



DD311DE DEVELOPMENT DRILL

TECHNICAL SPECIFICATION

The Sandvik DD311DE is a single-boom electro-hydraulic jumbo with the ability to drill on both diesel and electric power, designed for fast and accurate drilling within drifting and tunneling of 40 m² cross-sections.

The hydraulic controls enable drilling performance of the highest accuracy, ensuring maximum performance vs. customer requirements.

Our new Sandvik RDX5 rock drill now replaces the previous HLX5 model, capitalizing on the existing reliability and efficiency of its predecessor – whilst further improving/lowering operating costs alongside an extended service interval.

The robust SB40 Boom ensures that optimal coverage is achieved, with drilling performance also being improved via optional instrumentation.

The DD311DE is the last born of Sandvik medium size single boom Diesel Electric jumbos, comprising none of the previous unit's quality, whilst offering a number of improvements including (but not limited to) easier maintenance etc.

KEY FEATURES

| | |
|---------------------------|--|
| Coverage area | 40 m ² (5.8 x 7.2 m) |
| Hydraulic rock drill | 1 x RDX5, 20 kW |
| Drilling feed | 1 x TF512, 12 - 16 ft |
| Boom | 1 x SB40 |
| Hole length | Up to 4 660 mm |
| Drift size class (H x W) | 3 000 x 3 000 mm |
| Turning width (T-section) | 3 550 mm (TFX6/12) |
| Transport width | 2 020 mm |
| Transport height (canopy) | 2 140 mm / 3 100 mm |
| Transport height (cabin) | 2 920 mm or 2 670 mm |
| Transport length | 12 520 mm |
| Total weight | 15 000 - 18 000 kg depending on options |



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HYDRAULIC ROCK DRILL

| | |
|----------------------------------|--|
| Type of rock drill | RDX5 (TS2-433) |
| Percussion power | 20 kW |
| Percussion pressure | Max. 160 bar (factory setting) |
| Percussion rate | 67 Hz |
| Rotation speed | Max. 250 rpm (with OMS80) |
| Rotation torque | 400 Nm (with OMS80) |
| Hole size diameter(drifting) | 43 - 64 mm |
| Hole size diameter (cut hole) | 76 - 127 mm |
| Recommended rod | T38 - Hex 35 - R32 T38 - Hex 35 - Alpha 340 T38 - Hex 35 - R35 |
| Shank adapter (male) | T38 |
| Weight | 210 kg |
| Length | 955 mm |
| Profile height | 87 mm |
| Inflating device for accumulator | Specification TS2-430 |

FEED

| Type of feed | TF500-12' Standard | TF500-14' Optional | TF500-16' Optional | TFX6/12 Optional | TFX8/14 Optional |
|--------------|-----------------------|-----------------------|-----------------------|---------------------|---------------------|
| Feed force | Max. 25 kN | Max. 25 kN | Max. 25 kN | Max. 25 kN | Max. 25 kN |
| Total length | 5 270 mm | 5 880 mm | 6 490 mm | 3 560 / 5 390 mm | 4 170 / 6 000 mm |
| Hole length | 3 440 mm | 4 050 mm | 4 660 mm | 1 610 / 3 440 mm | 2 220 / 4 050 mm |
| Rod length | 3 700 mm | 4 305 mm | 4 915 mm | 1 830 / 3 700 mm | 2 480 / 4 305 mm |
| Net weight | 500 kg | 530 kg | 560 kg | 640 kg | 680 kg |

BOOM

| | |
|-------------------|---------------------|
| Type of boom | SB40 (TS2-231) |
| Parallel coverage | 44.5 m ² |
| Parallelism | Automatic hydraulic |
| Boom extension | 1 050 mm |
| Feed extension | 1 350 mm |
| Boom weight, net | 2 100 kg |
| Roll-over angle | 358° |

HYDRAULIC SYSTEM

| | |
|--------------------------------|---|
| Powerpack | HPP575 (1 x 75 kW) IE3 electric motor or Diesel engine (100 kW) |
| Filtration (pressure / return) | 20 µ / 10 µ Quick couplers for kidney filtration |
| Oil tank volume | 330 liters |
| Oil tank filling pump | Electric |
| Cooler for hydraulic oil | OA30 oil-to-air (30 kW) |

DRILLING CONTROL SYSTEM

| | |
|------------------------|---|
| Type of control system | THC561 (TS2-362) |
| Operating principle | Hydraulic control |
| Manual boom control | Direct control Fully proportional Hydraulic parallelism |
| Drilling control | Manual collaring Feed / percussion pressure control Feed / percussion pressure monitoring Anti-jamming system Flushing control (On /Off/Auto.) Reaming control |
| Automatic cycle | Stop and return automatics |
| TFX adjustment | Electric |
| Drilling safety | Boom movements inhibition switches |

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 machine |
| Sealed AGM batteries | 2 x 12 V, 95 Ah |
| Cable plug holder | On central rear hood |
| Front working lights (combined working and driving) | 4 x 50 W LED (4 200 lm, 6 000 K) |
| Rear working lights (combined working and driving) | 4 x 50 W LED (4 200 lm, 6 000 K) |
| Parking rear brake / park lights | 2 x Red LED |

AIR AND WATER SYSTEM

| | |
|----------------------------|--|
| Flushing of holes | By water |
| Water booster pump | 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 | SLU-1 (air / oil mist) |
| Air compressor | 1 m ³ /min at 7 bar (hydraulic driven) |
| Rock drill oil consumption | 180 - 250 g/h |
| Rock drill air consumption | 250 - 350 l/min |

OPERATOR'S SAFETY CABIN

| | |
|--|--|
| Cabin certification | FOPS / ROPS (ISO 3449 / 3471) Height 2 920 mm |
| Operation | Standing drilling, seated tramming |
| Sound pressure level according to EN 16228 | 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 |

CARRIER

| | |
|------------------------------|---|
| Type of carrier | NC5-17 |
| Steering system | Frame steering |
| Carrier articulation | Up to $\pm 38^\circ$ |
| Rear axle oscillation | $\pm 10^\circ$ |
| Ground clearance | 320 mm |
| Diesel engine | Deutz TCD2012 , 100 kW, Tier 3, Stage IIIA, China 3 |
| Exhaust catalyzer | Standard |
| Transmission | Hydrostatic, automotive |
| Axles | Dana Spicer 123 (front and rear) with extended differential breathers |
| Tires | 12.00-20 foam filled tires |
| Service brakes | Hydrostatic and positive braking |
| Parking and emergency brakes | SAHR fail safe type wet disc brakes |
| Tramming speed | 12 km/h (horizontal) 5 km/h (14% \approx 1:7=8 $^\circ$) |
| Gradeability / sideways tilt | Max. 15 $^\circ$ / 5 $^\circ$ (according to ISO 18758) |
| Fuel tank | 160 liters 120 liters with multivoltage option |
| Tramming oil tank | 55 liters |
| Carrier stabilization | Telescopic (front) Vertical (rear) |
| Tramming alarm | Standard |
| Knowledge Box™ | Connectivity solution (TS2-535) My Sandvik insight readiness (TS2-390) |
| Documentation | 1 x Operator's manual 1 x Technical manual (in English only) 1 x Parts manual (in English only) 2 x USB key of manuals (PDF files) 1 x Online Parts manuals (MySandvik) |

OPTIONAL FEATURES AND PACKAGES

Drilling feed

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|------------------|---|
| *Feed length | 14', 16' |
| *Telescopic feed | TFX6/12, TFX8/14 |
| Rod retainer | TRR1 incl. safety wire, adds 35 mm length of the feed |

Boom

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|------------------------|----------------------------------|
| *Type of boom | SB40NV instead of SB40 (TS2-257) |
| Boom suspension system | Specification TS15-232 |

Drilling control system

| | |
|-------------------------|--|
| Instrumentation | TCAD+ with iSURE I (Option iSure II, III, IV) |
| Access detector system | Mandatory in Europe (TS2-211) |
| Access protector system | Mandatory in Canada (TS2-211) |

Electric system

| | |
|---|---|
| *Optional voltage | Multivoltage (380 - 1000 V), at 50 or 60Hz (fuel tank 120 liters) |
| *Electric cable | Specification TS2-121 |
| Ground fault and overcurrent protection | VYK (N/A USC package) with pilot cord (optional) |
| Dewatering pump outlet | 8 kW (site voltage 380 - 690 V) |
| Battery jump start | Optional |
| Amber flashing light | LED (24 V) |

OPTIONAL FEATURES AND PACKAGES

Air and water system

| | |
|---------------------------|----------------------------------|
| Air mist flushing | Specification TS2-285 |
| *End of hole air flushing | 2 x 60 liters air receivers |
| *Air compressor | 1.6 m ³ /min at 7 bar |
| Water hose with hooks | 32 mm (1 1/4"), 80 meters |

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 and boom (TS2-463) |

Operator's safety cabin / canopy

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|--------------------|--|
| *Safety canopy | |
| *Low cabin | FOPS (ISO 3449) FOPS / ROPS certification |
| Cabin heating | Height 2 670 mm, |
| Cabin audio system | During drilling and tramming Radio / MP3 / Bluetooth and loudspeakers |
| Safety grill | For cabin or canopy |

Fire suppression system

| | |
|-------------------------------|----------------------------|
| Hand held fire extinguisher | 1 x 6 kg Type ABC |
| Manual or automatic system | Ansul, 6 nozzles (TS2-460) |
| Auto. fire suppression system | Sandvik Eclipse™ (TS2-461) |

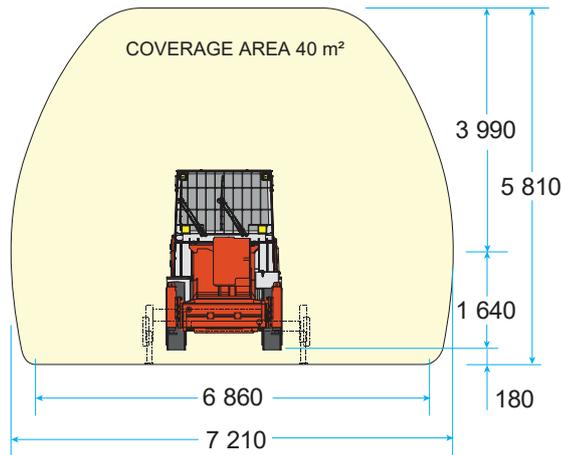
Carrier

| | |
|------------------------------------|--|
| *Diesel engine | Deutz TCD3.6, 100 kW, Tier 4F, Stage V, Canmet |
| Fast filling and evacuation system | Wiggins (complete) |
| Brake release | Manual hand pump |
| *Knowledge Box™ | My Sandvik productivity readiness (TS2-390) |
| Wheel chocks and holders | 2 Sets |
| *Directional tramming alarm | Cri du Lynx® |

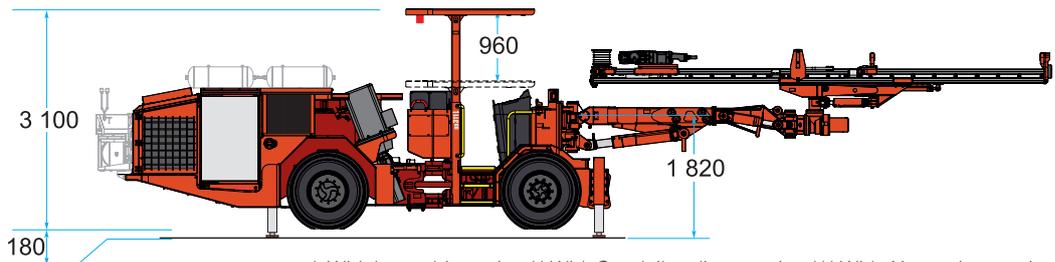
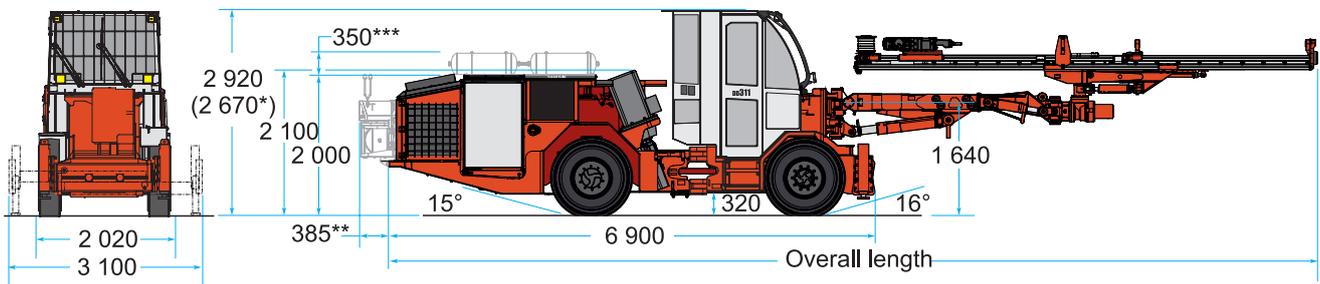
Extra items

| | |
|-----------------------------------|---|
| Berg plug and socket | 250 A |
| Spare rock drill | RDX5 |
| Tools and pressure test box | Specification TS2-429 |
| Spare wheel assembly | Foam filled tire |
| Special tools for rock drill | Field tool set (TS2-434) Complete tool set (TS2-435) |
| Warranty extension | One year (excl. CIS) |
| Documentation | Extra paper, PDF manuals |
| Total station navigation set | For TCAD (excl. total station) |
| Video recorder and speedometer | For CIS |
| Package: Country specific options | LAM, USC, AUS, CE package |
| *Package: Harsh water | Basic or advanced (TS2-049) |
| *Package: Rotary drilling | Specification TS2-195 |

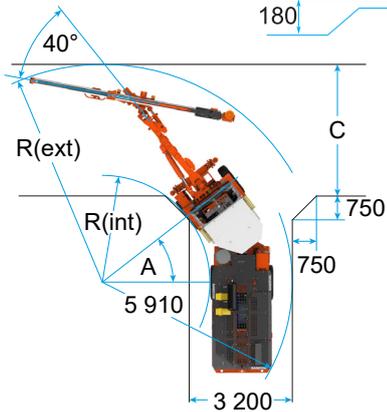
**) Replaces standard feature*



| | TF512 | TF514 | TF516 | TFX6/12 | TFX8/14 |
|-------------------|--------|--------|--------|---------|---------|
| Overall length mm | 12 520 | 12 720 | 13 170 | 12 055 | 12 055 |



* With low cabin option ** With Sandvik eclipse option *** With Air receiver option



| | Angle (A) | Internal Radius R(int) | External Radius R(ext) | T-cross (C) |
|-------------------|-----------|------------------------|------------------------|-------------|
| DD311DE (TF512) | mm 38° | 3 345 | 6 420 | 3 720 |
| DD311DE (TF514) | mm 38° | 3 345 | 6 535 | 3 820 |
| DD311DE (TF516) | mm 35° | 3 731 | 6 940 | 3 950 |
| DD311DE (TFX6/12) | mm 38° | 3 345 | 6 250 | 3 550 |
| DD311DE (TFX8/14) | mm 38° | 3 345 | 6 302 | 3 590 |

All dimensions in mm

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