

Gräder

CAT 120 M

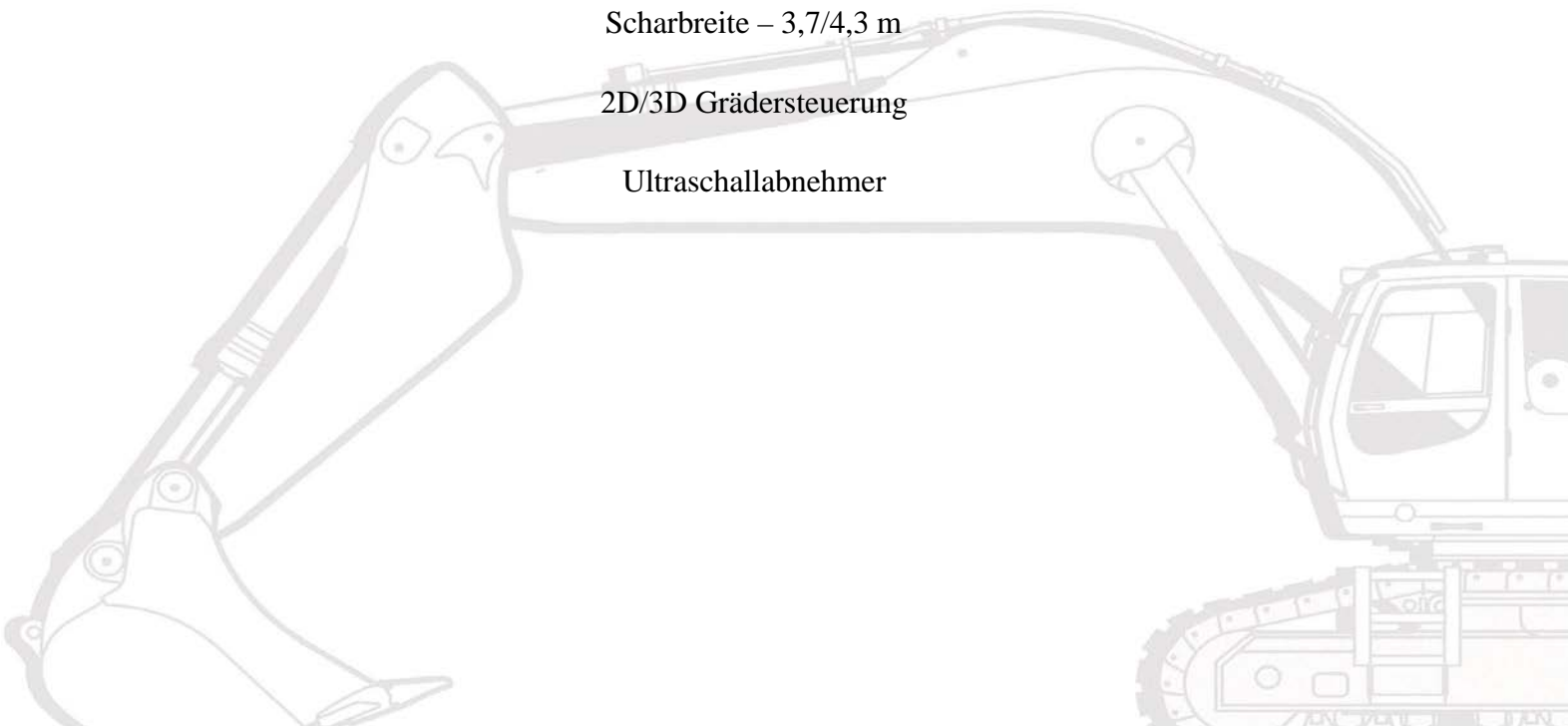


Einsatzgewicht – 16.000 kg

Scharbreite – 3,7/4,3 m

2D/3D Grädersteuerung

Ultraschallabnehmer



120M/120M AWD Motor Graders Specifications

Engine

Engine Model*	Cat C6.6 ACERT	
Base Power (1st gear) – Net	103 kW	138 hp
Base Power (1st gear) – Net (Metric)	140 hp	
VHP Plus Range – Net	103-136 kW	138-182 hp
VHP Plus Range – Net (Metric)	140-185 hp	
Displacement	6.6 L	403 in ³
Bore	105 mm	4.13 in
Stroke	127 mm	5.0 in
Torque Rise (VHP Plus)	40%	
Maximum Torque (VHP Plus – Net)	906 N·m	668 lb-ft
Speed @ Rated Power	2,000 rpm	
Number of Cylinders	6	
Derating Altitude	3505 m	11,500 ft
Standard – Fan Speed		
Maximum	1,150 rpm	
Minimum	600 rpm	
Standard – Ambient Capability	43° C	109° F
High Ambient – Fan Speed		
Maximum	1,650 rpm	
Minimum	600 rpm	
High Ambient Capability	50° C	122° F

- Maximum torque (VHP Plus) measured at 1,400 rpm.
 - Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
 - Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan running at minimum speed, air cleaner, muffler and alternator.
 - Power as declared per ISO 14396
Rated Speed = 2,000 rpm
VHP Plus = 137 kW (183 hp)
 - No engine derating required up to 3505 m (11,500 ft).
- * Note: Meets non-current U.S. EPA Tier 3 or EU Stage IIIA emission standards.

Engine – AWD Model

Engine Model*	Cat C6.6 ACERT	
Base Power (1st gear, AWD off) – Net	103 kW	138 hp
Base Power (1st gear) – Net (Metric)	140 hp	
VHP Plus Range – Net	103-144 kW	138-193 hp
VHP Plus Range – Net (Metric)	140-195 hp	
Displacement	6.6 L	403 in ³
Bore	105 mm	4.13 in
Stroke	127 mm	5.0 in
Torque Rise (VHP Plus)	40%	
Maximum Torque (AWD On)	963 N·m	710 lb-ft
Speed @ Rated Power	2,000 rpm	
Number of Cylinders	6	
Derating Altitude	3048 m	10,000 ft
High Ambient – Fan Speed		
Maximum	1,650 rpm	
Minimum	600 rpm	
High Ambient Capability	50° C	122° F

- Maximum torque (VHP Plus) measured at 1,400 rpm.
 - Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
 - Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan running at minimum speed, air cleaner, muffler and alternator.
 - Power as declared per ISO 14396
Rated Speed = 2,000 rpm
AWD = 145 kW (194 hp)
 - No engine derating required up to 3048 m (10,000 ft).
- * Note: Meets non-current U.S. EPA Tier 3 or EU Stage IIIA emission standards.

120M/120M AWD Motor Graders Specifications

120M Net Power

Gear	VHP Plus kW (hp)	AWD Off kW (hp)	AWD On kW (hp)
Forward			
1st	103 (138)	103 (138)	110 (148)
2nd	106 (143)	106 (143)	121 (163)
3rd	110 (148)	110 (148)	125 (168)
4th	114 (153)	114 (153)	136 (182)
5th	118 (158)	118 (158)	144 (193)
6th	121 (163)	121 (163)	144 (193)
7th	125 (168)	125 (168)	144 (193)
8th	136 (182)	136 (182)	144 (193)
Reverse			
1st	103 (138)	103 (138)	103 (138)
2nd	106 (143)	106 (143)	106 (143)
3rd – 6th	110 (148)	110 (148)	110 (148)

Power Train

Forward/Reverse Gears	8 Forward/6 Reverse		
Transmission	Direct drive, power shift, countershaft		
Brakes			
Service	Multiple oil disc		
Service, Surface Area	23 000 cm ²	3,565 in ²	
Parking	Multiple oil disc		
Secondary	Dual circuit control system		

Hydraulic System

Circuit Type	Electro-hydraulic load sensing, closed center		
Pump Type	Variable piston		
Pump Output	210 L/min	55.7 gal/min	
Maximum System Pressure	24 100 kPa	3,500 psi	
Standby Pressure	3100 kPa	450 psi	

- Pump output measured at 2,150 rpm.

Operating Specifications

Top Speed		
Forward	47.5 km/h	29.5 mph
Reverse	37.5 km/h	23.3 mph
Turning Radius, Outside Front Tires	7.3 m	24 ft 1 in
Steering Range – Left/Right	47.5°	
Articulation Angle – Left/Right	20°	
Forward		
1st	4.1 km/h	2.6 mph
2nd	5.6 km/h	3.5 mph
3rd	8.2 km/h	5.1 mph
4th	11.2 km/h	7.0 mph
5th	17.5 km/h	10.8 mph
6th	23.7 km/h	14.8 mph
7th	32.7 km/h	20.3 mph
8th	47.5 km/h	29.5 mph
Reverse		
1st	3.3 km/h	2.0 mph
2nd	6.1 km/h	3.8 mph
3rd	8.9 km/h	5.5 mph
4th	13.8 km/h	8.6 mph
5th	25.8 km/h	16.0 mph
6th	37.5 km/h	23.3 mph

- Speeds when equipped with 14.00-24 tires.

Service Refill

Fuel Capacity	378 L	100 gal
Cooling System	33.0 L	8.7 gal
Hydraulic System – Tank	64.0 L	16.9 gal
Engine Oil	14.0 L	3.7 gal
Transmission/Differential/ Final Drives	62.5 L	16.5 gal
Tandem Housing (each)	59.0 L	15.6 gal
Front Wheel Spindle Bearing Housing	0.50 L	0.13 gal
Circle Drive Housing	7.0 L	1.8 gal

120M/120M AWD Motor Graders Specifications

Frame

Circle		
Diameter	1530 mm	60.2 in
Height	134 mm	5.3 in
Blade Beam Thickness	35.0 mm	1.4 in
Drawbar		
Height	152 mm	6.0 in
Width	76.2 mm	3.0 in
Front Frame Structure		
Height	280 mm	11.0 in
Width	255 mm	10.0 in
Thickness	22.0 mm	0.90 in
Front Axle		
Height to Center	596 mm	23.5 in
Wheel Lean, Left/Right	18°	
Total Oscillation per Side	32°	

Tandems

Height	502 mm	19.8 in
Width	172 mm	6.8 in
Sidewall Thickness		
Inner	14.0 mm	0.50 in
Outer	16.0 mm	0.60 in
Drive Chain Pitch	44.5 mm	1.8 in
Wheel Axle Spacing	1510 mm	59.5 in
Tandem Oscillation		
Front Up	15°	
Front Down	25°	

Moldboard

Moldboard		
Width	3.7 m	12 ft
Height	610 mm	24.0 in
Thickness	22.0 mm	0.87 in
Arc Radius	413 mm	16.3 in
Throat Clearance	134 mm	5.2 in
Cutting Edge		
Width	152 mm	6.0 in
Thickness	16.0 mm	0.60 in
End Bit		
Width	152 mm	6.0 in
Thickness	16.0 mm	0.60 in
Blade Pull		
Base GVW	9785 kg	21,571 lb
Maximum GVW	12 223 kg	26,948 lb
Base GVW (AWD)	14 022 kg	30,914 lb
Maximum GVW (AWD)	18 244 kg	40,221 lb
Down Pressure		
Base GVW	6291 kg	13,869 lb
Maximum GVW	11 622 kg	25,623 lb
Base GVW (AWD)	7236 kg	15,953 lb
Maximum GVW (AWD)	11 622 kg	25,623 lb

- Blade pull calculated at 0.9 traction coefficient, which is equal to ideal no-slip conditions, and Gross Machine Weight.

120M/120M AWD Motor Graders Specifications

Blade Range

Circle Centershift		
Right	656 mm	25.8 in
Left	656 mm	25.8 in
Moldboard Sideshift		
Right	660 mm	26.0 in
Left	510 mm	20.1 in
Maximum Blade Position Angle	90°	
Blade Tip Range		
Forward	40°	
Backward	5°	
Maximum Shoulder Reach Outside of Tires		
Right	1905 mm	75.0 in
Left	1742 mm	68.6 in
Maximum Lift Above Ground	427 mm	16.8 in
Maximum Depth of Cut	720 mm	28.3 in

Ripper

Ripping Depth, Maximum	428 mm	17.0 in
Ripper Shank Holders	5	
Ripper Shank Holder Spacing	533 mm	21.0 in
Penetration Force*	8031 kg	17,705 lb
Pryout Force*	11 931 kg	26,303 lb
Machine Length Increase, Beam Raised	995 mm	39.2 in

* Based on typically equipped weight.

Scarifier

Front, V-Type, 5 or 11 Tooth		
Working Width	1205 mm	47.4 in
Scarifying Depth, Maximum	467 mm	18.4 in
Scarifier Shank Holders	5/11	
Scarifier Shank Holder Spacing	116 mm	4.6 in
Mid, V-Type		
Working Width	1184 mm	46.6 in
Scarifying Depth, Maximum	292 mm	11.5 in
Scarifier Shank Holders	11	
Scarifier Shank Holder Spacing	116 mm	4.6 in
Mid, Straight		
Working Width	1800 mm	71.0 in
Scarifying Depth, Maximum	317 mm	12.5 in
Scarifier Shank Holders	17	
Scarifier Shank Holder Spacing	111 mm	4.4 in

Weights

Gross Vehicle Weight – Base		
Total	14 493 kg	31,950 lb
Front Axle	3621 kg	7,982 lb
Rear Axle	10 872 kg	23,968 lb
Gross Vehicle Weight – Maximum		
Total	20 271 kg	44,690 lb
Front Axle	6689 kg	14,748 lb
Rear Axle	13 582 kg	29,942 lb
Gross Vehicle Weight – Typically Equipped		
Total	16 875 kg	37,204 lb
Front Axle	4524 kg	9,974 lb
Rear Axle	12 351 kg	27,230 lb

- Base operating weight on standard machine configuration is calculated with full fuel tank, coolant, lubricants, operator and 14.00-24 tires with multi-piece (MP) rims.

Weights – AWD

Gross Vehicle Weight – Base		
Total	15 581 kg	34,349 lb
Front Axle	4165 kg	9,182 lb
Rear Axle	11 416 kg	25,167 lb
Gross Vehicle Weight – Maximum		
Total	20 271 kg	44,690 lb
Front Axle	6689 kg	14,748 lb
Rear Axle	13 582 kg	29,942 lb
Gross Vehicle Weight – Typically Equipped		
Total	17 963 kg	39,603 lb
Front Axle	5068 kg	11,174 lb
Rear Axle	12 895 kg	28,429 lb

- Base operating weight on standard machine configuration is calculated with full fuel tank, coolant, lubricants, operator and 14.00-24 tires with multi-piece (MP) rims.

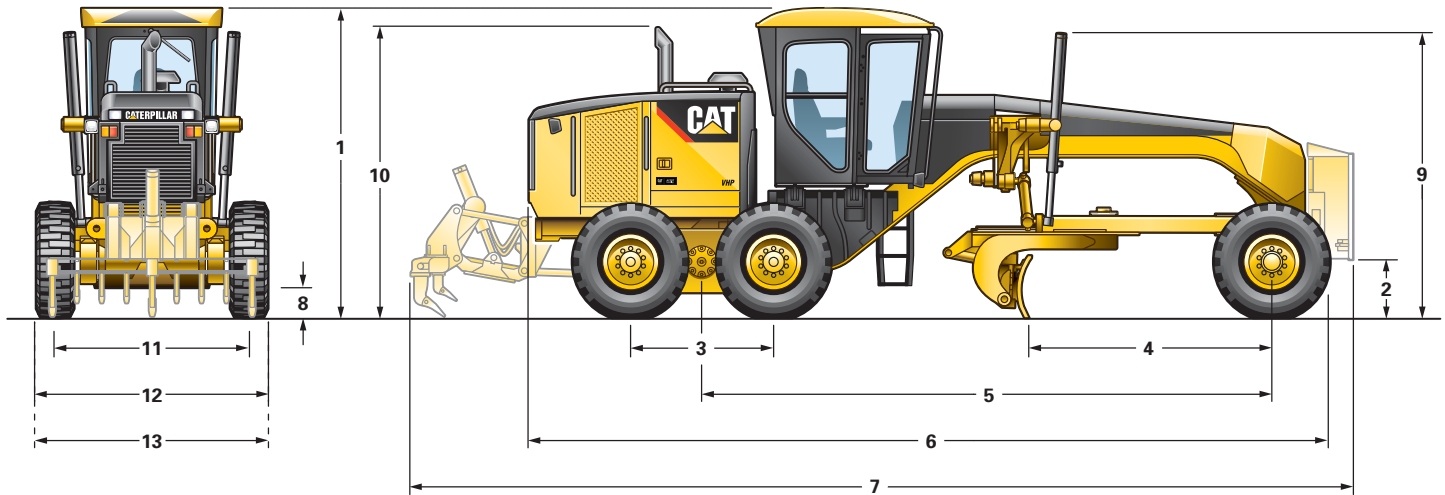
Standards

ROPS/FOPS	ISO 3471:1994/ ISO 3449:1992
Steering	ISO 5010:2007
Brakes	ISO 3450:1996
Sound	ISO 6394:2008/ ISO 6395:2008

- The static operator sound pressure level is 74 dB(A) when “ISO 6394:2008” is used to measure the value for an enclosed cab. The measurement was conducted with the cab doors and the cab windows closed. The cab was properly installed and maintained.
- The dynamic spectator sound pressure level is 105 dB(A) for 120M when “ISO 6395:2008” is used to measure the value for an enclosed cab. The measurement was conducted at 70% of the maximum engine cooling fan speed.

120M/120M AWD Motor Graders Specifications

Dimensions



1	Height – Top of Cab	3308 mm	130 in
	Height – Top of Cab Product Link	3378 mm	133 in
2	Height – Front Axle Center	596 mm	23.5 in
3	Length – Between Tandem Axles	1511 mm	59.5 in
4	Length – Front Axle to Moldboard	2450 mm	96.4 in
5	Length – Front Axle to Mid Tandem	5915 mm	232 in
6	Length – Front Tire to Rear of Machine	8436 mm	332 in
7	Length – Push Plate to Ripper	9930 mm	390 in
	Length – Push Plate to Ripper Retracted	9612 mm	378 in
8	Ground Clearance at Rear Axle	348 mm	13.7 in
9	Height to Top of Cylinders	2924 mm	115 in
10	Height to Exhaust Stack	2885 mm	113 in
11	Width – Tire Center Lines	2120 mm	83.5 in
	Width – Tire Center Lines Front (AWD)	2223 mm	87.5 in
12	Width – Outside Rear Tires	2491 mm	98.1 in
13	Width – Outside Front Tires	2511 mm	98.9 in
	Width – Outside Front Tires (AWD)	2594 mm	102 in

- All dimensions are approximate, based on standard machine configuration with 14.00R24 tires.