

Pumpable Resin System

Bolting system

Key features

Compatible	Sandvik DD422i/iE Dual Controls
Drill feed compatible	TFX8/14, TFX10/16, TF512, TF514
Injection system	Mounted on the right boom
Hole diameter	D35 / D38 mm (Rebar) D42 mm (SDB) D42 mm (Hollow bar bolt)
Hole length	4 000 mm (max.)
Bolt type	Rebar Self Drilling Bolt (SDB) Hollow bar bolt
Bolt lengths	2.4 m (8'), 2.7 m (9') or 3.0 m (10')
Bolt diameters	D20 to D28 (Rebar) R32 (SDB) R32 (Hollow bar bolt)
Resin type	Two components urea - silicate resin
Pump type	Gear pump Pump volume 10 l/min
Control system	Pump flow controlled 50:50 ratio
Flow sensors	2 x flow sensors
Mixer flushing	Cleaner agent from resin supplier
Tank capacity	2 x 139 liters (50 bolts)
Filling pump	Electric pump
Tank dimensions	2 045 x 1 660 mm
Transport weight	1 000 kg with full tank
Total weight	32 000 kg

Sandvik DD422i/iE Dual Controls can be configured with a Pumpable Resin System (PRS). The use of a Pumpable Resin System improves safety and enables faster cycle time in the bolting rock support process.

This system enables the Sandvik DD422i/iE Dual Controls to perform bolting operations effectively. Specifically, the Sandvik DD422i/iE Dual Controls can drill holes using the left boom and execute resin bolting using the right boom, with bolting tools mounted on the right boom.

The tank system is installed in addition to the rear frame. This addition increases the total length of the machine and alters its cornering capabilities.

The resin pumping and grouting process is fully controlled and monitored through the operator display. The resin flow is supervised with two resin flow meters. This resin ratio is 50/50, it's displayed to the operator screen. The speed of the grout pipe can be controlled based on hole diameter.

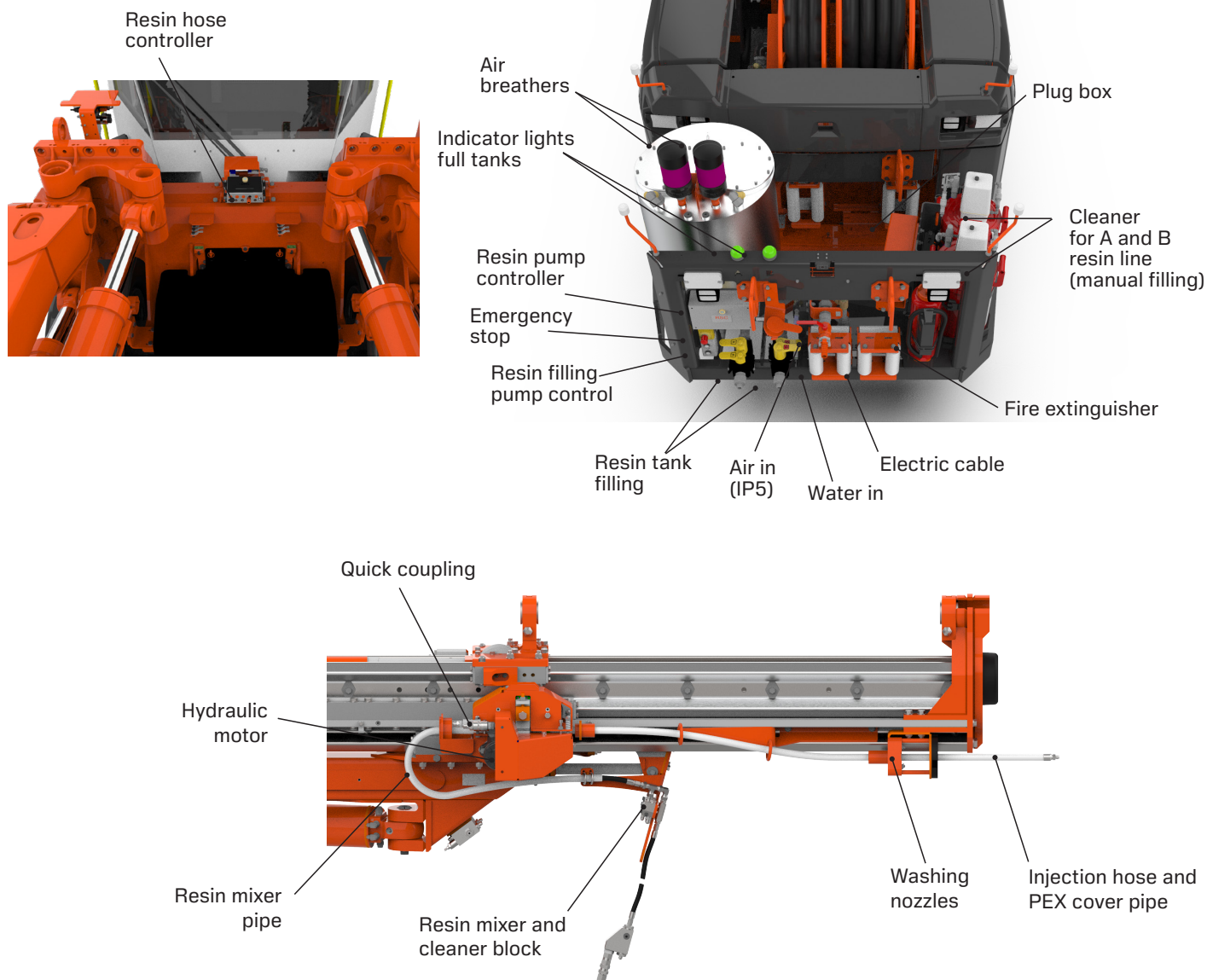
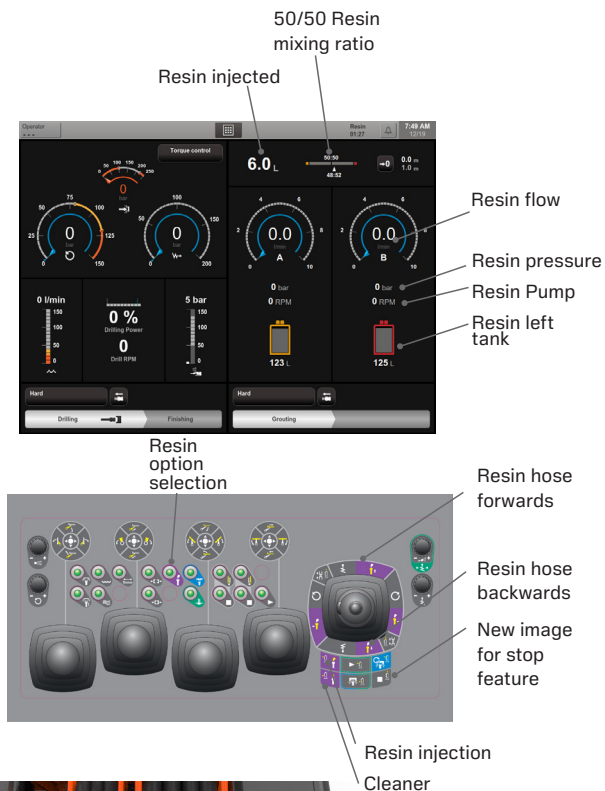
The system is fully tested on Sandvik Ground Support Mineral Bolt urea-silicate resin.



DD422i/iE with bulk resin option (Rebar)

Bolting process: Rebar bolt

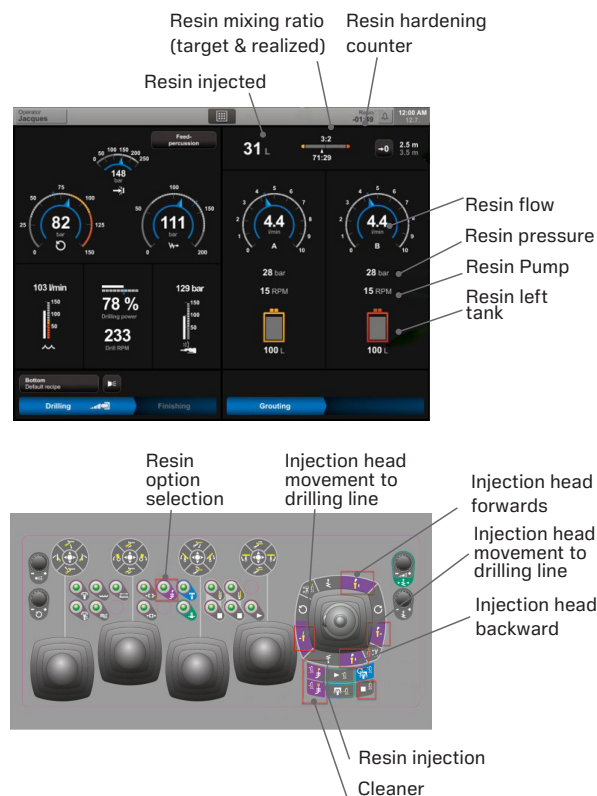
1. Hole drilling with the left boom.
2. "Dolly" tool in a shank adapter on the right boom.
3. Bolt installation manually by hand into the "dolly" tool.
4. Injection hose move by boom/feed movements into the drill hole.
5. Injection hose feed to the bottom of the hole.
6. Resin feed into the drill hole while the injection hose is pulled backwards. (The operator will adjust the retract speed according to the hole diameter)
7. Resin line flushing with cleaner agent.
8. Bolt feed into the drill hole by boom/feed/rock drill movements.
9. Waiting until the resin is hardened.
10. Tightening of the nut by the rock drill.
11. Rock drill movement to rear position.
12. Injection hose cleaning and plugging when longer break.
13. Injection hose and mixer element change when needed.



DD422i/iE with bulk resin option (SDB)

Bolting process: Self Drilling Bolts (SDB)

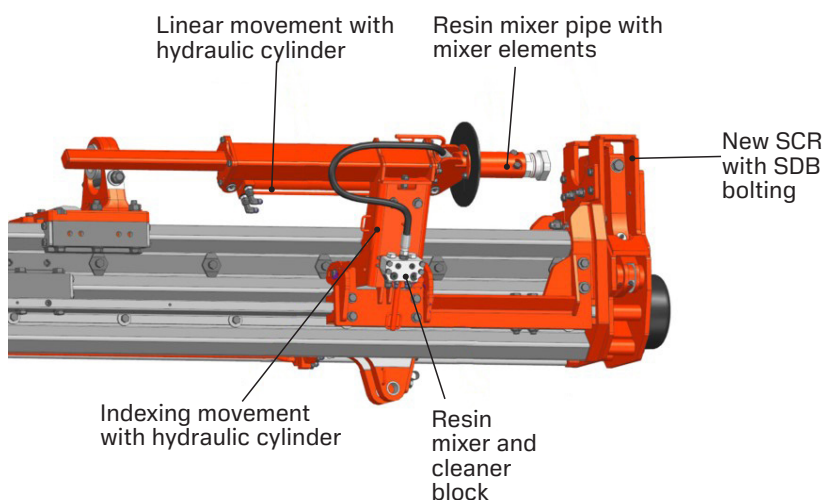
1. Shank adapter R32F L1100 in rock drill on the right boom.
2. Front bolt retainer partly open.
3. "Dolly" tool in a shank adapter on the left boom.
4. Drilling and max. 400 mm back out with the rock drill.
5. Front bolt retainer closing.
6. Rattling, bolt releasing from the shank adapter.
7. Rock drill movement to rear position.
8. Injection head movement to the drilling line and against the bolt
9. Front retainer opening.
10. Bolt pushing into the bottom of the hole by injection head linear movement.
11. Resin feed into the drill hole through the bolt.
12. Resin line flushing with cleaner oil.
13. Waiting until the resin is hardened.
14. Injection head movement back to start position.
15. Tightening of the nut by the rock drill and "dolly" tool. (Left boom)
16. Injection line cleaning and plugging when longer break.
17. Resin mixer element change when needed.



Benefits

Perfect for highly fractured ground, the SDB allows for a single drilling operation, offering superior encapsulation compared to cartridge injection methods.

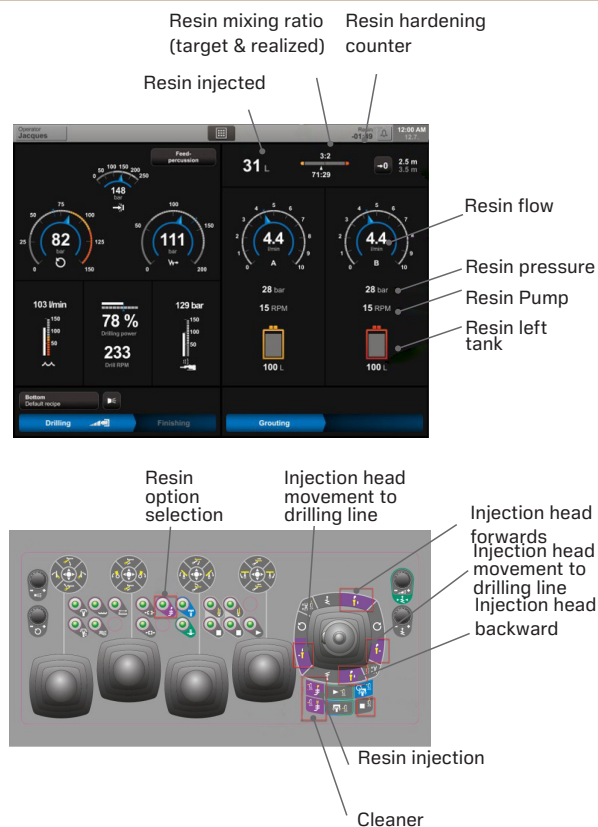
Ideal for complex geological conditions, providing a more efficient anchoring solution.



DD422i/iE with bulk resin option (Hollow bar bolt)

Bolting process: Hollow bar bolt

1. Hole drilling with the left boom.
2. "Dolly" tool in a shank adapter on the right boom.
3. Bolt installation manually by hand into the "dolly" tool.
4. Rock drill push the hollow bar bolt in the hole.
5. Front bolt retainer closing.
6. Rattling, bolt releasing from the shank adapter.
7. Rock drill movement to rear position.
8. Injection head movement to the drilling line and against the bolt.
9. Front retainer opening.
10. Bolt pushing into the bottom of the hole by injection head linear movement.
11. Resin feed into the drill hole through the bolt.
12. Resin line flushing with cleaner oil.
13. Waiting until the resin is hardened.
14. Injection head movement back to start position.
15. Tightening of the nut by the rock drill and "dolly" tool.
16. Injection line cleaning and plugging when longer break.
17. Resin mixer element change when needed.

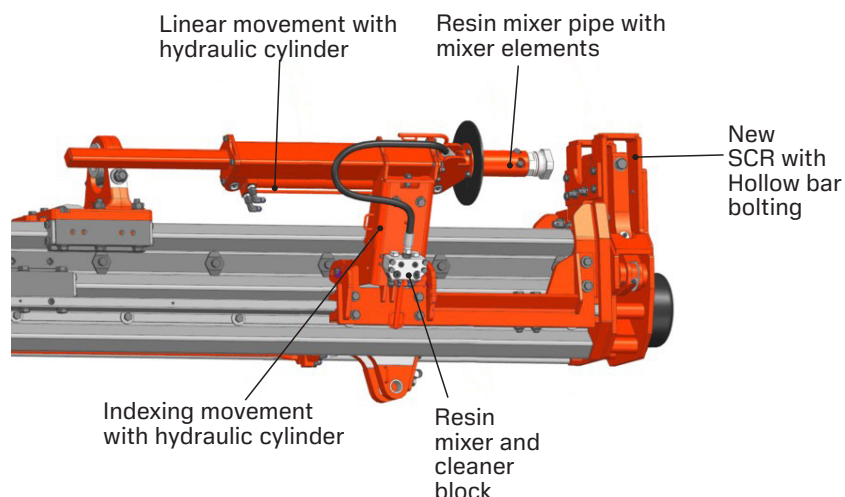


Benefits

A rigid metal rod capable of withstanding high torsional forces, making it more durable than traditional friction bolts or rebar.

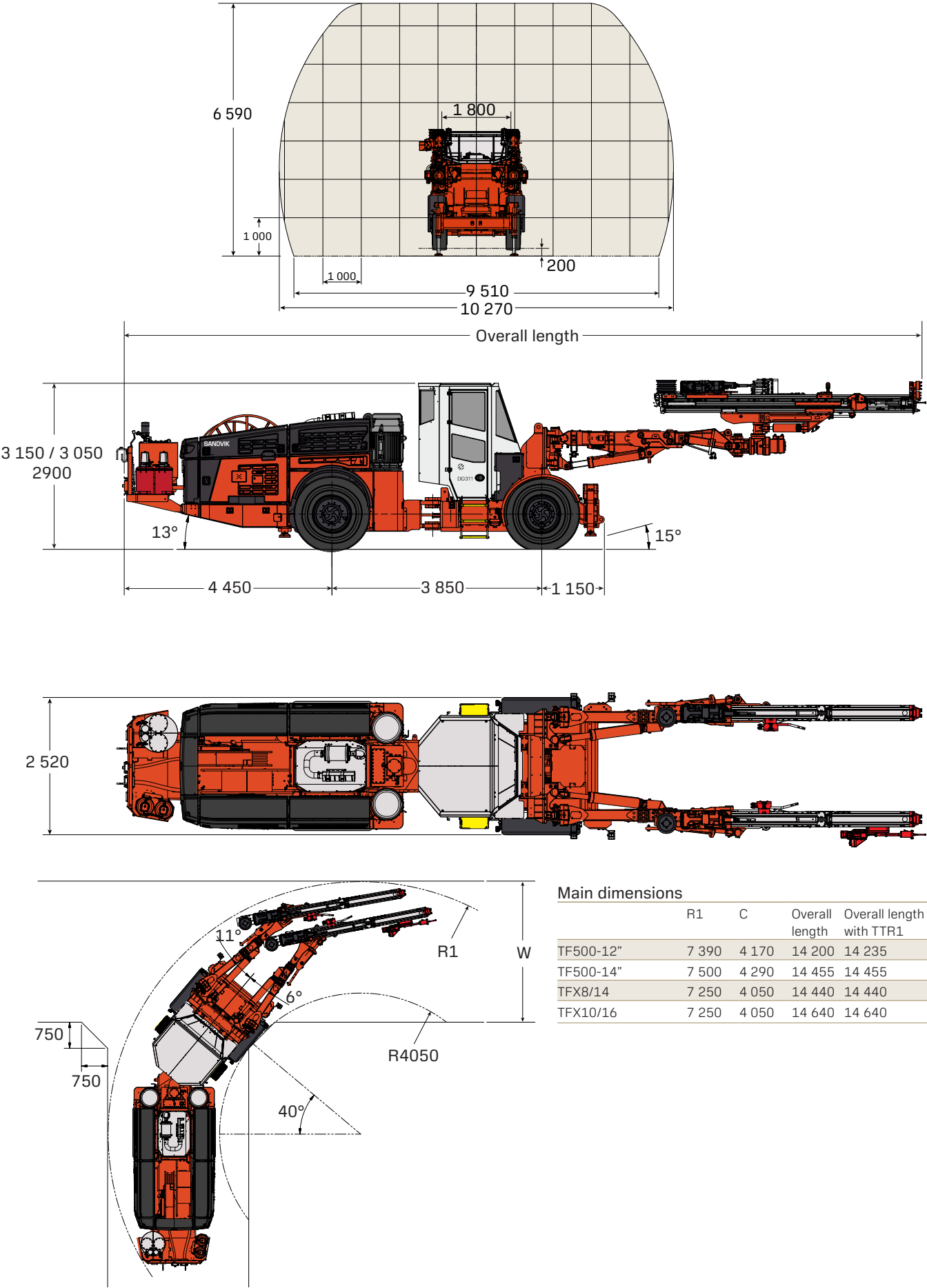
Can be designed to have different surfaces to meet customer requirements.

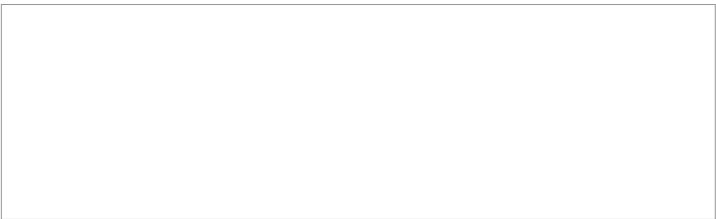
Lower cost compared to SDB and rebar, offering a more economical choice for certain projects.



Technical drawing

All dimensions in mm





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