

DT1121i UNDERGROUND DRILL RIG

TECHNICAL SPECIFICATION

DT1121i is a computer-controlled two boom electro-hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavations.

DT1121i has automatic drilling functions and boom positioning under supervision the operator of the drill rig. Automated drilling of pre-planned drilling pattern combined with extensive data collection and reporting system enables continuous control of productivity, quality and economy. In addition to face drilling the unit can also be used for cross-cutting and bolt hole drilling.

Noise and vibration insulated cabin provides ergonomic and extremely comfortable working place with excellent visibility during tramming and drilling.

KEY FEATURES

Coverage area	183 m ² (18 210 x 10 920 mm)
Hydraulic rock drill	2x RD525 (25 kW)
Drill feed	2 x TFi-18'
Boom	2 x SB150i
Control system	iDATA
Hole diameter	43 - 64 mm
Hole length	Up to 6 085 mm
Turning radius	11 860 mm
Transport / drilling width	2 950 mm / 3 860 mm (TC11) 3 050 mm / 3 860 mm (TC12)
Transport height	3 690 mm / 4 690 mm (TC11) 3 780 mm / 4 780 mm (TC12)
Transport length	17 780 mm (with TFi-18')
Total weight	37 700 kg (without utility boom) depending on options
Total weight	40 600 kg (with utility boom) depending on options



HYDRAULIC ROCK DRILL

Type of rock drill	RD525 (TS2-236)
Percussion power	25 kW
Percussion pressure	Max. 235 bar
Percussion rate	93 Hz
Stabilizer	Hydraulic
Rotation speed	Max. 280 rpm (with OMS125)
Rotation torque	625 Nm (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

FEED

Type of feed	Feed force (Max.)	Feed extension (mm)	Total length (mm)	Hole length (mm)	Rod length (mm)	Net weight (kg)
TF5i-12'	25 kN	1 650	5 330	3 440	3 700	500
TF5i-14'	25 kN	1 650	5 940	4 050	4 305	530
TF5i-16'	25 kN	1 650	6 550	4 660	4 915	560
TF5i-18'	25 kN	1 650	7 160	5 270	5 525	590
TF5i-20'	25 kN	1 650	7 770	5 880	6 135	620
TF5i-21'	25 kN	1 650	8 075	6 180	6 440	640

BOOM

Type of boom	SB150i (TS2-267)
Parallel coverage	159 m ²
Parallelism	Electric
Boom extension	3 200 mm
Feed extension	1 650 mm
Boom weight, net	3 350 kg
Roll-over angle	358°

UTILITY BOOM (OPTIONAL)

Type of utility boom	SUB5iA/B (TS2-311)
Boom extension	2 x 3 000 mm
Boom weight, net	2 635 / 2 895 kg
Basket swing	± 45° in B - model
Max allowed load	510 kg
Max allowed load with safety canopy	400 kg

HYDRAULIC SYSTEM

Powerpack	HPP580 (2 x 80 kW)
Percussion pump	110 cc (variable)
Rotation pump	85 cc (variable)
HVAC pump (Heating, Ventilation and A/C)	26 cc (gear)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	470 liters
Filling pump for hydraulic oil	Electric
Cooler for hydraulic oil	OW55 oil-to-water (2 x 55 kW)

ELECTRIC SYSTEM

Standard voltage	380 - 690 V (± 10%)
Total input power	180 kW
Main switch	MSE3i
IP classification	Specification TS2-132
Starting method	Star-delta starter 380 - 690 V
Automatic cable reel	TCR6EHD
Cable reel control (in / out)	Operator station
Front lights (combined working and driving)	12 x 50 W LED (24V)
Rear lights (combined working and driving)	4 x 50 W LED (24 V)
Rear parking / brake lights	2 x Red LED (24V)
Stair and service lights	LED (24V)

AIR AND WATER SYSTEM

Flushing of holes	By water
Water booster pump type	WBP3HP
Water pump capacity	375 l/min
Water pump inlet pressure	2 - 7 bar (Min.)
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU-2 (air / oil mist)
Air compressor	CT28 (2.8 m³/min at 7 bar)
Oil consumption	180 - 250 g/h
Air consumption	250 - 350 l/min

OPERATOR'S SAFETY CABIN

Cabin certification	FOPS (ISO 3449)
Type of cabin	Standard height
Cabin height	3 690 mm
Cabin inside height	2 000 mm
Cabin elevation	1 000 mm
Sound pressure level EN791	Cabin < 75 dB(A) Emitted 126 dB(A)
Operation	Seated for one operator
Floor	Water-washable
Air conditioning	During tramming and drilling
Cabin heating	During tramming and drilling
Electricity outlets	1 x 12 V and 2 x 240 V (16A)

CARRIER

Type of carrier	TC11
Rear axle 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) / 123 (rear)
Tires	14.00-24 PR28
Service brakes	Hydraulically applied wet disc brakes
Parking / emergency brakes	SAHR type, fail safe wet disc brakes
Fuel tank	150 liters
Tramming speed	Horizontal (0°): 15km/h 14° = 1:7 = 8°: 3.5 km/h
Gradeability /sideways tilt	Max. 15° / 5°
Carrier stabilization	TJ60(front), TJ75 (rear)
Hand throttle	Standard
Hand held fire extinguisher	1 x 7.7 kg (type ABC)
Carrier centralized greasing	Specification 5-2110
Manual greasing system	Greasing unit with pump, reel and nozzle
Tramming alarm	Standard
Colour scheme	standard
Documentation	2 x Operator's manual 2 x Maintenance manual 2 x Technical manual (in English only) 2 x Parts manual (in English only) 1 x Toolman CD

OPTIONAL ITEMS

Rock drill	
*Type of rock drill	RD520 instead of RD525
Power extractor	For RD525 or RD520
Feed	
*Feed length	12', 14', 16', 20', 21'
Rod retainer	SCR with TF feed (incl. safety wire)
Two rods system	TRS (incl. SCR for 10-12 ft extension rods)
Rod handling system	TRH (incl. SCR + power extractor for 12 - 16 ft extension rods)
Start-up drilling tools	For 45 -51 mm holes
Casing drilling set	For 90 mm (3 ½") or 115 mm (4 ½") pipes
Utility boom	
Safety canopy	FOPS approved Sliding FOPS approved
Spot lights	2 x 17 W LED
Remote control for spot lights	2 pcs
Rod racks	For 4 pcs of 10 or 12 ft rods
RX expansion bolt kit	D30 mm or D41 mm
Hydraulic system	
*Powerpack Additional fine filtration Filling pump for hydraulic oil Cooler for hydraulic oil	HPP555 (2 x 55 kW) with RD520 For hydraulic coil Manual OA30 oil-to-water (2 x 30 kW)
*Biodegradable oils	Shell Naturelle HFE46/68
Vacuum pump	For hydraulic coil
Control system	
Access protectors system	Mandatory in Europe (TS2-211)
User interface	2nd operator (standing)
iPROF automation system	
iSURE II report	Drill steel consumption monitoring
iSURE III analysis	MWD analysis
iSURE IV bolt plan	Design and data collection analysis

OPTIONAL ITEMS

Control system (continue)	
Online MWD	Required WLAN package
Calibration and accuracy measurement set	Excl. total station
Total station navigation set	Excl. total station
Remote monitoring and data transfer	With WLAN
Measurement adapter kit	Cables and connectors for spare parts programming and maintenance measurements
Cleaning system	
Low pressure system with reel	Up to 15 bar (TS2-343)
High pressure system with reel	Up to 180 bar (TS2-343)
Greasing systems	
Automatic system	Lincoln (for carrier, boom, rod handler and utility boom)
Electric system	
*Voltage option	1 000 V (50 Hz) with DOL starting method
Electric cables	Specification TS2-121
Spooling device for cable reel	For voltages 690 - 1 000 V
Ground fault and overcurrent unit	VYK
Electricity outlet in front carrier	1 x 400 V + 2 x 230 V (16A)
Remote control for reel(s) Amber flashing light	At rear machine LED (24 V)
Air and water system	
Air mist flushing kit	External air / water supply (incl. IP5 air cleaner)
End of hole flushing	2 x 80 liters receiver (incl. IP5 air cleaner).
External air connection	IP5 air cleaner
Water hose reel	THR5E with water hose, 45 mm (1 ¼"), 60 m
Water hose with hooks	45 mm (1 ¼"), 60 m
Operator's safety cabin	
Reduced tramming speed	3rd gear lockout
Boot washer	At cabin entrance
Audio player	CD / MP3-player, radio and loudspeakers
Fire suppression system	
Manual system	Ansul (8 nozzles)
Automatic system	Ansul (8 nozzles)
Carrier	
*High speed carrier	TC12, incl. MB OM906LA, 170 kW, Tier 3, Stage IIIA, with Spicer T32 000 transmission
*High speed carrier	TC12, incl. QSB6.7, 164 kW, Tier 4i, Stage IIIB, with Spicer T32 000 transmission.
Exhaust catalyzer	For Tier 3 engines
Rod rack on carrier side	12 to 21 ft rods
Power supply for MiniSSE	
Tramming camera	Rear and side
Wheel chocks and holders	2 pieces
Extra items	
Spare rock drill	RD525 or RD520
Spare wheel assembly	Standard or foam filled tires
Special tools for rock drill	Field kit or complete set
Tunnel laser set	
Documentation Package:	Extra manuals
Country specific options	EUR package
Package: Anti-freezing	
	Block heater for engine, heater for hydraulic oil, water circuit flushing with air, antifreeze adding in water circuit.