**DU311-T UNDERGROUND ITH DRILL**

**TECHNICAL SPECIFICATION**

Sandvik DU311-T is a track mounted In-The-Hole drill designed to drill with ITH hammers powered with high air pressure.

Sandvik DU311-T can be used to drill from 3.5 in (89 mm) to 8.5 in (216 mm) diameter holes. Most applications allow the machine to drill to a depth greater than 330 ft (100 m). With additional air supply it can also be used for reaming up to 17.5 in (445 mm) diameter holes with a 12 in hammer for rapid raising.

**KEY FEATURES**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top drive</td>
<td>6230</td>
</tr>
<tr>
<td>Positioning system</td>
<td>4 ft - 6 ft</td>
</tr>
<tr>
<td>Control system</td>
<td>ERIS panel - CanBus</td>
</tr>
<tr>
<td>Minimum drift size (H x W)</td>
<td>3 050 x 3 050 mm (120 x 120 in)</td>
</tr>
<tr>
<td>Turning radius</td>
<td>2 540 mm (100&quot;)</td>
</tr>
<tr>
<td>Transport height</td>
<td>2 939 mm (116&quot;)</td>
</tr>
<tr>
<td>Transport width</td>
<td>1 830 mm (72&quot;)</td>
</tr>
<tr>
<td>Transport length</td>
<td>4 997 mm (197&quot;)</td>
</tr>
<tr>
<td>Total weight</td>
<td>12 700 kg (28 000 lbs)</td>
</tr>
</tbody>
</table>
### TOP DRIVE
- **Top drive**
  - 6230
- **Max. working pressure**
  - 207 bar (3,000 psi)
- **Max. torque**
  - 5730 Nm (4,225 lb.ft)
- **Rotation speed**
  - 0 - 60 rpm
- **Patented splined piston breakout system**

### POSITONING SYSTEM
- **Single slide over**
  - 762 mm (30”)
- **Feed extension**
  - 1.8 m (6 ft) drill pipe: 1370 mm (54”)
  - 1.5 m (5 ft) drill pipe: 1143 mm (45”)
  - 1.2 m (4 ft) drill pipe: 914 mm (36”)
- **Roll over angle**
  - 360°
- **Stinger extension - top**
  - 1,830 mm (6 ft)
- **Stinger extension - bottom**
  - 610 mm (2 ft)

### MAST
- **Mast**
  - Standard mast, fixed centralizer
- **Feed force**
  - 70 kN (15,800 lbs)
- **Max. opening**
  - 222 mm (8.75”)

### HYDRAULIC SYSTEM
- **Power pack**
  - 1 x 37 kW (50 hp)
- **Type of pump**
  - 1 x 100 cc variable displacement axial piston pump (6.1 cu.in./rec)
- **Filtration (pressure / return)**
  - 5µ / 10µ
- **Oil tank volume**
  - 265 liters (70 US gal)
- **Tank filling pump**
  - Electric
- **Oil cooling**
  - Shell and tube cooler

### CONTROL SYSTEM
- **Type of control system**
  - Direct hydraulics
- **Controls**
  - Swing arm mounted

### ELECTRICAL SYSTEM
- **Total input power**
  - 37 kW (50 hp)
- **Standard voltages**
  - 600 V
- **Standard frequency**
  - 60 Hz
- **Lights - working**
  - 2x 43 W LED
- **Lights - driving lights**
  - 2x 43 W LED
- **Starter**
  - Delta wye
- **Safety shut-downs**
  - Low mine water pressure
  - Low hydraulic oil Level
  - High hydraulic oil temperature
- **Safety feature**
  - Tram active strobe
  - Tramming alarm
  - Phase loss / phase reversal protection
  - Motor overload protection
  - Voltmeter and ammeter
  - Indicator lights
  - Zener diode

### HAMMER LUBRICATION SYSTEM
- **Grease / oil injection**
  - For hammer lubrication
- **Metering capacity**
  - 4 l/hr (1 US gal/hr)
- **Tank size**
  - 30 liters (8.5 US gal)

### WATER INJECTION SYSTEM
- **Type of water pump**
  - Triplex piston pump
- **Capacity**
  - 27 l/min, 48 bar
  - (7 gal/min, 700 psi)
### CARRIER

<table>
<thead>
<tr>
<th>Specification</th>
<th>DU211-T standard (tracked)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of carrier</td>
<td></td>
</tr>
<tr>
<td>Ground clearance</td>
<td>180 mm (7&quot;)</td>
</tr>
<tr>
<td>Tracks</td>
<td>Triple grouser, sealed and lubricated</td>
</tr>
<tr>
<td>Parking / emergency brakes</td>
<td>SAHR type, fail safe wet disc brakes</td>
</tr>
<tr>
<td>Tramming speed</td>
<td>High gear 2.2 km/h (1.4 mph)</td>
</tr>
<tr>
<td></td>
<td>Low gear 1.2 km/h (0.8 mph)</td>
</tr>
<tr>
<td>Gradeability</td>
<td>35% (20&quot;)</td>
</tr>
<tr>
<td>Carrier stabilizations</td>
<td>2 x Vertical (front)</td>
</tr>
<tr>
<td></td>
<td>2 x Vertical (rear)</td>
</tr>
<tr>
<td>Centralized greasing points</td>
<td>Standard</td>
</tr>
<tr>
<td>Documentation</td>
<td>3 x Operator’s manual</td>
</tr>
<tr>
<td></td>
<td>3 x Maintenance manual</td>
</tr>
<tr>
<td></td>
<td>3 x Parts manual (in English only)</td>
</tr>
<tr>
<td></td>
<td>1 x CD of manuals (PDF files)</td>
</tr>
</tbody>
</table>

### OPTIONAL ITEMS

**Mast**
- Standard mast (Fixed or split centralizer)
  - 70 kN (15800 lbs), 222 mm (8.75")
  - Drill pipe lengths 4 / 5 / 6 ft
- Heavy mast (split centralizer)
  - 133 kN (30 000 lbs), 222 mm (8.75")
  - Drill pipe lengths 4 / 5 / 6 ft
- Conversion kit to change one pipe size
  - With carousel
  - Without carousel

**Carousel**
- No carousel
- Removal
- 16 + 1 for Ø3” to 4” (76 to 102 mm)
- 32 + 1 for Ø3” to 5” (76 to 127 mm)
- 16 + 1 for Ø3” to 5” (76 to 127 mm)

**Pipe handling**
- Pipe arm
  - Single axis to assist manual pipe handling

**Positioning systems options**
- 50 / 50 Stingers
  - Upward drilling
  - Top
  - 1 219 mm (4 ft)
  - Bottom
  - 1 219 mm (4 ft)

**Reverse circulation option**
- Discharge diameter
  - 76 mm (3")
- Max. ID of center tube
  - 64 mm (2.5")
- 6230-RC top drive
  - RC swivel

**Control system**
- Additional control system
  - Secondary ERIS panel
- Angle indicator with laser alignment
- Portable
- Alignment laser
  - Permanent
- Camera and monitor package
  - For drilling

**Electric system**
- Optional voltage
  - 1 000 V
- Optional frequency
  - 50 Hz (not needed for 1 000 V)
- Cable reel indicator for low level
  - With automatic cable limit stop
  - For hammer lubricant

**Fire suppression system**
- Automatic system
  - Ansul, (6 nozzles)
- Manual system
  - Ansul, (6 nozzles)

**Carrier**
- On-board pressure washer
  - To open hammer mounts on feed
- Petol chain wrench
- Remote thread lubrication
- Diesel engine
- Fast filling and evacuation system
- Greasing manual system
- Greasing unit with pump, reel and nozzle (5-2110)
- Wash wand
  - Without hose reel
- Hitch for towing booster
  - Complete

**Extra items**
- Special tools for top drive
  - Field kit
- Documentation*
  - Extra paper
  - Wassara water hammer
  - Reverse circulation

*Package: replaces standard feature
MAIN DIMENSIONS DEPENDING CONFIGURATION

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>F</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>DU311-T (6ft rods)</td>
<td>5 989</td>
<td>4 402</td>
<td>3 759</td>
<td>3 607</td>
</tr>
<tr>
<td>DU311-T (5ft rods)</td>
<td>5 532</td>
<td>4 173</td>
<td>3 404</td>
<td>3 251</td>
</tr>
<tr>
<td>DU311-T (4ft rods)</td>
<td>5 075</td>
<td>3 945</td>
<td>3 048</td>
<td>2 896</td>
</tr>
</tbody>
</table>

All dimensions in mm

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