

# DT821

## UNDERGROUND DRILL RIG

### TECHNICAL SPECIFICATION

DT821 is a two boom electro hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavation. The hydraulic controlled drilling system with added automatic functions and optional instrumentation enable productive and high quality excavation. The RD520 rock drills deliver superior performance with high consumable life.

SB90 universal booms have a large optimum shaped coverage and full automatic parallelism. In addition to face drilling the unit can also be used for crosscutting and bolt hole drilling. An optional utility boom for bolting and utility works is available. The powerful 4-wheel-drive center articulated carrier ensures rapid and safe tramming with good balance.

#### KEY FEATURES

Hydraulic rock drill	RD520
Drill feed	TF500-16'
Boom	SB90
Control system	THC561
Coverage area	14,210 x 8,420 mm (110 m²)
Hole length	Up to 6,180 mm
Turning width (T-section)	4,730 mm (with TF500-14')
Tramming /drilling width	3,000 mm / 3,000 mm
Transport width	2,500 mm
Transport / drilling height	2,750 / 3,600 mm
Transport length	14,930 mm (with TF500-16')
Total weight	26,500 kg (without utility boom) depending on options
Total weight	28,900 kg (with utility boom) depending on options



## HYDRAULIC ROCK DRILL

TECHNICAL SPECIFICATION 2-1950

Rock drill	RD520
Percussion power	20 kW
Percussion pressure	Max. 220 bar
Percussion rate	74 Hz
Stabilizer	Hydraulic
Rotation speed	Max. 280 rpm (with OMS125)
Rotation torque	625Nm (with OMS125)
Hole size (drifting)	43 - 64 mm
Hole size (cuthole)	76 - 127 mm
Recommended rod	T38 - H35 - R32 T38 - R39 - R35
Shank adapter	T38 (male)
Weight	225 kg
Length	1,010 mm
Profile height	90 mm
Shank lubrication device	Air / oil mist, SLU-2
Air consumption	250 - 350 l/min
Oil consumption	180 - 250 g/h

## Options

- HLX5 instead of RD520.
- Power extractor.

## BOOM

TECHNICAL SPECIFICATION 4-3205

Boom type	SB90
Parallel coverage	90 m <sup>2</sup>
Parallelism	Hydraulic
Boom extension	1,800 mm
Feed extension	1,650 mm
Boom weight, net	2,650 kg
Roll-over angle	358°

## FEED

TECHNICAL SPECIFICATION 3-1400

Feed type	Feed force (Max.)	Total length (mm)	Hole length (mm)	Rod length (mm)	Net weight (kg)
TF512	25 kN	5,270	3,440	3,700	500
TF514	25 kN	5,880	4,050	4,305	530
TF516	25 kN	6,490	4,660	4,915	560
TF518	25 kN	7,100	5,270	5,525	590
TF520	25 kN	7,710	5,880	6,135	620

## Options

- Feed length 12', 14', 18', 20'.
- Telescopic feed. TFX6/12, TFX8/14, TFX10/16.
- Rod retainer. SCR with TF feed (incl. safety wire).
- Rod retainer. TRR1 with TFX feed (incl. safety wire).

## UTILITY BOOM (OPTIONAL)

TECHNICAL SPECIFICATION 4-3420

Boom type	SUB3A
Boom extension	2 x 2,000mm
Boom weight, net	2,350 kg
Max allowed load	510 kg
Max allowed load with safety canopy	400 kg

## Options

- Safety canopy for utility boom. FOPS approved.
- Spot lights for utility boom. 2 x 17 W LED.
- Rod racks for utility boom. For 4 pcs of 10 or 12 ft rods.
- RX expansion bolt installation kit for utility boom. D30 mm or D41 mm

## HYDRAULIC SYSTEM

Powerpack	HPP555 (2 x 55kW)
Percussion pump	110 cc (variable)
Rotation pump	60 cc (gear)
Filtration size	20 micron (pressure) 10 micron (return)
Oil tank volume	290 liters
Tank filling	Electric pump
Oil cooler	Water cooled. Cooling capacity 2 x 30 kW

## Options

- Utility boom pump 60cc (gear).
- Manual oil filling pump instead of electric.
- Vacuum pump for hydraulic system.
- Biodegradable oils. Shell Naturelle HFE46 /HFE68.

## CONTROL SYSTEM

TECHNICAL SPECIFICATION 5-1020

Type	THC561, hydraulic
Manual boom control	Direct control Fully proportional Hydraulic parallelism
Drilling control	Feed / percussion control
Automatic cycle	Stop and return automatics

## Options

- Constant speed drilling. Replaces feed /percussion control.
- TMS D2 or DDSS2 system. Spec. 5-9200.

## ELECTRIC SYSTEM

Total input power	135 kW
Main switch	MSE20
IP classification	Spec. sheet TS2-132
Standard voltage	380 - 690 VAC (± 10%)
Starting method	Star-delta starter 380 - 690 VAC
Automatic cable reel	TCR4E
Cable reel control (in / out)	Operator station
Front lights (combined working and driving)	8 x 50 W LED (24VDC)
Rear lights (combined working and driving)	4 x 50 W LED (24VDC)
Rear brake / park lights	2 x RedLED

## Options

- Optional voltage. 1,000 VAC, 50 Hz.
- Electric cable rubber or PUR. Spec sheet TS2-121.
- Spooling device for cable reel. for voltages 690 - 1,000 VAC
- Electricity outlet in front carrier. 1 x 400 VAC or 1 x Main voltage.
- Remote control for reel(s) at rear machine.
- Amber strobe light. Flashing (24VDC).

## FLUSHING SYSTEM

Flushing	Water
Water pump type	WBP2 HP (11 kW)
Water pump capacity	200 l/min
Water pump inlet pressure	2 - 7 bar (Min.)
Flushing water pressure	10 - 15 bar
Air compressor	CTN10, 1 m³/min (7 bar, 7.5 kW)

## Options

- Flushing flowsupervision.
- Air cleaning of hole in addition to water flushing. CTN16 air compressor.
- Air mist flushing. External air /water supply (incl. IP5 air cleaner).
- Additional air capacity for hole cleaning with air. 2 x 80 liters receiver (incl. IP5 air cleaner).
- External air connection. IP5 air cleaner.
- Water hose reel. THR2.5E. (incl. water hose 38 mm (1 ½"), 65 m).

## TRAMMING AND OPERATOR STATION

Tramming speed	16 km/h (Horizontal) 5.4 km/h (14% = 1:7 = 8°)
Gradeability / inclination	Max. 15° / 5°
Safety canopy	FOPS (ISO 3449)
Operation	Standing drilling, seated tramming
Sound pressure level	According to EN791 Operator station: 103 db(A) Emitted: 125 db(A)
Safety barrier in doorway	Chain
Stairs and service lights	LED lights

## Options

- Reduced tramming speed. 3rd gear lockout.
- Reversing camera the rear of the machine.

## CARRIER

Carrier	TC8
Carrier type	Frame steering, Orbitrol
Frame steering	± 37°
Rear oscillation	± 8°
Ground clearance	400 mm
Diesel engine	MB OM904LA, 110 kW Tier 3, Stage IIIA
Transmission	Hydrodynamic, Spicer T20 000
Axles	Dana Spicer 113 (front) Dana Spicer 123 (rear)
Tires	14.00-24 PR28
Service brakes	Hydraulic wet disc brakes
Parking and emergency brakes	SAHR type, fail safe wet disc brakes
Fuel tank	150 liters
Hydraulic jacks	TJ60 (front), TJ75 (rear)
Hand throttle	Standard
Centralized greasing points	Carrier

## Options

- High speed carrier. TC8, incl. MB OM906LA, 170 kW, Tier 3, Stage IIIA, with Spicer T32 000 transmission.
- High speed carrier. TC8, incl. QSB6.7, 164 kW, Tier 4i, Stage IIIB, with Spicer T32 000 transmission.
- Optional engine. QSB4.5, 119 kW, Tier 4i, Stage IIIB.
- Foam filled tires.
- Exhaust catalyzer. For Tier 3 engines.
- Rod rack under carrier. For 12 - 20 ft rods.
- Fast filling system. For fuel or complete
- Wheel chocks and holders. 2 pieces.
- LP cleaning system with reel. Max. 15 bar.
- HP cleaning system with reel. Max. 180 bar.
- Greasing unit with pump, reel and nozzle. Manual.
- Automatic greasing system. Carrier, booms and utility boom.
- Handheld fire extinguisher. 1 x 7.7 kg type ABC
- Manual fire suppression system. 8 nozzles (incl. 1 x extinguisher).
- Auto. fire suppression system. 8 nozzles (incl. 1 x extinguisher).
- Access Detector system (Spec. TS2-211).

## Packages

- Anti-freezing package: Block heater for engine, heater for hydraulic oil, Water circuit flushing with air, antifreeze adding in water circuit.

## Extra items

- Ground fault and overcurrent protection (VYK).
- Spare rock drill.
- Spare wheel assembly.
- Special tools for rock drill.
- Tunnel laser set.
- Documentation. Extra manuals.