KOMATSU

ZB31











Drilling equipment	
Bolter hydraulics	Variable displacement piston pumps with load sensing for bolting head and boom movements
Controls	Intelsense control system incorporating these features: collaring, anti-jamming, auto return to start position following hole completion, and control levers for operating bolter head
Bolter position	Inline

Drilling equipment		
Boom quantity		1
Boom extension	1400 mm	4 ft 7 ir
Feed extension	438 mm	1 ft 5 ir
Stinger extension	452 mm	1 ft 6 ir
Boom rollover		360
Carousel capacity		9 bolts
Rock drills		
Komatsu (Montabert) JZD10	10 kW	13.4 HP
Komatsu (Montabert) JZD12	12 kW	16.1 HP
Komatsu (Montabert) JZD15	15 kW	20.1 HP
Komatsu (Montabert) JZD21	21 kW	28.2 HP
Leveling jacks		
Front (standard with unit)		2
Rear (standard with unit)		2

ZB31

Drilling configurations

8 ft bolting head			
Drill rod length	2 784 mm	9 ft 2 in	
Max drill depth	2 545 mm	8 ft 4 in	
Installable bolt lengths	1829 mm - 2438 mm	6 ft - 8 ft	
10 ft bolting head			
Drill rod length	3 404 mm	11 ft 2 in	
Max drill depth	3 155 mm	10 ft 4 in	
Installable bolt lengths	2 438 mm - 3 048 mm	8 ft - 10 ft	
12 ft bolting head			
Drill rod length	4 014 mm	13 ft 2 in	
Max drill depth	3 764 mm	12 ft 4 in	
Installable bolt lengths	3 048 mm - 3 658 mm	10 ft - 12 ft	
Drilling electrics			
JZD10, JZD12	One 56 kW (75 hp) TEFC elec as per application) NEM	, 0	
JZD14, JZD21	One 75 kW (100 hp) TEFC electric motor (voltage as per application) NEMA 4 MCP enclosure		
Power requirements (min - m	ax, configuration dependent)		
380 V	70 kW - 113 kW	94 hp - 152 hp	
440 V	70 kW - 114 kW	94 hp - 153 hp	
480 V	70 kW - 113 kW	94 hp - 152 hp	
525 V	70 kW - 113 kW	94 hp - 152 hp	
575 V	70 kW - 113 kW	94 hp - 152 hp	
Cable reel capacity (configur	ation dependent)		
	up to 200 m	up to 656 ft.	
Control system			
User interface (tram console)		CAN bus	
Operating weights			
Base unit	20 700 kg	45,636 lbs.	
Fully optioned	25 400 kg	55,997 lbs.	

Powertrain

General		
Fuel tank capacity	98 L	25.9 US gal
Engine		
Model	Cummins QSB4.5	Cummins QSB4.5
Displacement	4.5 L	4.5 L
Certification	EPA Tier 3 MSHA, Canmet	EURO Stage V MSHA, Canmet
Cooling type	Water cooled, charge air cooled	Water cooled, charge air cooled
Air filtration	Single-stage dry type	Single-stage dry type
Output	97 kW (130 HP) @2 500 rpm	99 kW (133 HP) @2 200 rpm
Transmission		
Model		Dana
Shifting		Powershift
Speeds	T	wo forward/two reverse
Axles		
Front and rear		Dana
Differential		Limited slip
Service brakes		Enclosed wet disc
Parking brakes	Hydraulically-r	eleased/spring-applied
Oscillation angle		+/- 6 deg
Tires		
Туре		Pneumatic, lugged
Size		14:00-24

Carrier hydraulics

General	Variat	ole displacement piston	
		pumps with load sense	
Oil tank volume	395 L	104 US gal	
Steering hydraulics		Variable displacement piston pumps with load sense; two double-acting steer cylinders	
Brake system	applied, spring-re	e brake is hydraulically- leased on front and rear matic brake application	

Carrier electrics

Alternator	24 V/140 A
Batteries	2 x 12 V
Starter	24 V heavy-duty
Tramlights	8 forward/5 reverse
Drill lights	8 front

Face and side wall coverage

5.9 km/h

13.1 km/h

5.1 km/h

11.4 km/h

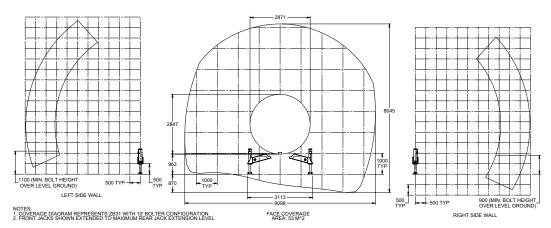
Driving speeds forward and reverse

1st gear (0% grade) - Tier III

2nd gear (0% grade) - Tier III

1st gear (0% grade) - Stage V

2nd gear (0% grade) - Stage V



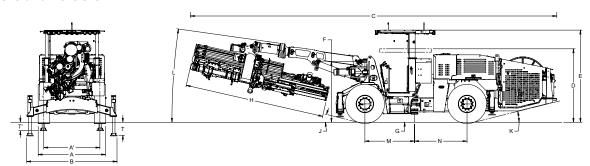
3.6 mph

8.1 mph

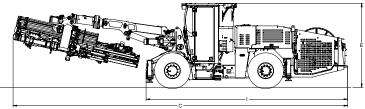
3.2 mph

7.1 mph

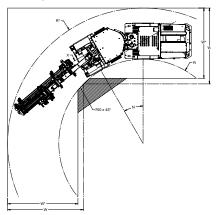
Overall dimensions



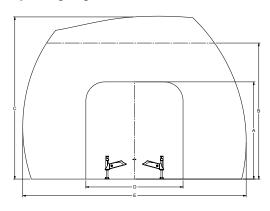
O۷	erall dimensions		
Α	Width	2 320 mm	7 ft 7 in
A ¹	Track width	1934 mm	6 ft 4 in
В	Width with outriggers extended	3 113 mm	10 ft 3 in
С	Total length (configuration dependent)		
	8 ft bolting head	12 167 mm	39 ft. 11 in
	10 ft bolting head	12 625 mm	41 ft. 5 in
	12 ft bolting head	13 111 mm	43 ft. 0 in
D	Height with canopy in collapsed position	2 530 mm	8 ft. 4 in
Е	Height with canopy/cab in drill/tram position	3 175 mm	10 ft. 5 in
F	Height to boom pin center	2094 mm	6 ft. 10 in
G	Ground clearance	290 mm	11 in
Н	Bolting head length (configuration dependent)		
	8 ft bolting head	3608 mm	11 ft 10 in
	10 ft bolting head	4820 mm	15 ft 10 in
	12 ft bolting head	5 472 mm	17 ft 11 in
Τ	Carrier length	7 607 mm	24 ft 11 in
J	Approach angle	14 deg	25% grade
K	Departure angle	14 deg	25% grade
L	Boom lift angle		10 deg
М	Articulation to front axle	1 710 mm	5 ft 7 in
N	Articulation to rear axle	1810 mm	5 ft 11 in
T	Front jack lift	447 mm	1 ft 6 in
T ¹	Rear jack lift	293 mm	1 ft 0 in

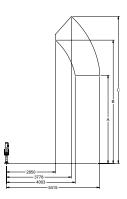


Turning dimensions



Operating height and reach dimensions





Turning dimensions

0	Turning Angle		30 deg
R	Inner	5 395 mm	17 ft. 8 in
R*	Outer	8 671 mm	28 ft 5 in
W	90° Aisle width	4857 mm	15 ft 11 in
W*	Corner aisle width	4 500 mm	14 ft 9 in
Χ	Boom swing angle		10 deg

Operating height and reach dimensions

	A/D (minin	num)	B (optim	al)	C (maxim	um)	E (maxim	ium)
8 ft bolting head	3 977 mm	13 ft 1 in	6 712 mm	22 ft 0 in	8 090 mm	26 ft 7 in	10 856 mm	35 ft 7 in
10 ft bolting head	5 131 mm	16 ft 10 in	7 181 mm	23 ft 7 in	8 560 mm	28 ft 0 in	11 796 mm	38 ft 8 in
12 ft bolting head	5 783 mm	19 ft 0 in	7 638 mm	25 ft 1 in	9 017 mm	29 ft 7 in	12 710 mm	41 ft 8 in

Standard and optional features	
Parking brake	•
Articulation lock brace mounted to machine	•
Back-up alarm	•
Four emergency stops	•
ROPS/FOPS certified canopy (ISO 3449:2005 ISO 3471:2008)	•
3-point access to cabin (access/egress to operators station)	•
LED working lights	•
Single 20 lb. fire extinguisher	•
LCD dash	•
Mechanical suspension seat	•
Joystick boom/drill controls	•
Switched 24VDC power supply	•
12VDC Power port	•
2x 2.1A USB power port	•
Engine diagnostic port	•
2.4 m (8 ft.) bolting head	•
Fixed end centralizer	•
Komatsu (Montabert) JZD12 rock drills	•
Variable bolt length functionality (configuration dependent)	•
Water pump	•
11 kW (14.8 HP) air compressor	•
Water flushing	•
Trailing cable reel with spooling device	•
Manual hand pump for hydraulic tank filling	•
Centralized carrier lubrication station	•
Tier 3 Cummins QSB 4.5L diesel engine	•
Pneumatic tires	•
Double wall insulated exhaust piping	•
DOC exhaust	
	•
Floor mat	•
Floor mat Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz,	•
	•
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz,	0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power	0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length)	0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers	0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor	0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only)	0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only)	0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated)	0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system	0 0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher	0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit	0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel	0 0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank	0 0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants	0 0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank	0 0 0 0 0 0 0 0
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DPF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for gerating for boom Carrier automatic lubrication system	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for geasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear)	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear) Beacon light kit	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear) Beacon light kit Brake lights	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear) Beacon light kit Brake lights Rear view camera	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear) Beacon light kit Brake lights Rear view camera Wheel chocks (10") with bracket	
Various voltages: 380V / 50Hz, 440V / 60Hz, 480V / 60Hz, 525V / 50Hz, 575V / 60Hz Drill on diesel power Trailing cable (standard or extended length) Cable hangers 18.5 kW (24.8 HP) air compressor Fiberglass exhaust wrap (tier 3 only) DFF exhaust (tier 3 only) Fire suppression system (manually actuated) Fire suppression system (manually actuated) with Checkfire system Secondary 20 lb. fire extinguisher Hydro expanding bolt unit Pressure washer with 20 m (66 ft.) hose reel Electric fill for hydraulic tank Wiggins fill for oils and coolants Wiggins fill for fuel tank Centralized greasing for boom Carrier automatic lubrication system Grease station with hose reel and drum pump Red/green directional lights (front and rear) Beacon light kit Brake lights Rear view camera Wheel chocks (10") with bracket Front electronic curtain	

Rear-mounted reel control box	0
Dewatering pump ready (pump not included)	0
Abrasion resistant boom hosing	0

Abrasion resistant boom hosing	
Cabin/canopy options	
ROPS/FOPS certified enclosed cabin (ISO 3449:2005 ISO 3471:2008)	0
Climate control (cabin only)	0
Filtered and pressurized	0
Safety glass windows	0
Integrated 2-way radio mounting	0
Stereo system (music player with speakers)	0
Rock guard (front of cabin or canopy)	0
Seatbelt sensor	0

Environmental options	
Boot washer	0
2-way radio antenna mounting	O

Door sensor (cabin only)

Manually controlled spot lights (canopy only) Joystick controlled spot lights (cabin only)

High altitude environment package	0	
Low ambient temperature environment package	0	
Corrosive environment package	0	
Flushing options		

Water flushing + air blast	0
Water flushing + air blast + air mist	0

rag and display language options	
English, Spanish, Russian, French, Portuguese	0

Bolting head and rock drill options	
Bolting heads: 8 ft, 10 ft, 12ft	0
Rock drill options: JZD10, JZD12, JZD14, JZD21	0
Centralizers	
Hydraulic centralizer (end)	0
Quick change centralizer with hard bushings (end and/or travelling)	0
Quick change centralizer with soft bushings (end and/or travelling)	0
Auto return	0
Rod handler	0
Integrated screen/mesh handler	0
Bolting packages (configurable)	
Cartridge resin injection system arrangement (23mm, 25mm, 28mm, 30mm, 32mm)	0
Pumpable resin injection system arrangement	0
Friction bolt arrangement	0
Hydro-expanding type friction bolt arrangement	0

• standard equipment O optional equipment Other options available - ask your Komatsu service representative

Product designs, specifications and/or data in this document are provided for informational purposes only and are not warranties of any kind. Product designs and/or specifications may be changed at any time without notice. The only warranties that apply to sales of products and services are Komatsu's standard written warranties, which will be furnished upon request.

Komatsu is a trademark of Komatsu Ltd. or one of its affiliates. All other trademarks and service marks used herein are the property of their respective owners or licensees.



0













Mechanical bolt arrangement

Other bolt type packages available (ask your Komatsu sales