Sandvik DL432i is a fully-mechanized, highly versatile and compact electro-hydraulic top hammer longhole drill designed for underground mass mining in 3.2 x 3.2 m or larger production drifts. It is capable of drilling vertical and inclined fans and single or parallel Ø64…102 mm longholes up to 38 meters in depth, using T38, T45 and T51 MF-rods or Ø65 mm/T45 and Ø76 mm/ST58 tube rods.

The DL432i is mounted on a 4-wheel drive frame-steered and diesel-powered carrier. It is equipped with the RD927L hydraulic rock drill, LFRC900 drilling module, SB160P boom and operator’s safety cabin for high drilling capacity and maximum uptime. The 360° drilling module rotation and wide boom swing and tilt angles make the unit suitable for most mining methods and various service support applications. The CANbus based iCAN drilling control system with the user-friendly operating interface and various instrumentation and automation options allow maximum productivity and good drilling accuracy.

The layout of the C400 carrier is designed for good visibility and stability, ensuring fast and safe tramming in narrow mine drifts. The operating and maintenance interface are designed for easy access, safe operation and all service points are accessible from ground level.

### KEY FEATURES

- **Hydraulic rock drill**: RD927L (27 kW)
- **Drilling module**: LFRC900 (20 + 1 rods)
- **Rod length**: 4' - 6' (1 220 - 1 830 mm)
- **Boom**: SB160P
- **Minimum drift size (H x W)**: 3.2 - 3.8 m
- **Drift width in T-section (maximum)**: 3.8 m (SB160P)
  3.7 m (SB120P)
- **Boom coverage (vertical holes)**: 6 070 mm
- **Transport height (with cabin)**: 3 050 mm
- **Transport width**: 2 500 mm (SB160P)
  2 310 mm (SB120P)
- **Transport length**: 11 850 mm
- **Transport weight**: 26 500 kg

### ROCK TOOLS AND HOLE LENGTH

<table>
<thead>
<tr>
<th>Thread</th>
<th>Rod Ø (mm)</th>
<th>Hole Ø (mm)</th>
<th>Rock drill</th>
<th>Max. hole length (m)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>T38</td>
<td>39</td>
<td>64</td>
<td>RD921S</td>
<td>25.3</td>
</tr>
<tr>
<td>T45</td>
<td>46</td>
<td>76</td>
<td>RD927L</td>
<td>31.7</td>
</tr>
<tr>
<td>T51</td>
<td>52</td>
<td>89</td>
<td></td>
<td>38.1</td>
</tr>
<tr>
<td>ST58</td>
<td>76 (tube)</td>
<td>89 - 102</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*) Feed in contact with rock, front stinger retracted
**HYDRAULIC ROCK DRILL**

- **Type of rock drill**: RD927L (TS2-356)
- **Percussion power**: 27 kW
- **Percussion pressure**: Up to 210 bar
- **Percussion rate**: 60 Hz
- **Stabilizer**: Sleeve type
- **Rotation speed**: 0 - 200 rpm
- **Rotation torque**: Max. 1,750 Nm (OMT315)
- **Weight**: 340 kg
- **Length with shank adapter**: 1,260 mm

**DRILLING MODULE**

- **Type of drilling module**: LFRC900
- **Rod length**: 1,220 - 1,830 mm (4’ - 6’)
- **Storing capacity**: 20 + 1 rods (all threads)
- **Retaining centralizer**: Pito 8
- **Cuttings diverter**: CC908
- **Set-off from stope face**: 800 mm (minimum)
- **Feed force**: 31 kN
- **Feed and return speed**: Up to 0.3 m/s

**DRILLING MODULE DIMENSIONS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Rod length</th>
<th>Total length*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFRC904</td>
<td>1,220 mm</td>
<td>3,165 mm</td>
</tr>
<tr>
<td>LFRC905</td>
<td>1,525 mm</td>
<td>3,470 mm</td>
</tr>
<tr>
<td>LFRC906</td>
<td>1,830 mm</td>
<td>3,775 mm</td>
</tr>
</tbody>
</table>

*Add 60 mm for bit changer

**LONGHOLE BOOM**

- **Type of boom**: SB160P (TS2-318)
- **Boom swing**: Left 45° / Right 45°
- **Drilling module roll-over**: 360°
- **Boom extension**: 1,600 mm
- **Drilling module travel**: 1,500 mm
- **Drilling module length with stingers**: 7,000 mm (6’ rods)
- **Reach up with front stinger**: 9,300 mm (6’ rods)
- **Front stinger**: Mounted on the feed
- **Front stinger extension**: 2,000 mm
- **Rear stinger**: Mounted on feed cradle
- **Rear stinger extension**: 1,500 mm
- **Drilling module parallelism**: Automatic

**HYDRAULIC SYSTEM**

- **Powerpack**: HPP990 (90 kW)
- **Filtration size (pressure / return)**: 20 µ / 10 µ
- **Oil tank volume**: 270 liters
- **Cooler for hydraulic oil**: OW45 oil-to-water (45 kW)
- **Low oil level indication**: Low oil level switch

**DRILLING CONTROL SYSTEM**

- **Type of control system**: iSOLO / SICA
- **Control screen**: 15” full colour touch screen
- **Control panel**: In safety cabin or canopy
- **Drilling controls**: Torque drilling and feed percussion
- **Flushing control**: Water flow and pressure monitoring
- **Diagnostics system**: Comprehensive and interactive

**DRILLING AUTOMATION (SILVER)**

- **One-hole automation**: Automatic coupling / uncoupling of rods
- **Stinger control**: Automatic (including pressurization)
- **Drilling control selection**: Torque Drilling (default) or manual
- **Selectable hole length**: Torque drilling and feed percussion

**ELECTRIC SYSTEM**

- **Standard voltages**: 380 – 690 V (50 or 60 Hz)
- **Total installed power**: 110 - 130 kW
- **Main switch gear**: MSE 10
- **IP-classification**: Main switch gear IP66, junction boxes ≥ IP68
- **Allowed voltage fluctuation**: ± 10%
- **Starting method**: Standard (power factor > 0.95)
- **Starting method**: Star-Delta (380 - 690 V)
- **Automatic cable reel**: TCR4CD and spooling system
- **Cable reel remote control**: At operator station and cable reel
- **Front lights (combined working and driving)**: 6 x 50 W (24 V) LED
- **Rear lights (combined working and driving)**: 2 x 50 W and 2 x 17 W (24 V) LED
- **Carrier positioning lights**: 2 x Laser type
- **Braking lights and blinkers**: LED (24V)
- **Stair and service lights**: LED (24V)
- **Parking lights**: LED (24V)
- **Electric quality monitoring**: Voltage, Amperage, Power, Pf Phase–sequence
- **Motor protection**: Intelligent control with power maximization
- **Extra low voltage supply**: Continuous 80 A / 27 V DC with battery back-up and management

**AIR AND WATER SYSTEMS**

- **Flushing of holes**: By water
- **Water booster pump type**: WBP3HP (11 kW / 50 Hz)
- **Water pump capacity**: 375 l/min at 15 bar (inlet pressure 5 bar)
- **Flushing water pressure**: 10 - 20 bar
- **Shank lubrication device**: SLU1 (air / oil mist)
- **Air compressor**: CTN 10 (1.0 m³/min at 7 bar)
- **Rock drill oil consumption**: 300 - 500 g/h
- **Rock drill air consumption**: 400 - 500 l/min
- **Air cleaner for external air supply**: IP5 and connection

**OPERATOR’S SAFETY CABIN**

- **Cabin certification**: FOPS / ROPS (ISO3449)
- **Unit height in tramming**: 3,050 mm
- **Cabin inside height**: 2,020 mm
- **Sound pressure level**: Operator station 69 dBA
- **Vibration level**: According to EN791/IISO2631-1
- **Operator’s seat**: For drilling and tramming
- **Air conditioning system**: EU6/7 filtering capacity
- **Cabin heating**: During drilling and tramming
- **Cabin safety grill**: For front screen
- **Audio system**: CD / MP3-player, radio and loudspeakers
- **Electrical outlets (16 A)**: 12 / 24 V (DC) and 110 / 230 V (AC)
- **Cabin boot washer**: At cabin entrance
### CARRIER

<table>
<thead>
<tr>
<th>Type of carrier</th>
<th>C400 (frame-steered)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier articulation</td>
<td>± 40°</td>
</tr>
<tr>
<td>Rear axle oscillation</td>
<td>± 10°</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>330 mm</td>
</tr>
<tr>
<td>Diesel engine</td>
<td>Cummins QSB4.5 (119 kW Tier 3)</td>
</tr>
<tr>
<td>Exhaust catalyzer</td>
<td>Standard</td>
</tr>
<tr>
<td>Transmission</td>
<td>Hydrostatic</td>
</tr>
<tr>
<td>Drop box</td>
<td>Dana Spicer 305D</td>
</tr>
<tr>
<td>Axles</td>
<td>Dana 113 (front and rear)</td>
</tr>
<tr>
<td>Tires</td>
<td>14.00-24 PR28</td>
</tr>
<tr>
<td>Brakes</td>
<td>SAHR fail safe wet disc brakes</td>
</tr>
<tr>
<td>Tramming speed</td>
<td>Horizontal (0°): 12 km/h 14% = 1.7 = 84.5 km/h</td>
</tr>
<tr>
<td>Gradeability / sideways tilt</td>
<td>Max. 15° (27 %) / 5° (9 %) ± 10º ± 40°</td>
</tr>
<tr>
<td>Carrier stabilization</td>
<td>2 x SJ6000 telescopic jacks (front) 2 x SJ6000 jacks (rear)</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>100 liters</td>
</tr>
<tr>
<td>Filling pump for hydraulic oil</td>
<td>Electric</td>
</tr>
<tr>
<td>Hand held fire extinguisher</td>
<td>7.7 or 9 kg (type ABC)</td>
</tr>
<tr>
<td>Carrier centralized greasing points</td>
<td>Specification 5-2110</td>
</tr>
</tbody>
</table>

#### Tramming alarm
- Standard

#### Tramming cameras
- Front, rear and side

#### Hill holder
- Standard

#### Levelling indicators
- Spirit level/monitor indication

#### Colour scheme
- Sandvik 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 FEATURES AND PACKAGES

#### Drilling system
- **RD9215** rock drill
- **Power extractor**
- Remote drilling control panel
- Drilling module wear parts kit
- SB120P telescopic boom
- Rear stinger extension kit
- Bit changer

#### Hydraulic system
- *Cooler for hydraulic oil* QA40 (40 kW) for <25°C ambient temperature
- Vacuum pump
- Side stream filter

#### Instrumentation
- Access detector or protector
- Spirit level angle indicators
- Tele-remote drilling (WLAN)

#### Drilling automation package (Platinum)
- Data transfer USB/WLAN (excluding drill plan software)
- Drill plan management In the drilling control system GUI creating, copying and editing drill plans
- Boom automatic positioning According to the drill plan to the next hole
- Fan automation For up- and downholes

#### OPTIONS
- **OPTIONAL FEATURES AND PACKAGES**

#### Cleaning system
- Low pressure system with reel Up to 15 bar (TS2-343)
- High pressure system with reel Up to 220 bar (TS2-343)

#### Greasing systems
- Automatic system
- Manual system Specification 5-2110

#### Electric system
- *Voltage option* 1 000 V (50 or 60 Hz)
- Multivoltage Basic 380 - 440 / 690 V (50 or 60 Hz)
- Multivoltage Pro 380 - 440 / 690 / 1000 V (50 or 60 Hz)
- Dewatering pump outlet Site voltage 380 - 690 V (7.5 kW)
- Powerpack tramming Site voltage 1000 V (8 kW)
- Electric cables For transfers less than 25 m
- Earth continuity control For power cable (1-wire pilot circuit)
- Ground fault and overcurrent unit VYK (excluding CAN/USA)
- Indicator light for jacks up and down For front hydraulic jacks
- Power outlet on carrier
- **Amber flashing light**
- Battery jump start CAT

#### Air and water system
- *Air compressor* CT28 (2.8 m³/min, 18.5 kW)
- **Air mist flushing kit**
- **Compressed air outlet**
- **Air and water system**
- **Electric system**
- **Manual system**
- **Automatic system**

#### Fire suppression system
- **Fire suppression system**
- **Spare hand held fire extinguisher** 7.7 or 9 kg (type ABC)
- **Automatic system**
- **Manual or automatic system** Sandvik Eclipse™
- **Operator’s safety cabin / canopy** Ansul (6 nozzles)

#### Carrier
- **Spare rock drill** QSB4.5 (122 kW Tier 4F)
- **Spare wheel assembly** 4 pcs Wiggins (complete)
- **Fast filling and evacuation system** 2 sets
- **Wheel chocks and holders**

#### Extra items
- **Spare rock drill** RD9215 or RD927L
- **Spare wheel assembly** Standard or foam filled tires
- **Special tools for rock drill** Quick coupling for pneumatic tools
- **Documentation** Field kit or complete set
- **Package: Country specific options**
- **Package: High ambient temperature** Between 0°C and +40°C Above +40°C
- **Package: Very high ambient temperature**
- **Package: Low temperature**
- **Package: Extremely low temperature**
- **Package: High altitude**
- **Package: Harsh water supply**
- **Package: High ambient temperature**
- **Package: Very high ambient temperature**
- **Package: Low temperature**
- **Package: Extremely low temperature**
- **Package: High altitude**
- **Package: Harsh water supply**

*replaces standard feature*
TURNING RADIUS

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>C</th>
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<tbody>
<tr>
<td>SB120P boom</td>
<td>6 950</td>
<td>3 700</td>
</tr>
<tr>
<td>SB160P boom</td>
<td>7 000</td>
<td>3 800</td>
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</table>

MINIMUM PRODUCTION DRIFT SIZE*

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>W</th>
<th>Wp</th>
</tr>
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<tbody>
<tr>
<td>LFRC904</td>
<td>3 280</td>
<td>3 280</td>
<td>1 040</td>
</tr>
<tr>
<td>LFRC905</td>
<td>3 580</td>
<td>3 580</td>
<td>1 340</td>
</tr>
<tr>
<td>LFRC906</td>
<td>3 880</td>
<td>3 880</td>
<td>1 640</td>
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MAXIMUM PRODUCTION DRIFT SIZE**

<table>
<thead>
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<th></th>
<th>H</th>
<th>W</th>
<th>Wp</th>
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</thead>
<tbody>
<tr>
<td>LFRC904</td>
<td>4 670</td>
<td>4 670</td>
<td>2 500</td>
</tr>
<tr>
<td>LFRC905</td>
<td>4 970</td>
<td>4 970</td>
<td>2 800</td>
</tr>
<tr>
<td>LFRC906</td>
<td>5 280</td>
<td>5 280</td>
<td>3 100</td>
</tr>
</tbody>
</table>

** Rear stinger extended, front stinger retracted

All dimensions in mm

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4. DL432I TOP HAMMER - LONGHOLE DRILL