Sandvik DS311 is the most compact mechanized rock bolter on the market. Its unique rock bolting concept delivers the best ratio of rock bolt length to drift height.

Sandvik DS311 is a one-man-operated electro-hydraulic rock bolter for rock reinforcement in underground mines with small and medium cross sections. The operator works below supported ground while protected under a FOPS / ROPS certified cabin structure. Mechanization of the bolting process ensures efficient, constant and durable rock bolt integrity.

Built from proven and reliable components, Sandvik DS311 is designed for high availability. Its core is the reputable Hydrastar 200 rock drill, which enables a fast performance.

Versatility is also one of the rock bolter's key characteristics. Sandvik DS311 can install most common rock bolts ranging in length from 1.5 to 3 meters (5 to 10 feet).

---

**KEY FEATURES**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage area</td>
<td>6 180 x 2 100 mm</td>
</tr>
<tr>
<td>Hydraulic rock drill</td>
<td>1 x H200, 10 kW</td>
</tr>
<tr>
<td>Bolting head</td>
<td>1 x TUC, (5' to 10')</td>
</tr>
<tr>
<td>Boom</td>
<td>1 x B26XLB</td>
</tr>
<tr>
<td>Turning width (T-section)</td>
<td>4 510 mm (with TUC5)</td>
</tr>
<tr>
<td>Transport width</td>
<td>1 875 mm</td>
</tr>
<tr>
<td>Transport height (canopy)</td>
<td>2 140 mm / 3 100 mm</td>
</tr>
<tr>
<td>Transport height (cabin)</td>
<td>2 920 mm or 2 670 mm</td>
</tr>
<tr>
<td>Transport length</td>
<td>11 430 mm (with TUC5)</td>
</tr>
<tr>
<td>Total weight</td>
<td>15 000 - 18 000 kg (depending on options)</td>
</tr>
</tbody>
</table>
**HYDRAULIC ROCK DRILL**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of rock drill</td>
<td>H200 (TS2-234)</td>
</tr>
<tr>
<td>Percussion power</td>
<td>10 kW</td>
</tr>
<tr>
<td>Percussion pressure</td>
<td>Max. 200 bar</td>
</tr>
<tr>
<td>Percussion rate</td>
<td>40 - 65 Hz</td>
</tr>
<tr>
<td>Rotation speed</td>
<td>Max. 300 rpm</td>
</tr>
<tr>
<td>Rotation torque</td>
<td>Max. 420 Nm</td>
</tr>
<tr>
<td>Hole size</td>
<td>33 - 41 mm</td>
</tr>
<tr>
<td>Recommended rod</td>
<td>R32 - H25 - R25</td>
</tr>
<tr>
<td>Shank adapter</td>
<td>R32 (female)</td>
</tr>
<tr>
<td>Weight</td>
<td>95 kg</td>
</tr>
<tr>
<td>Inflating device for accumulator</td>
<td>Specification 2-9110</td>
</tr>
</tbody>
</table>

**BOOM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of boom</td>
<td>B26XLB (TS2-207)</td>
</tr>
<tr>
<td>Boom extension, net</td>
<td>1 700 mm</td>
</tr>
<tr>
<td>Boom weight, net</td>
<td>1 500 kg</td>
</tr>
<tr>
<td>Roll-over angle</td>
<td>360°</td>
</tr>
</tbody>
</table>

**HYDRAULIC SYSTEM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powerpack</td>
<td>HPP355 (55 kW)</td>
</tr>
<tr>
<td>Filtration size (pressure / return)</td>
<td>20 µ / 10 µ</td>
</tr>
<tr>
<td>Oil tank volume</td>
<td>180 liters</td>
</tr>
<tr>
<td>Oil tank filling pump</td>
<td>Manual</td>
</tr>
<tr>
<td>Cooler for hydraulic oil</td>
<td>OW30 oil-to-water (30 kW)</td>
</tr>
<tr>
<td>Tool set for hydraulic adjustment</td>
<td>Specification 2-9100</td>
</tr>
</tbody>
</table>

**ELECTRIC SYSTEM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard voltage</td>
<td>380 - 690 V (± 10%)</td>
</tr>
<tr>
<td>Total installed power</td>
<td>70 kW</td>
</tr>
<tr>
<td>Main switch gear</td>
<td>MSE 5</td>
</tr>
<tr>
<td>IP classification</td>
<td>Specification TS2-132</td>
</tr>
<tr>
<td>Starting method</td>
<td>Star delta 380 V - 575 V</td>
</tr>
<tr>
<td>Automatic cable reel</td>
<td>TCR1</td>
</tr>
<tr>
<td>Cable reel control</td>
<td>Operator station and remote control at rear of unit</td>
</tr>
<tr>
<td>Sealed AGM batteries</td>
<td>2 x 12 V, 95 Ah</td>
</tr>
<tr>
<td>Cable plug holder</td>
<td>On central rear hood</td>
</tr>
<tr>
<td>Front lights</td>
<td>4 x 50 W LED (4 200 lm, 6 000 K)</td>
</tr>
<tr>
<td>Rear lights</td>
<td>4 x 50 W LED (4 200 lm, 6 000 K)</td>
</tr>
<tr>
<td>Search light</td>
<td>Remoted with cabin: 1 x 40W LED (2 300 lm, 5 700 K) Manual with canopy: 1 x 17W LED (600 lm, 6 000K)</td>
</tr>
<tr>
<td>Rear brake / parking lights</td>
<td>2 x Red LED</td>
</tr>
</tbody>
</table>

**AIR AND WATER SYSTEM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flushing of holes</td>
<td>By water</td>
</tr>
<tr>
<td>Water booster pump type</td>
<td>WBP1 (4 kW)</td>
</tr>
<tr>
<td>Water pump capacity</td>
<td>33 l/min at 15 bar (input pressure = 4 bar)</td>
</tr>
<tr>
<td>Water pump inlet pressure</td>
<td>2 bar (Min.)</td>
</tr>
<tr>
<td>Flushing water pressure</td>
<td>10 - 15 bar</td>
</tr>
<tr>
<td>Shank lubrication device</td>
<td>SLU1 (air / oil mist)</td>
</tr>
<tr>
<td>Air compressor</td>
<td>CTN10, 1 m³/min (7 bar)</td>
</tr>
<tr>
<td>Oil consumption</td>
<td>100 g/h</td>
</tr>
<tr>
<td>Air consumption</td>
<td>250 l/min</td>
</tr>
</tbody>
</table>

**OPERATOR’S SAFETY CABIN**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard cabin</td>
<td>FOPS / ROPS (ISO 3449 / 3471)</td>
</tr>
<tr>
<td>Height</td>
<td>2 920 mm</td>
</tr>
<tr>
<td>High cabin ROPS</td>
<td>&lt; 21 000 kg</td>
</tr>
<tr>
<td>Operation</td>
<td>Standing drilling, seated tramming</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>According to EN 16228</td>
</tr>
<tr>
<td>Operator’s seat</td>
<td>Ergonomic T-back seat</td>
</tr>
<tr>
<td>Air conditioning</td>
<td>Cooling only</td>
</tr>
</tbody>
</table>

**BOLTING HEAD**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt length</td>
<td>mm TUC5: 1 525, TUC6: 1 830, TUC7: 2 135, TUC8: 2 440, TUC10: 3 050</td>
</tr>
<tr>
<td>Drill steel length</td>
<td>mm TUC5: 1 875, TUC6: 2 175, TUC7: 2 475, TUC8: 2 795, TUC10: 3 450</td>
</tr>
<tr>
<td>Hole depth</td>
<td>mm TUC5: 1 680, TUC6: 1 980, TUC7: 2 290, TUC8: 2 550, TUC10: 3 200</td>
</tr>
<tr>
<td>Total length (drilling)</td>
<td>mm TUC5: 2 640, TUC6: 2 960, TUC7: 3 310, TUC8: 3 670, TUC10: 4 240</td>
</tr>
<tr>
<td>Overall length</td>
<td>mm TUC5: 2 975, TUC6: 3 355, TUC7: 3 650, TUC8: 4 165, TUC10: 4 765</td>
</tr>
<tr>
<td>Operating height (min)</td>
<td>mm TUC5: 3 175, TUC6: 3 555, TUC7: 3 850, TUC8: 4 365, TUC10: 4 965</td>
</tr>
<tr>
<td>Bolt carousel capacity</td>
<td>10 to 15 rockbolts</td>
</tr>
<tr>
<td>Total weight</td>
<td>kg TUC5: 1 110, TUC6: 1 150, TUC7: 1 180, TUC8: 1 230, TUC10: 1 300</td>
</tr>
</tbody>
</table>

**DRILLING CONTROL SYSTEM**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of control system</td>
<td>THC560 (TS2-361)</td>
</tr>
<tr>
<td>Operating principle</td>
<td>Hydraulic control</td>
</tr>
<tr>
<td>Drilling anti-jamming</td>
<td>Automatic</td>
</tr>
<tr>
<td>Drilling percussion pressure</td>
<td>Reduced for collaring Full for drilling (adjustable)</td>
</tr>
<tr>
<td>Drilling feed thrust pressure</td>
<td>Adjustable at control panel</td>
</tr>
<tr>
<td>Drilling water flushing</td>
<td>Automatic with percussion start</td>
</tr>
<tr>
<td>Drilling water / air flushing</td>
<td>Manual selection</td>
</tr>
<tr>
<td>Bolting feed thrust pressure</td>
<td>Dedicated bolt system (split set)</td>
</tr>
<tr>
<td>Bolting rotation speed</td>
<td>Adjustable</td>
</tr>
<tr>
<td>Bolting tightening torque</td>
<td>Adjustable</td>
</tr>
<tr>
<td>MySandvik insight</td>
<td>Remote monitoring system</td>
</tr>
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**BOOM**

<table>
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<tr>
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<tr>
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<tbody>
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</tr>
<tr>
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<tr>
<td>Operation</td>
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</tr>
<tr>
<td>Sound pressure level</td>
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</tr>
<tr>
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<td>Ergonomic T-back seat</td>
</tr>
<tr>
<td>Air conditioning</td>
<td>Cooling only</td>
</tr>
</tbody>
</table>
## CARRIER

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of carrier</td>
<td>NC5</td>
</tr>
<tr>
<td>Steering system</td>
<td>Frame steering</td>
</tr>
<tr>
<td>Carrier articulation</td>
<td>± 38°</td>
</tr>
<tr>
<td>Rear axle oscillation</td>
<td>± 10°</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>320 mm</td>
</tr>
<tr>
<td>Diesel engine</td>
<td>BF4M2011 (EMR), 62 kW, Tier 2, Stage II</td>
</tr>
<tr>
<td>Exhaust catalyst</td>
<td>Standard</td>
</tr>
<tr>
<td>Transmission</td>
<td>Hydrostatic, automotive</td>
</tr>
<tr>
<td>Axles</td>
<td>Dana spicer 112 with extended differential breathers</td>
</tr>
<tr>
<td>Tires</td>
<td>12.00-20</td>
</tr>
<tr>
<td>Service brakes</td>
<td>Hydrostatic and positive braking</td>
</tr>
<tr>
<td>Parking and emergency brakes</td>
<td>Hydraulic oil immersed multiple disc brakes on both brakes</td>
</tr>
<tr>
<td>Tramming speed</td>
<td>12 km/h (horizontal) 5 km/h (14% = 1:7 = 8°)</td>
</tr>
<tr>
<td>Gradeability / sideways tilt</td>
<td>Max. 15° / 5° (according to EN 16228-2)</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>80 liters</td>
</tr>
<tr>
<td>Tramming oil tank</td>
<td>55 liters</td>
</tr>
<tr>
<td>Carrier stabilization</td>
<td>2 x Telescopic (front) 2 x Vertical (rear)</td>
</tr>
<tr>
<td>Bolt storage</td>
<td>Left side</td>
</tr>
<tr>
<td>Hand held fire extinguisher</td>
<td>1 x 6 kg (type ABC)</td>
</tr>
<tr>
<td>Tramming alarm</td>
<td>Standard</td>
</tr>
<tr>
<td>Documentation</td>
<td>2 x Operator’s manual 2 x Maintenance manual 2 x Technical manual (in English only) 2 x Parts manual (in English only) 2 x CD of manuals (PDF files)</td>
</tr>
</tbody>
</table>

### OPTIONAL FEATURES AND PACKAGES

#### Hydraulic rock drill

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of boom</td>
<td>B26B boom instead of B26XLB</td>
</tr>
</tbody>
</table>

#### Bolting option

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;In the hole&quot; resin cartridges injection</td>
<td>GCR, GCC, WI, S, M for GCR bolting system (TS2-290)</td>
</tr>
<tr>
<td>H200 rock drill</td>
<td>For S bolting system</td>
</tr>
<tr>
<td>Two bolt lengths carousel</td>
<td>For TUC10 and TUCR</td>
</tr>
<tr>
<td>Screen handler</td>
<td>On the main boom (TS2-355) with hooks for mesh on carrier side</td>
</tr>
</tbody>
</table>

#### Hydraulic system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil tank filling pump</td>
<td>Electric</td>
</tr>
</tbody>
</table>

#### Drilling control system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access detector system</td>
<td>Mandatory in Europe (TS2-211)</td>
</tr>
<tr>
<td>Access protector system</td>
<td>Mandatory in Canada (TS2-211)</td>
</tr>
<tr>
<td>MySandik productivity</td>
<td>Remote monitoring system</td>
</tr>
</tbody>
</table>

#### Electric system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional voltage</td>
<td>1 000 V (50 or 60 Hz) with DOL starter Star delta 600 V - 690 V</td>
</tr>
<tr>
<td>Starting method</td>
<td>Specification TS2-121</td>
</tr>
<tr>
<td>Electric cables</td>
<td>VYK (N/A USC package)</td>
</tr>
<tr>
<td>Ground fault and overcurrent protection</td>
<td>Optional</td>
</tr>
<tr>
<td>Auxiliary outlet</td>
<td>1 x 110 V or 1 x 230 V, 16 A</td>
</tr>
<tr>
<td>Battery jump start</td>
<td>Max. 8 kW, 380 / 690 / 1 000 V</td>
</tr>
<tr>
<td>Dewatering pump outlet readiness</td>
<td>N/A USC package</td>
</tr>
<tr>
<td>Amber flashing light</td>
<td>LED (24 V)</td>
</tr>
</tbody>
</table>

### Air and water system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air mist flushing kit</td>
<td>Specification TS2-285 CTN16, 1.6 m³/min (7 bar) CT28, 2.8 m³/min (7 bar)</td>
</tr>
<tr>
<td>Water hose reel with water hose</td>
<td>THR with 32 mm (1 ¼&quot;), 80 meters</td>
</tr>
<tr>
<td>Water hose with hooks</td>
<td>32 mm (1/4&quot;), 80 meters</td>
</tr>
</tbody>
</table>

### Cleaning system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP system with reel</td>
<td>Up to 15 bar (TS2-343)</td>
</tr>
<tr>
<td>HP system with reel</td>
<td>Up to 180 bar (TS2-343)</td>
</tr>
</tbody>
</table>

### Greasing systems

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized greasing points</td>
<td>Specification S-2110</td>
</tr>
<tr>
<td>Manual system</td>
<td>Greasing gun and cartridge with hose reel (TS2-322)</td>
</tr>
<tr>
<td>Automatic system</td>
<td>Carrier</td>
</tr>
</tbody>
</table>

### Operator’s safety cabin / canopy

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety canopy</td>
<td>FOPS / ROPS (ISO 3449)</td>
</tr>
<tr>
<td>Low cabin</td>
<td>ROPS &lt; 15 700 kg</td>
</tr>
<tr>
<td>Manual system</td>
<td>FOPS / ROPS certification</td>
</tr>
<tr>
<td>System</td>
<td>21 500 kg Height 2 670 mm,</td>
</tr>
<tr>
<td>Cabin heating</td>
<td>During drilling and tramming</td>
</tr>
<tr>
<td>Cabin audio system</td>
<td>CD player / radio / MP3 and loudspeakers</td>
</tr>
<tr>
<td>Safety grill</td>
<td>For canopy or cabin</td>
</tr>
</tbody>
</table>

### Fire suppression system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spare hand held fire extinguisher</td>
<td>1 x 6 kg Type ABC</td>
</tr>
<tr>
<td>Manual or automatic system</td>
<td>Ansal, dry powder (6 nozzles)</td>
</tr>
<tr>
<td>System</td>
<td>Ansal, twin agent (12 nozzles)</td>
</tr>
<tr>
<td>Auto. fire suppression system</td>
<td>Sandvik Eclipse™</td>
</tr>
</tbody>
</table>

### Carrier

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel engine</td>
<td>TCD2012, 74 kW, Tier 3, Stage IIIA</td>
</tr>
<tr>
<td>Foam filled tires</td>
<td>H200</td>
</tr>
<tr>
<td>Fast filling system</td>
<td>Complete</td>
</tr>
<tr>
<td>Brake release</td>
<td>Manual hand pump</td>
</tr>
<tr>
<td>Wheel chocks and holders</td>
<td>2 Sets</td>
</tr>
</tbody>
</table>

### Extra Items

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berg plug and socket</td>
<td>250 A</td>
</tr>
<tr>
<td>Automatic brake application</td>
<td>ABA brake</td>
</tr>
<tr>
<td>Spare rock drill</td>
<td>H200</td>
</tr>
<tr>
<td>Spare wheel assembly</td>
<td>Air or foam-filled</td>
</tr>
<tr>
<td>Special tools for rock drill</td>
<td>H200</td>
</tr>
<tr>
<td>Warranty extension</td>
<td>One year (excl. Kazakhstan)</td>
</tr>
<tr>
<td>Documentation</td>
<td>Extra paper or PDF manuals</td>
</tr>
<tr>
<td>Package: Country specific options</td>
<td>LAM, USC, AUS, CE</td>
</tr>
<tr>
<td>*Package: Arctic</td>
<td>N/A 1 000 VAC and USC package Specification TS2-195</td>
</tr>
<tr>
<td>*Package: Harsh water</td>
<td>Basic or advanced (TS2-049)</td>
</tr>
</tbody>
</table>

### Warranty extension

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>One year (excl. Kazakhstan)</td>
</tr>
<tr>
<td>Definitions</td>
<td>N/A 1 000 VAC and USC package Specification TS2-195</td>
</tr>
</tbody>
</table>

### Documentation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package: Country specific options</td>
<td>N/A 1 000 VAC and USC package Specification TS2-195</td>
</tr>
<tr>
<td>*Package: Arctic</td>
<td>N/A 1 000 VAC and USC package Specification TS2-195</td>
</tr>
<tr>
<td>*Package: Harsh water</td>
<td>Basic or advanced (TS2-049)</td>
</tr>
</tbody>
</table>

### Electrical system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional voltage</td>
<td>1 000 V (50 or 60 Hz) with DOL starter Star delta 600 V - 690 V</td>
</tr>
<tr>
<td>Starting method</td>
<td>Specification TS2-121</td>
</tr>
<tr>
<td>Electric cables</td>
<td>VYK (N/A USC package)</td>
</tr>
<tr>
<td>Ground fault and overcurrent protection</td>
<td>Optional</td>
</tr>
<tr>
<td>Auxiliary outlet</td>
<td>1 x 110 V or 1 x 230 V, 16 A</td>
</tr>
<tr>
<td>Battery jump start</td>
<td>Max. 8 kW, 380 / 690 / 1 000 V</td>
</tr>
<tr>
<td>Dewatering pump outlet readiness</td>
<td>N/A USC package</td>
</tr>
<tr>
<td>Amber flashing light</td>
<td>LED (24 V)</td>
</tr>
</tbody>
</table>
4. SANDVIK DS311 - ROCK SUPPORT BOLTER

Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.