

ZR77 Blasthole drill



Safety



Reliability



Productivity



Drilling equipment

Featuring a boxer-style mast with optimized single rack-and-pinion pulldown combined with an innovative auto-bit handling system, this machine can be configured for rotary or DTH drilling, diesel or electric power, and single- or multi-pass drilling.

Working ranges

Hole diameter	Maximum single pass	Maximum multi-pass	Maximum bit loading
200 mm to 270 mm	16.8 m	85.3 m	34,925 kg
7 7/8 in to 10 5/8 in			77,000 lbs

Mast/tower

Mast construction	Structural plate steel	
Mast raising cylinders	Hydraulic (2x)	
Carriage/rotary head travel	19.1 m	62.5 ft.
Maximum bit loading	34,925 kg	77,000 lb
Mast length (single pass)	22.9 m	75.0 ft.
Mast length (multi-pass)	18.6 m	61.0 ft.
Mast width	1.0 m	39.4 in
Mast depth	1.0 m	39.5 in
Angle drilling (option)	0-30°	5° increments

Pipe handling

Type
 Single-pass: 2 pipe carousel for 33.5 m (110 ft.) total depth
 Multi-pass: Up to a 6 pipe rotary carousel 85.3 m (280 ft.) total depth

Pipe size	Carousel capacity	Diameter	Maximum depth	
4	219 mm or less	8 5/8 in or less	61 m	200 ft.
5	219 mm or less	8 5/8 in or less	73 m	240 ft.
6	194 mm or less	7 5/8 in or less	85 m	280 ft.

Options
 Ability to handle 25 and 27.5 ft. pipe

Feed system

Type	Rack and pinion	
Pulldown force	302 kN	67,900 lbf
Hoisting force	302 kN	67,900 lbf
Carriage speed (maximum)	0 to 48.0 m/min	0 to 157.5 ft./min
Motor type (hydraulic)	Variable displacement axial piston with integral brake	

Rotary head

Rated power	158 kW	212 hp
Torque (variable) at 100 rpm	14.9 kN/m	11,000 ft.-lb
Torque (max)	17.6 kN/m	13,000 ft.-lb
Speed (variable)	200 rpm @ 5,827 ft.-lbs	
Motor type (hydraulic)	Variable displacement axial piston	

Air system

Compressor type	Rotary screw, oil flooded	
Standard output	56.6 m³/min	2,000 cfm
Operating pressure	6.89 bar	100 psi
Optional output	76.5 m³/min	2,700 cfm
Operating pressure	6.89 bar	100 psi
DTH output (standard)	42.5 m³/min @ 24.13 bar	1,500 cfm @ 350 psi
DTH output (optional)	42.5 m³/min @ 34.50 bar	1,500 cfm @ 500 psi
Compressor control	Electrically actuated, CANbus	

Lower works and propel

Crawler type	B8 excavator-type	
Motor type	Two-speed, variable displacement piston	
Low propel speed	0-1.86 kph	0-1.16 mph
High propel speed	0-3.12 kph	0-1.94 mph
Travel stability-mast down, drill string engaged	15° (26%)	
Travel stability- mast up, drill string engaged	9° (15%)	
Shoe/track pad width (standard)	750 mm	29.5 in
Shoe/track pad width (optional)	900 mm	35.4 in
Ground pressure with standard shoe	126 kPa	18.3 psi

Fluids/maintenance

Fuel tank capacity (standard)	1,514 liters	400 gallons
Fuel tank capacity (optional)	2,366 liters	625 gallons
Water tank capacity (standard)	1,514 liters	400 gallons
Water tank capacity (optional)	2,314 liters	611 gallons
Hydraulic tank capacity	1,136 liters	300 gallons
OGL tank capacity	68 liters	18 gallons
Ground level battery and starter isolation		
Quick fill fluid service system (fuel, hydraulic, engine oil, coolant, compressor oil, grease and water) at ground level		
On board kidney loop circuit for oil cleanliness		

Power unit

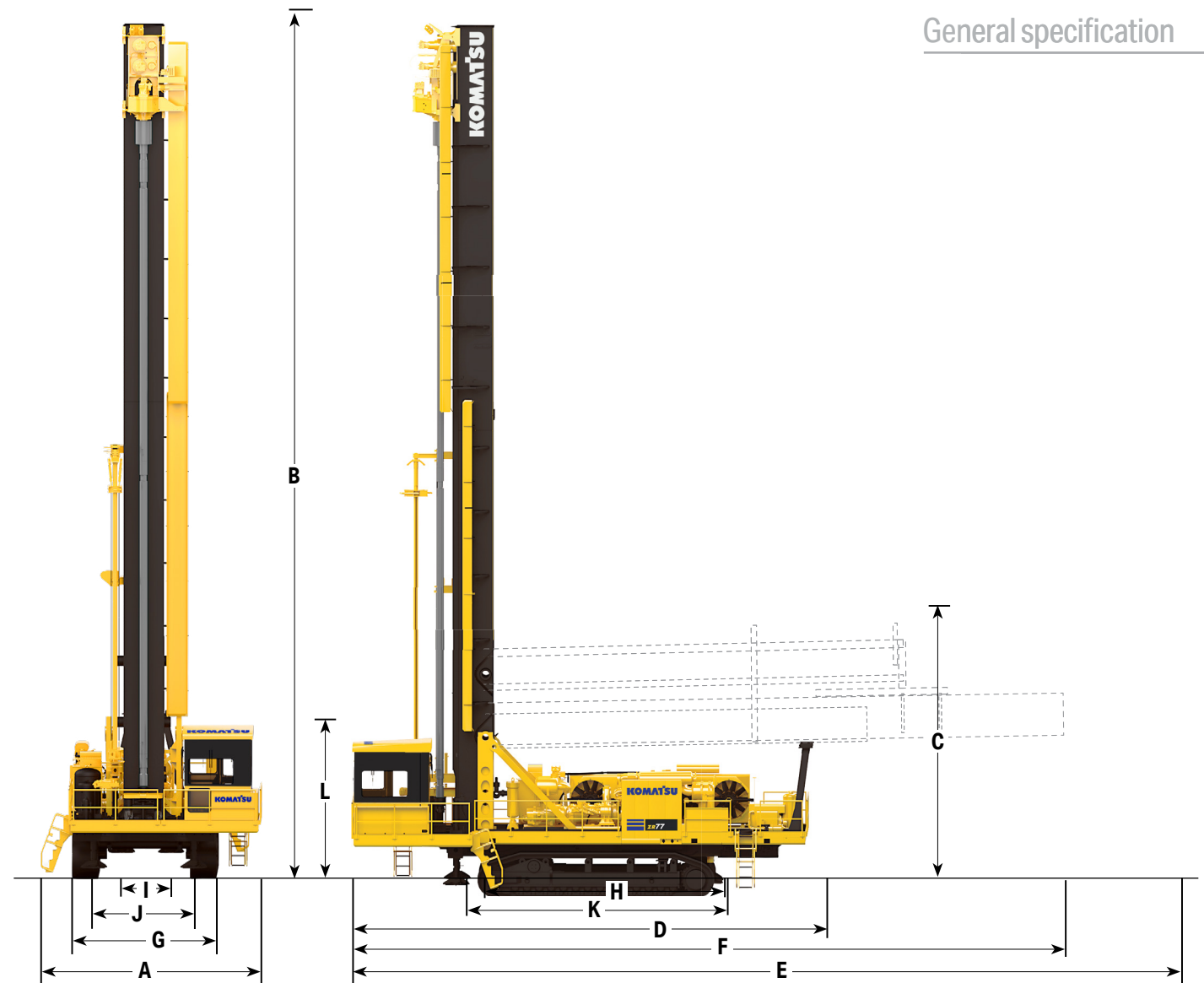
Diesel engine/model	Cummins QST30	Non-reg. T2 and T4
Power rating	783 kW	1,050 hp
Electric option	≥3-phase altering current	
	Secondary voltage (≥24, 12)	

Dust control

Dust curtains (standard)
Electric actuator for dust curtains (optional)
Water injection system (standard)
Preheat system (for water injection)
Dry dust collector (optional)

DTH drilling

Up to 203 mm (8 in) Down-the-hole hammer with 229 mm (9 in) maximum bit diameter



Overall dimensions

Dimension	Value (m)	Value (ft.)
A	5.43 m	17 ft.. 10 in
B	24.5 m	80 ft.. 5 in
C	7.0 m	23 ft.. 0 in
D	13.1 m	43 ft.. 0 in
E	24 m	78 ft.. 9 in
F	19.95 m	65 ft.. 5 in
G	4.12 m	13 ft.. 6 in
H	7.02 m	23 ft.. 0 in
I	1.4 m	4 ft.. 7 in
J	2.85 m	9 ft.. 4 in
K	7.14 m	23 ft.. 5 in
L	4.36 m	14 ft.. 4 in

General features

- Operators cab**
- Air suspended operators seat
 - DIN EN 15695 level cab filtration
 - FOPS level II
 - HVAC with pressurizer
 - Interior and exterior LED lighting
 - Sound level rating of 62 dB(A) or less
 - Trainer/buddy seat
 - Window tint

- Lighting**
- LED lighting

- Drill deck**
- Boarding stairs

- Lubrication**
- Automatic lubrication (machinery)

Optional Equipment

Operators cab

Window shades
Window wipers
Walk around cab access. Extended decking
Microwave
Refrigerator
Storage locker
AM/FM/WB/USB/iPod/iPhone/Satellite radio
Deluxe trainer's seat

Lubrication

Centralized fluid fill and drains. Fill must be added
Preheat system (auto lube)
Extended maintenance interval filtration
Bit lubrication
Hammer lubrication
Thread lube
Centralized lubrication
Auto lubrication system

Compliance

MDG, AU compliant
EU compliant
Russian compliant

Drill deck

Boarding ramp (main access only)
Auxiliary power unit (APU)
Preheat system (for APU)
Radio remote control (propel and leveling)
Mast access platform
Cold and artic weather package
Adjustable compressor output
Tool kit, drilling tools
Tool kit, maintenance
Storage locker/job box
Machinery are enclosure
Engine cover, rain guard
Additional sound suppression
Pressure washer
Deck crane option

Optional Equipment

Drill automation

High precision GPS navigation
Single- and multi-machine tele-remote control
Auto hole-to-hole navigation
Obstacle detection and mitigation
Quadview camera system
Auto bit changer
Auto pipe handling
Auto mast positioning
Adaptive auto level
Enhanced auto drill
Stratification auto drill
Stratification modeling
Data interface compatible

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