Sandvik DS311DE is a one-man-operated electro-hydraulic rock bolter for rock reinforcement in underground mines with small and medium cross sections. The operator works under supported ground, 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 DS311DE 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 DS311DE can install most common rock bolts ranging in length from 1.5 to 3 meters (5 to 10 feet).

Sandvik DS311DE drills is powered by diesel engine with low emissions (Tier 3 or Tier 4F in option)

This version of Sandvik DS311DE drills from diesel and electric power makes it the ultimate versatile rock bolter. Sandvik DS311DE can be used for both rehabilitation and rock reinforcement in production areas. The standard unit requires a water supply from the mine network, however a water tank option enables the rock bolter to operate independently.

### 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>2 020 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>11 530 mm (with TUC5)</td>
</tr>
<tr>
<td>Total weight</td>
<td>16 000 - 18 000 kg depending on options</td>
</tr>
</tbody>
</table>
HYDRAULIC ROCK DRILL

**Type of rock drill**
H200 (TS2-234)

**Percussion power**
10 kW

**Percussion pressure**
Max. 200 bar

**Percussion rate**
40 - 65 Hz

**Rotation speed**
Max. 300 rpm

**Rotation torque**
Max. 420 Nm

**Hole size**
33 - 41 mm

**Recommended rod**
R32 - H25 - R25

**Shank adapter**
R32 (female)

**Weight**
95 kg

**Filling device for accumulators**
Specification TS2-430

BOOM

**Type of boom**
B26XLB (TS2-207)

**Boom extension**
1 700 mm

**Boom weight, net**
1 500 kg

**Roll-over angle**
360°

HYDRAULIC SYSTEM

**Powerpack**
HPP375 (75 kW) or Diesel engine (95 kW)

**Filtration size (pressure / return)**
20 µ / 10 µ

**Oil tank volume**
330 liters

**Oil tank filling pump**
Electric

**Cooler for hydraulic oil**
OA30 oil-to-air (30 kW)

**Set of tools**
Specification TS2-429

BOLTING HEAD

**TUC5**

<table>
<thead>
<tr>
<th>Bolt length (mm)</th>
<th>1 525</th>
<th>1 830</th>
<th>2 135</th>
<th>2 440</th>
<th>3 050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill steel length (mm)</td>
<td>1 870</td>
<td>2 175</td>
<td>2 475</td>
<td>2 795</td>
<td>3 450</td>
</tr>
<tr>
<td>Hole depth (mm)</td>
<td>1 680</td>
<td>1 980</td>
<td>2 290</td>
<td>2 550</td>
<td>3 200</td>
</tr>
<tr>
<td>Total length (drilling) (mm)</td>
<td>2 640</td>
<td>2 950</td>
<td>3 310</td>
<td>3 670</td>
<td>4 240</td>
</tr>
<tr>
<td>Overall length (mm)</td>
<td>2 975</td>
<td>3 355</td>
<td>3 650</td>
<td>4 165</td>
<td>4 765</td>
</tr>
<tr>
<td>Operating height (Min.) (mm)</td>
<td>3 175</td>
<td>3 555</td>
<td>3 850</td>
<td>4 365</td>
<td>4 965</td>
</tr>
<tr>
<td>Bolt carousel capacity</td>
<td>10 to 15 rockbolts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight (kg)</td>
<td>1 110</td>
<td>1 150</td>
<td>1 180</td>
<td>1 230</td>
<td>1 300</td>
</tr>
</tbody>
</table>

**TUC6**

**TUC7**

**TUC8**

**TUC10**

**HYDRAULIC ROCK DRILL**

**Type of rock drill**
H200 (TS2-234)

**Percussion power**
10 kW

**Percussion pressure**
Max. 200 bar

**Percussion rate**
40 - 65 Hz

**Rotation speed**
Max. 300 rpm

**Rotation torque**
Max. 420 Nm

**Hole size**
33 - 41 mm

**Recommended rod**
R32 - H25 - R25

**Shank adapter**
R32 (female)

**Weight**
95 kg

**Filling device for accumulators**
Specification TS2-430

ELECTRIC SYSTEM

**Standard voltage**
380 - 690 V (± 10%)

**Total installed power**
80 kW

**Main switch gear**
MSE 5

**IP classification**
Specification TS2-132

**Starting method**
Star delta 380 V - 575 V
DOL 600 - 690 V

**Automatic cable reel**
TCR1

**Cable reel control**
Operator station and remote control at rear of unit

**Sealed AGM batteries**
2 x 12 V, 95 Ah

**Cable plug holder**
On central rear hood

**Front lights**
(combined working and driving)
4 x 50 W LED (4 200 lm, 6 000 K)

**Rear lights**
(combined working and driving)
4 x 50 W LED (4 200 lm, 6 000 K)

**Search light**
Remoted with cabin:
1 x 40W LED (2 300 lm, 5 700 K)
Manual with canopy:
1 x 17W LED (600 lm, 6 000K)

**Rear brake / parking lights**
2 x Red LED

AIR AND WATER SYSTEM

**Flushing of holes**
By water

**Water booster pump type**
WBP1 hydraulic driven

**Water pump capacity**
33 l/min at 15 bar
(input pressure = 4 bar)

**Water pump inlet pressure**
2 bar (Min.)

**Flushing water pressure**
10 - 15 bar

**Shank lubrication device**
SLU1 (Air / oil mist)

**Air compressor**
CTN10H hydraulic driven
1 m³/min (7 bar)

**Oil consumption**
100 g/h

**Air consumption**
250 l/min

OPERATOR’S SAFETY CABIN

**Standard cabin**
FOPS / ROPS (ISO 3449 / 3471)
Height 2 920 mm

**Operation**
Standing drilling, seated tramming

**Sound pressure level according to EN 16 228**
Operator station: 80 dB(A)

**Operator’s seat**
Ergonomic T-back seat

**Air conditioning**
Cooling only

**Tramming cameras**
On rear frame and cabin or canopy

CONTROL SYSTEM

**Type of control system**
THC560 (TS2-361)

**Operating principle**
Hydraulic control

**Drilling anti-jamming**
Automatic

**Drilling rotation speed**
Adjustable at control panel

**Drilling feed thrust pressure**
Adjustable at control panel

**Drilling percussion pressure**
Reduced for collaring
Full for drilling (adjustable)

**Drilling water flushing**
Automatic with percussion start

**Drilling water / air flushing**
Manual selection

**Bolting feed thrust pressure**
Dedicated bolt system (split set)

**Bolting rotation speed**
Adjustable

**Bolting tightening torque**
Adjustable

**MySandvik insight**
Remote monitoring system

2. SANDVIK DS311DE - ROCK SUPPORT BOLTER
### CARRIER

<table>
<thead>
<tr>
<th>Type of carrier</th>
<th>NC5-17</th>
</tr>
</thead>
<tbody>
<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>Deutz TCD2012, 95 kW, Tier 3, Stage IIa, China 3</td>
</tr>
<tr>
<td>Exhaust catalyst</td>
<td>Standard</td>
</tr>
<tr>
<td>Transmission</td>
<td>Hydrostatic, automatic</td>
</tr>
<tr>
<td>Axles</td>
<td>Dana Spicer 123 (front and rear) with extended differential breathers</td>
</tr>
<tr>
<td>Tires</td>
<td>12.00-20 foam filled tires</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>160 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 Technical and maintenance manual 2 x Parts manual (in English only) 2 x CD of manuals (PDF files)</td>
</tr>
</tbody>
</table>

### OPTIONAL FEATURES AND PACKAGES

#### Cleaning system
- HP system with reel
  - Up to 180 bar (TS2-343)

#### Greasing systems
- Centralized greasing points
  - Specification TS2-463
- Manual system
  - Greasing gun and cartridge with hose reel (TS2-463)
- Automatic system
  - Carrier (TS2-463)

#### Air and water system
- Air mist flushing kit
  - Specification TS2-285
  - *Air compressor CTN16H, 1.6 m³/min
  - Water hose with hooks
  - 32 mm (1⅛”), 80 meters

#### Operator’s safety cabin / canopy
- *Safety canopy FOPS (ISO 3449)
- *Low cabin FOPS / ROPS certification
- Height 2.670 mm
- *Cabin heating During drilling and tramming
- Cabin audio system
  - CD player / radio / MP3 / Bluetooth
  - And loudspeakers
- Safety grill
  - For canopy or cabin

#### Fire suppression system
- Additional fire extinguisher
  - 1 x 6 kg Type ABC
- *Auto. fire suppression system Sandvik Eclipse™ (TS2-461)

#### Hydraulics
- *RHR50 rotary drill
  - Instead of H200 (drilling line)
- Boom
  - *Type of boom B26B boom instead of B26XLB
- Bolting head
  - *Type of bolting head SBH instead of TUC (TS2-208)

#### Bolting option
- *Bolting alternatives GCR, GCC, WI, S, M
  - For GCR bolting system
- *H200 rock drill i/o HH200
  - For S bolting system
- Two bolt lengths carousel
  - For bolting head 10' and 8'
- Screen handler
  - On the main boom (TS2-355) with hooks for mesh on carrier side
- Bolting head oiler
  - For BC and BCS system (TS2-291)

#### Drill control system
- Access detector system
  - Mandatory in Europe (TS2-211)
- Access protector system
  - Mandatory in Canada (TS2-211)
- Drilling safety
  - Boom movements isolation switch
- MySandvik productivity
  - Remote monitoring system

#### Electric system
- *Optional voltage Multivoltage (380 - 1 000 V)
  - at 50 or 60Hz (fuel tank 120 liters)
- *Electric cable
  - Specification TS2-121
- Ground fault and overcurrent protection
  - VYK
- Dewatering pump outlet
  - 8 kW (site voltage 380 - 1 000 V)
- Battery jump start
  - Optional
- Amber flashing light
  - LED (24 V)

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### Extra Items

- Spare rock drill H200
- Spare wheel assembly Foam-filled
- Special tools for rock drill H200
- Warranty extension One year (excl. CIS)
- Documentation Extra paper or PDF manuals
- Package: Country specific options LAM, USC, AUS, CE package
- Package: Harsh water packages Basic or advanced (TS2-049)

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*) Replaces standard feature