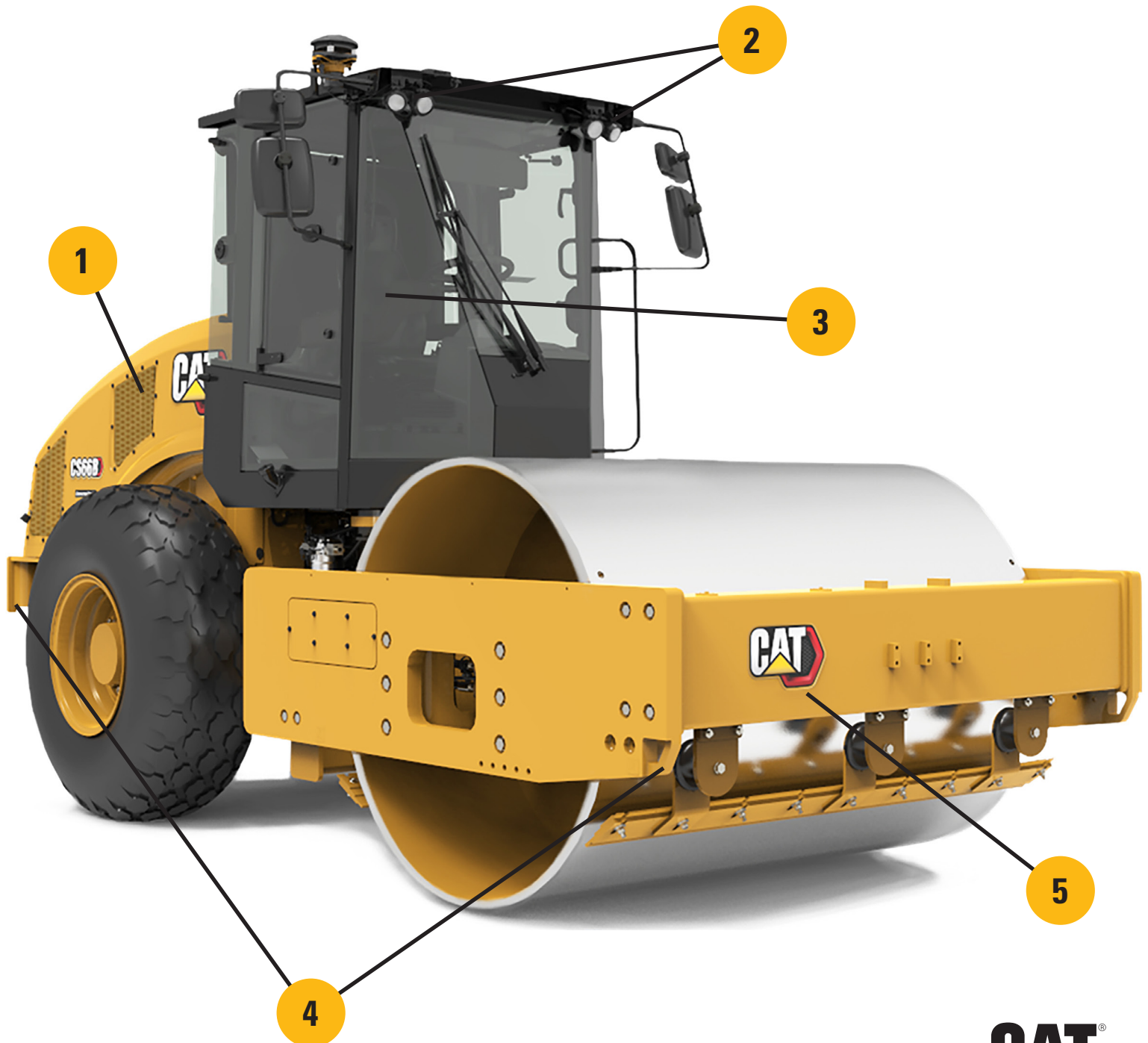
QEHO2876 (06-2021)
Europe



2021 Updates

Cat® Performance Series Soil Compactors

Introducing updates to the Cat® B-Series Vibratory Soil Compactors focused on safety, emissions, and improved transportability.



1

ENGINE

- Cat® C4.4 turbocharged engine
- 117.0 kW power for CS/CP56B, CS66B & CS/CP68B models
- 129.4 kW power for CS/CP74B, CS76B & CS78B models
- Meets Stage V EU emissions levels
- Aftertreatment includes DOC-DPF-SRC technologies
- New Diesel Exhaust Fluid (DEF) system

2

OPTIONAL LED LIGHTING

- LED lighting package now available
- 8 working lights (4 front facing, 4 rear facing)
- 1000 lumens LED lights

3

SEAT BELTS

- High visibility orange seat belts
- 50 mm (2 in) standard
- 76 mm (3 in) optional

4

TIE DOWNS

- Front & rear transportation tie downs improved to better serve European market
- Meet ISO 15818 standards
- Designed for 13 mm chain hooks
- A new locking pin secures the front push blade in the upright position, allowing for cross tying during transport.

5

NEW LOOK

- Modern Hex trade dress

SMOOTH DRUM PERFORMANCE MODELS INCLUDED

Model	CS56B	CS66B	CS68B	CS74B	CS76B	CS78B
Serial Number Prefix	5B6	D66	6C8	S74	HD7	B78

PADFOOT DRUM PERFORMANCE MODELS INCLUDED

Model	CP56B	CP68B	CP74B
Serial Number Prefix	653	656	658

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