Sandvik DT1331i is a computer-controlled three boom electro-hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavations. Drill rig has automatic drilling functions and boom positioning under supervision of 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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage area</td>
<td>232 m² (19 195 x 13 180 mm)</td>
</tr>
<tr>
<td>Hydraulic rock drill</td>
<td>3 x RD525 (25 kW)</td>
</tr>
<tr>
<td>Drill feed</td>
<td>3 x TF5i-18’</td>
</tr>
<tr>
<td>Boom</td>
<td>3 x SB150i</td>
</tr>
<tr>
<td>Control system</td>
<td>iDATA</td>
</tr>
<tr>
<td>Hole length</td>
<td>Up to 6 085 mm</td>
</tr>
<tr>
<td>Turning radius</td>
<td>11 860 mm</td>
</tr>
<tr>
<td>Tramming / drilling width</td>
<td>3 690 mm / 3 860 mm</td>
</tr>
<tr>
<td>Tramming / height</td>
<td>4 965 mm</td>
</tr>
<tr>
<td>Tramming length</td>
<td>15 780 mm (with TF5i-18’)</td>
</tr>
<tr>
<td>Total weight (without utility boom)</td>
<td>50 000 kg</td>
</tr>
<tr>
<td>Total weight (with utility boom)</td>
<td>54 000 kg</td>
</tr>
</tbody>
</table>
HYDRAULIC ROCK DRILL

Type of rock drill  RD525 (TS2-236)
Perception power  25 kW
Perception pressure  Max. 235 bar
Perception rate  93 Hz
Stabilizer  Hydraulic
Rotation speed  Max. 260 rpm (with OMS125)
Rotation torque  625 Nm (with OMS125)
Hole size (drifting)  43 - 64 mm
Hole size (cut hole)  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

<table>
<thead>
<tr>
<th>Type of feed</th>
<th>Feed force (Max.)</th>
<th>Total length (mm)</th>
<th>Hole length (mm)</th>
<th>Rod length (mm)</th>
<th>Net weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF5i-12'</td>
<td>25 kN</td>
<td>5,330</td>
<td>3,440</td>
<td>3,700</td>
<td>500</td>
</tr>
<tr>
<td>TF5i-14'</td>
<td>25 kN</td>
<td>5,940</td>
<td>4,050</td>
<td>4,305</td>
<td>530</td>
</tr>
<tr>
<td>TF5i-16'</td>
<td>25 kN</td>
<td>6,550</td>
<td>4,660</td>
<td>4,915</td>
<td>560</td>
</tr>
<tr>
<td>TF5i-18'</td>
<td>25 kN</td>
<td>7,160</td>
<td>5,270</td>
<td>5,525</td>
<td>590</td>
</tr>
<tr>
<td>TF5i-20'</td>
<td>25 kN</td>
<td>7,770</td>
<td>6,380</td>
<td>6,135</td>
<td>620</td>
</tr>
<tr>
<td>TF5i-21'</td>
<td>25 kN</td>
<td>8,075</td>
<td>6,180</td>
<td>6,440</td>
<td>640</td>
</tr>
</tbody>
</table>

BOOM

Type of boom  SB150i (TS2-267)
Parallel coverage  159 m²
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
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 (3 x 80 kW)
Perception pump  140 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 (3 x 55 kW)

CONTROL SYSTEM

Type of control  Sandvik iDATA automation system (incl. iSURE I tunnel office program)
Manual boom control  Direct control
Electric parallelism
Manipulator mode
Automatic boom positioning  Automatic boom positioning
Lock to target
Automatic correct function
Boom self collision detection
Drilling control  Feed / percussion control
Feed / percussion manual control
Torque control
Automatic cycle  One hole automatic
Automatic hole length control
Automatic round drilling according to pre-designed plan

ELECTRIC SYSTEM

Standard voltage  380 - 690 V (±10%)
Total input power  270 kW
Main switch  MSE3i
IP classification  Specification TS2-132
Starting method  Star-delta starter 380 - 690 V
Automatic cable reel  TCR6EH
Cable reel control (in / out)  Operator station
Front lights (combined working and driving)  12 x 50 W LED (24 V)
Rear lights (combined working and driving)  4 x 50 W LED (24 V)
Rear brake / park lights  5 x Red LED
Stair and service lights  LED (24V)

AIR AND WATER SYSTEM

Flushing of holes  By water
Water booster pump type  WBP4 HP
Water pump capacity  400 l/min
Water pump inlet pressure  2 - 7 bar (Min.)
Flushing water pressure  15 - 20 bar
Shank lubrication device  SLU-3 (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

Safety cabin  FOPS (ISO 3449)
Type of cabin  Standard height
Cabin height  4,965 mm
Cabin inside height  2,000 mm
Cabin elevation  1,000 mm
Operation  Seated for one operator
Sound pressure level  According to EN791
Operator station  75 dBA
Emission: 126 dBA
Floor  Water-washable
Air conditioning  EU6/7 filtering capacity
Cabin heating  During tramming and drilling
Electricity outlets  1 x 12 V, 2 x 240 V (16 A)
## CARRIER

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of carrier</td>
<td>TC12</td>
</tr>
<tr>
<td>Rear oscillation</td>
<td>± 8°</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>400 mm</td>
</tr>
<tr>
<td>Diesel engine</td>
<td>MB OM904LA, 170 kW, Tier 3, Stage IIIA</td>
</tr>
<tr>
<td>Transmission</td>
<td>Hydrodynamic, Spicer HR32 000</td>
</tr>
<tr>
<td>Axles</td>
<td>Dana Spicer 43R (front) / 213 (rear)</td>
</tr>
<tr>
<td>Tires</td>
<td>14.00-24 28RL</td>
</tr>
<tr>
<td>Service brakes</td>
<td>Hydraulically operated wet disc brakes</td>
</tr>
<tr>
<td>Parking / emergency brakes</td>
<td>SAHR type, fail safe wet disc brakes</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>150 liters</td>
</tr>
<tr>
<td>Tramming speed</td>
<td>15 km/h (Horizontal)</td>
</tr>
<tr>
<td></td>
<td>4.5 km/h (14%=1:7=8°)</td>
</tr>
<tr>
<td>Gradeability / sideways tilt</td>
<td>Max. 15° / 5°</td>
</tr>
<tr>
<td>Carrier stabilization</td>
<td>TJ60 (front), TJ75 (rear)</td>
</tr>
<tr>
<td>Hand throttle</td>
<td>Standard</td>
</tr>
<tr>
<td>Handheld fire extinguisher</td>
<td>1 x 7.7 kg, Type ABC</td>
</tr>
<tr>
<td>Carrier centralized greasing</td>
<td>Specification 5-2110</td>
</tr>
<tr>
<td>Manual greasing system</td>
<td>Greasing unit with pump, reel and nozzle</td>
</tr>
<tr>
<td>Tramming alarm</td>
<td>Standard</td>
</tr>
<tr>
<td>Colour scheme</td>
<td>Sandvik standard</td>
</tr>
<tr>
<td>Documentation</td>
<td>2 x Operator's manual 2 x Technical manual (in English only) 2 x Parts manual (in English only) 1 x Toolman CD</td>
</tr>
</tbody>
</table>

## OPTIONAL FEATURES AND PACKAGES

### Rock drill
- Type of rock drill: RD520 instead of RD525 For RD525 or RD520
- Feed
  - Feed length: 12’, 14’, 16’, 20’, 21’
  - Rod retainer: SCR with TF feed (incl. safety wire)
- Rod handling system
  - TRH (incl. SCR + power extractor for 12 - 16 ft extension rods)
- Start-up drilling tools
  - For 45 -51 mm holes
  - For 90 mm (3 ½”) or 115 mm (4 ½”) pipes

### Utility boom option
- Safety canopy for utility boom: FOPS approved
- Spot lights for utility boom: 2 x 17 W LED
- Remote joystick: Controlled spot lights
- Rod racks for utility boom: For 4 pcs of 10 or 12 ft rods
- RX expansion bolt kit: D30 mm or D41 mm

### Hydraulic system
- *Powerpack*
- *Filling pump for hydraulic oil*
- *Cooler for hydraulic oil*
- By pass oil filter
- *Biodegradable oils*
- Vacuum pump: HPP555 (3 x 55 kW with RD520 Manual

### Control system
- Access protector system
  - iPROF automation system
  - iSURE II report
  - iSURE III analysis
  - iSURE IV bolt plan
- Mandatory in Europe (TS2-211) 2nd operator (standing)
- Drill steel consumption monitoring
- MWD analysis
- Design and data collection analysis

### Control system (continue)
- Online MWD
- Calibration and accuracy measurement set
- Total station navigation set
- Remote monitoring and data transfer
- 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
- *Optional voltage: 1 000 V, 50 Hz with DOL starting method*
- Spooling device: For cable reel
- Ground fault and overcurrent protection: VYK
- *Electric cables: Specification TS2-121
- Electricity outlet in front carrier: 1 x 400 V + 2 x 230 V (16A) At rear machine
- Amber flashing light: LED (24V)

### Air and water system
- Flashing flow supervision
  - 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 incl. water hose 45 mm (1 ¾”), 60 m
  - Water hose with hooks: 45 mm (1 ¾”), 60 m

### Operator’s safety cabin
- Reduced tramming speed: 3rd gear lockout
- Boot washer: 1 x 12 V and CD player readiness
  - At cabin entrance: CD / MP3-player, radio and loudspeakers

### Fire suppression system
- Manual system: Ansal (8 nozzles)
- Automatic system: Ansal (8 nozzles)

### Carrier
- *Diesel engine: QSB6.7, 164 kW, Tier 4i, Stage IIIB For Tier 3 engines for MiniSSE
- Exhaust catalyzer
- Power supply
- Rod rack under carrier
- Tramming cameras
- Wheel chocks and holders

### Packages
- Regional packages: EUR package
  - Block heater for engine, heater for hydraulic oil, water circuit flushing with air, antifreeze adding in water circuit
- Anti-freezing package

### Extra items
- Spare rock drill: RD525 or RD520
- Spare wheel assembly
- Special tools for rock drill
- Tunnel laser set
- Documentation: Extra manuals

* replaces standard feature