

ST710

technical specifications

CAPACITY — SAE

	kg	(lbs)
Tramming Capacity	6500	(14,332)
Static Tipping Capacity	13050	(28,770)
Breakout Force, Hydraulic	14200	(31,306)
Breakout Force, Mechanical	10347	(22,813)

Boom Speeds: (Seconds)

Raising	6.1
Lowering	4.6

Bucket Speeds: (Seconds)

Dump	1.3
Roll Back	1.7

VEHICLE SPEEDS

See Vehicle Grade Performance Chart

ENGINE

Standard:

Deutz Diesel	Model BF6M1013FC MVS
MSHA Power Rating @ 2,300 rpm	149 kW (200 hp)
Maximum Torque @ 1,400 rpm	805 Nm (594 ft. lbs.)
Number of Cylinders	6 In Line
Displacement	7.1 L (436 in³)
Cooling	Liquid (Water/Anti-freeze)
MSHA Part 32 Ventilation	
Vent Rate	481m³/min (17,000 cfm)
Particulate Index	113m³/min (4,000 cfm)

Optional:

Detroit Diesel	Model Series 40
MSHA Power Rating @ 2,200 rpm	157 kW (210 hp)
Maximum Torque @ 1,500 rpm	705 Nm (520 ft. lbs.)
Number of Cylinders	6 in Line
Displacement	7.5 L (464 in³)
Cooling	Liquid (Water/Anti-freeze)
MSHA Part 7 Ventilation	
Vent Rate	297 m³/min (10,500 cfm)
Particulate Index	127 m³/min (4,500 cfm)

EXHAUST SYSTEM

Catalytic Purifier Plus Exhaust Silencer	Rock Tough®
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ELECTRICAL SYSTEM

System Voltage	24 Volt Starting, 24 Volt Accessories
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TRANSVERTER

Automatic Power Shift with Integral Converter, Modulated 4-Speed Shifting, Modulated Forward/Reverse Funk	DF150
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AXLES

Spiral Bevel Differential, Full Floating, Planetary Wheel End Drive Rock Tough®	Series 406
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BRAKES

Service	SAHR®
Spring Applied Hydraulically Released; Fully Enclosed, Force-Cooled Multiple Wet Discs at Each Wheel End	
Parking and Emergency	SAHR®

TIRES

Tubeless, Nylon, Smooth Tread Design For Underground Mine Service, on Demountable Rims Tire Size, Front and Rear	17.5 x 25, 20 Ply, L-5S
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STEERING

Articulated Hydraulic Power Steering, Pilot-Operated, Monostick Control	
Turning Angle	85° (42.5° Each Way)
System Pressure	22.4 MPa (3,250 psi)

HYDRAULIC SYSTEM

Dump and Hoist Control	Pilot-Operated, Joystick
Cylinders	Double Acting, Chrome-Plated Stems
Cylinder Diameter	
Steer Cylinders (2)	80 mm (3.2 inch)
Hoist Cylinders (2)	160 mm (6.3 inch)
Stabilizer Cylinder (1)	180 mm (7.0 inch)
Pumps	Heavy Duty Gear Type
Filtration	Return Line: 4 Micron
System Pressure	20.7 MPa (3,000 psi)

TANK CAPACITIES

	liters	(gallons)
Fuel	191	(50)
Hydraulic	87	(23)

OSCILLATION

Rear Axle, Trunnion Mounted	
Degree of Oscillation	Total 14° (7° each side)

OPERATOR'S ARRANGEMENT

Side Seated Operator for Bi-Directional Operation
& Maximum Visibility, MSHA-ISO ROPS/FOPS Certified Canopy
or Enclosed Cabin with Back Protection

OPERATING WEIGHT (Approximate)

	kg	(lbs)
Empty	18,200	(40,125)

ST710

vehicle grade performance

DEUTZ BF6M1013FC MVS 149 kW (200 hp) — LOADED

Percent Grade	Grade Ratio	1st Gear		2nd Gear		3rd Gear		4th Gear	
		kph	mph	kph	mph	kph	mph	kph	mph
0.0%		4.7	2.9	7.8	4.9	15.0	9.3	23.9	14.8
2.0%		4.7	2.9	7.6	4.7	14.2	8.8	21.3	13.2
4.0%		4.6	2.9	7.4	4.6	13.4	8.3	17.7	7.3
6.0%		4.5	2.8	7.2	4.5	13.3	7.7	11.7	7.3
8.3%	1 : 12	4.4	2.8	7.0	4.3	11.0	6.8		
10.0%	1 : 10	4.4	2.7	6.8	4.2	9.3	5.8		
12.5%	1 : 8	4.3	2.7	6.5	4.0	6.6	4.1		
14.3%	1 : 7	4.2	2.6	6.3	3.9	3.9	2.4		
16.0%		4.1	2.6	6.0	3.8				
18.0%		4.1	2.5	5.8	3.6				
20.0%	1 : 5	4.0	2.5	5.4	3.4				
25.0%		3.8	2.4	4.1	2.6				
30.0%		3.5	2.2	2.6	1.6				

DEUTZ BF6M1013FC MVS 149 kW (200 hp) — EMPTY

1st Gear		2nd Gear		3rd Gear		4th Gear	
kph	mph	kph	mph	kph	mph	kph	mph
4.8	3.0	7.9	4.9	15.3	9.5	24.8	15.4
4.7	2.9	7.8	4.8	14.7	9.2	23.1	14.4
4.7	2.9	7.6	4.7	14.1	8.8	21.3	13.1
4.6	2.9	7.5	4.6	13.5	8.4	18.8	11.7
4.5	2.8	7.3	4.5	12.7	7.9	14.1	8.7
4.5	2.8	7.2	4.5	12.0	7.5	9.9	6.2
4.4	2.8	7.0	4.3	11.0	6.8		
4.4	2.7	6.8	4.3	9.7	6.0		
4.3	2.7	6.7	4.2	8.4	5.2		
4.3	2.7	6.5	4.1	6.7	4.2		
4.2	2.6	6.3	3.9	4.7	2.9		
4.1	2.5	5.8	3.6				
4.0	2.5	5.1	3.2				

DETROIT DIESEL SERIES 40 157 kW (210 hp) — LOADED

Percent Grade	Grade Ratio	1st Gear		2nd Gear		3rd Gear		4th Gear	
		kph	mph	kph	mph	kph	mph	kph	mph
0.0%		4.7	2.9	7.8	4.8	14.8	9.2	23.3	14.5
2.0%		4.6	2.9	7.5	4.7	13.9	8.6	20.3	12.7
4.0%		4.5	2.8	7.3	4.5	12.9	8.0	16.5	10.2
6.0%		4.5	2.8	7.1	4.4	11.7	7.3	11.0	6.8
8.3%	1 : 12	4.4	2.7	6.8	4.2	10.2	6.3		
10.0%	1 : 10	4.3	2.7	6.6	4.1	8.9	5.5		
12.5%	1 : 8	4.2	2.6	6.2	3.9	6.0	3.4		
14.3%	1 : 7	4.1	2.6	6.0	3.7	2.3	1.8		
16.0%		4.0	2.5	5.7	3.5				
18.0%		3.7	2.5	5.4	3.3				
20.0%	1 : 5	3.9	2.4	5.0	3.1				
25.0%		3.6	2.2	3.9	2.4				
30.0%		3.3	2.1	2.2	1.4				

DETROIT DIESEL SERIES 40 157 kW (210 hp) — EMPTY

1st Gear		2nd Gear		3rd Gear		4th Gear	
kph	mph	kph	mph	kph	mph	kph	mph
4.7	2.9	7.9	4.9	15.2	9.4	24.4	15.2
4.7	2.9	7.7	4.8	14.5	9.0	22.5	14.0
4.6	2.9	7.5	4.7	13.8	9.0	20.1	12.5
4.5	2.8	7.3	4.6	13.1	8.2	17.5	10.9
4.5	2.8	7.2	4.4	12.2	7.6	13.4	8.3
4.4	2.7	7.0	4.4	11.4	7.1	8.9	5.6
4.4	2.7	7.0	4.2	10.2	6.3		
4.3	2.7	6.7	4.1	9.2	5.7		
4.2	2.6	6.5	4.0	8.0	4.8		
4.2	2.6	6.3	4.0	6.3	3.2		
4.1	2.6	6.0	3.8	4.0	2.5		
4.0	2.5	5.5	3.4				
3.8	2.4	4.8	3.1				

Note: 3% rolling resistance assumed. Actual performance may vary depending on the application.



The face of commitment

ST710 bucket dimensions

		STD				
<u>MATERIAL DENSITY</u>						
	tonnes/m ³ lb/yds ³	1.8 3035	2.0 3400	2.2 3709	2.4 4046	2.6 4384
<u>STANDARD BUCKETS</u>						
Bucket Volume (Nominal Heaped)	m ³ yd ³	3.6 4.7	3.2 4.2	3.0 3.9	2.8 3.7	2.6 3.4
Bucket Width (A)	mm inches	2040 80	2040 80	2040 80	2040 80	2040 80
<u>TRAM POSITION</u>						
Axle Centerline to Bucket Tip (B)	mm	2906	2919	2894	2831	2730
Ground to Bucket Tip (C)	mm	1247	1277	1268	1220	1133
<u>RAISED POSITION</u>						
Back Height (D)	mm	4374	4374	4374	4374	4374
35° Dump Angle (Maximum Dump Angle is 40°)						
Reach (F)	mm	1487	1518	1502	1439	1329
Bucket Tip Height (E)	mm	1719	1693	1704	1752	1837
<u>E-O-D® (EJECT-O-DUMP) BUCKETS</u>						
Bucket Volume (Nominal Heaped)	m ³ yd ³	3.0 3.9	2.8 3.7	2.6 3.4	2.4 3.1	2.2 2.9
Bucket Width (A)	mm inches	2040 80	2040 80	2040 80	2040 80	2040 80
<u>TRAM POSITION</u>						
Axle Centerline to Bucket Tip (B)	mm	2997	3008	2987	2935	2935
Ground to Bucket Tip (C)	mm	1309	1334	1327	1287	1287
<u>RAISED POSITION</u>						
Back Height (D)	mm	4345	4345	4345	4345	4345
Level Bucket-Eject Position						
Reach (H)	mm	2199	2232	2215	2146	2146
Bucket Tip Height (G)	mm	2760	2758	2760	2764	2764

Atlas Copco Wagner Inc.

Working Harder and Smarter

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