



STD Series

# SOOSAN

TOP-HAMMER DRILL RIGS

## STD Series



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POWER TO  
SUCCESS



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# Soosan STD series

**Enjoy the experience of drilling with a reliable companion**

The Soosan STD series hydraulic crawler drilling rigs, have been developed to be reliable top hammer drilling rigs for surface blasting in the quarry and civil work environments.

It is comprised of undercarriage, feed, booms and power unit. These components are powered by a water cooled Cummins diesel engine. The drill rig is equipped with a safe and comfortable cabin (ROPS & FOPS) with wide visibility and an easy operation system using joysticks.

It also has a simple rod changing system and an advanced Soosan hydraulic rock drill.

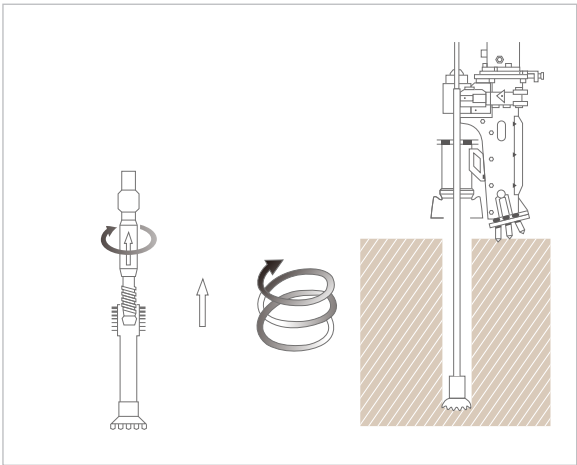




# Intelligent Drilling system

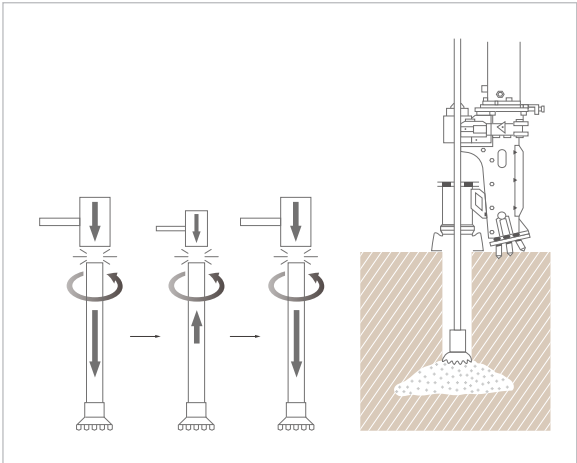
## Synchronizing system

- Principles** - When rods are disconnected / uncoupled, feed speed and rotation speed are automatically controlled / synchronized to minimize the friction between threads.
- Advantages** - Prevents rapid wear of rod threads / shank adapter threads and reduces time to disconnect the rods.
- Operation** - Both reverse rotation and feed backward are automatically functioned when the “synchronizing switch” is pushed.



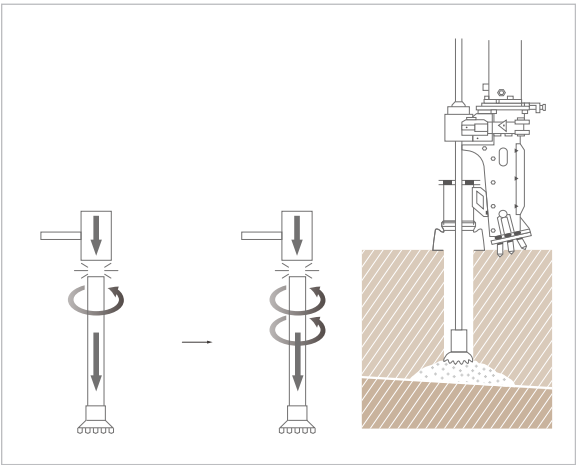
## Anti-jamming system : Automatic sensing

- Principles** - In the case of rotation pressure increases by failure to flush drill cuttings out of the hole, impact power decreases and feed moves backward until rotation pressure becomes normal.
- Advantages** - Prevents the rod and bit from getting jammed in the hole, which results in downtime and tool damage in an attempt to retract the lodged rod / bit.
- Operation** - This function is operated automatically while drilling, when the “select-switch, anti-jamming” is ON.



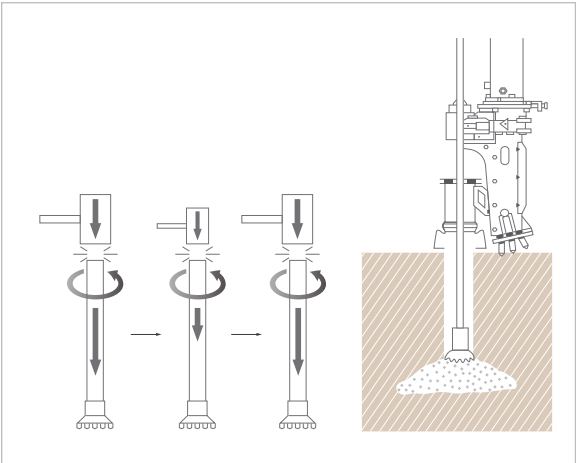
## Super drilling system

- Principles** - When drilling inhomogeneous rock grades which contain clay or unstable layers, the rotation speed will increase for more efficient penetration without jamming.
- Advantages** - Better drilling efficiency and straightness of the hole.
- Operation** - By pressing the “super drilling switch” in the joystick, the super drilling system is activated and continues as long as the switch is being pressed. When button is released, drilling is automatically return to normal condition.



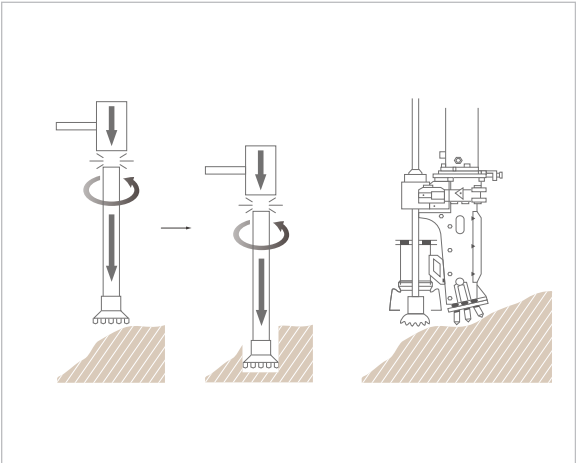
## Smooth drilling : Automatic sensing

- Principles** - By sensing rotation pressure, it optimizes percussion and feed force. If bit encounters a soil or soft deposit, rotation pressure starts to decrease and when the rotation pressure reaches a certain setting pressure, smooth drilling system is activated.
- Advantages** - Reduces blank hammering while drilling in unstable deposit and prevents damage on rods and tool bit.
- Operation** - This function is automatically activated while drilling, when the “select-switch, smooth drilling” is ON.



## Collaring(spot drilling) system

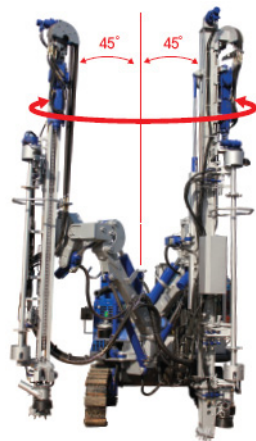
- Principles** - In the beginning stage of drilling in difficult / unstable terrain (where the bit has poor contact target material) it reduces impact power and feed speed for easy collaring / set-up for drilling.
- Advantages** - Improves the hole straightness and prevents tool damage.
- Operation** - Collaring is started with pushing the “percussion button” and it is continued as long as percussion button is pushed. When button is released, the collaring is automatically converted to normal percussion and feeding speed.





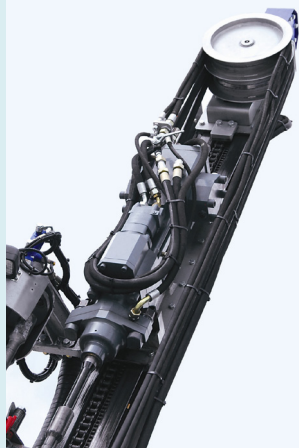
Applications ;

- Drilling for blasting
- Small and medium-sized quarries
- Civil engineering and construction



Extensive working area

The drilling can be executed in a wide work area thanks to its wide swing angle and extendable boom



Rock drill(Drifter)

Advanced TD series drifter speedily performs drilling with high impact power and rotation speed.

- Rugged design
- Damping system
- Simplified hydraulic circuit



Simplified operating system

The simple operating system allows the operator to focus on the task of drilling with less fatigue.

- Joystick controls
- Central arrangement of indicators



Easy to service

Wide spacious and well-arranged engine compartment enable easy access for service and efficient cooling



Optimal power unit

The air compressor and pump are mounted directly to the engine, enabling efficient power transmission with low energy loss.

- Electronic engine control(Tier III )
- Load sensing controlled axial piston pump
- Large capacity air compressor



Extendable boom(STD11E, STD14E)

A simple and robust sliding boom comprising of cylinder and exterior slide pad.



Dust collector

A powerful dust collector with 4 filters effectively prevent dust from escaping.

This system also allows easy changing of the filter cartridges.



Operation stability

The durable structure along with the strong undercarriage, long tumbler length, wide track width and high ground clearance, enable outstanding stability on rough terrain.



Cabin with comfort and safety

The cabin comprises of a robust frame with safety guards and safety glass on all sides. This ergonomic design allows the driver to have wide visibility while enjoying operator safety and comfort



Centralized electric control box

All electric controls are positioned in the central control box equipped with self-diagnosis panel to allow easy maintenance.



# STD11 & STD11E

## Features & advantages ;

**Simple & easy control with joysticks**

**High quality straight holes ;**

- Excellent stability with robust construction
- High-efficiency rock drill : TD45
- Powerful feed system
- Rigid boom

**Simplified rod changing system with trommel magazine**

**Advanced intelligent drilling system ;**

- Half drilling system for accurate drilling start
- Anti-jamming system
- Smooth drilling system
- Damping system on rock drill

**ROPS-FOPS certified safety cabin**

- High visibility and more spacious

**Optimal power unit with load sensing hydraulic pump system**

**Wide drilling coverage area**

**Tier-III diesel engine**

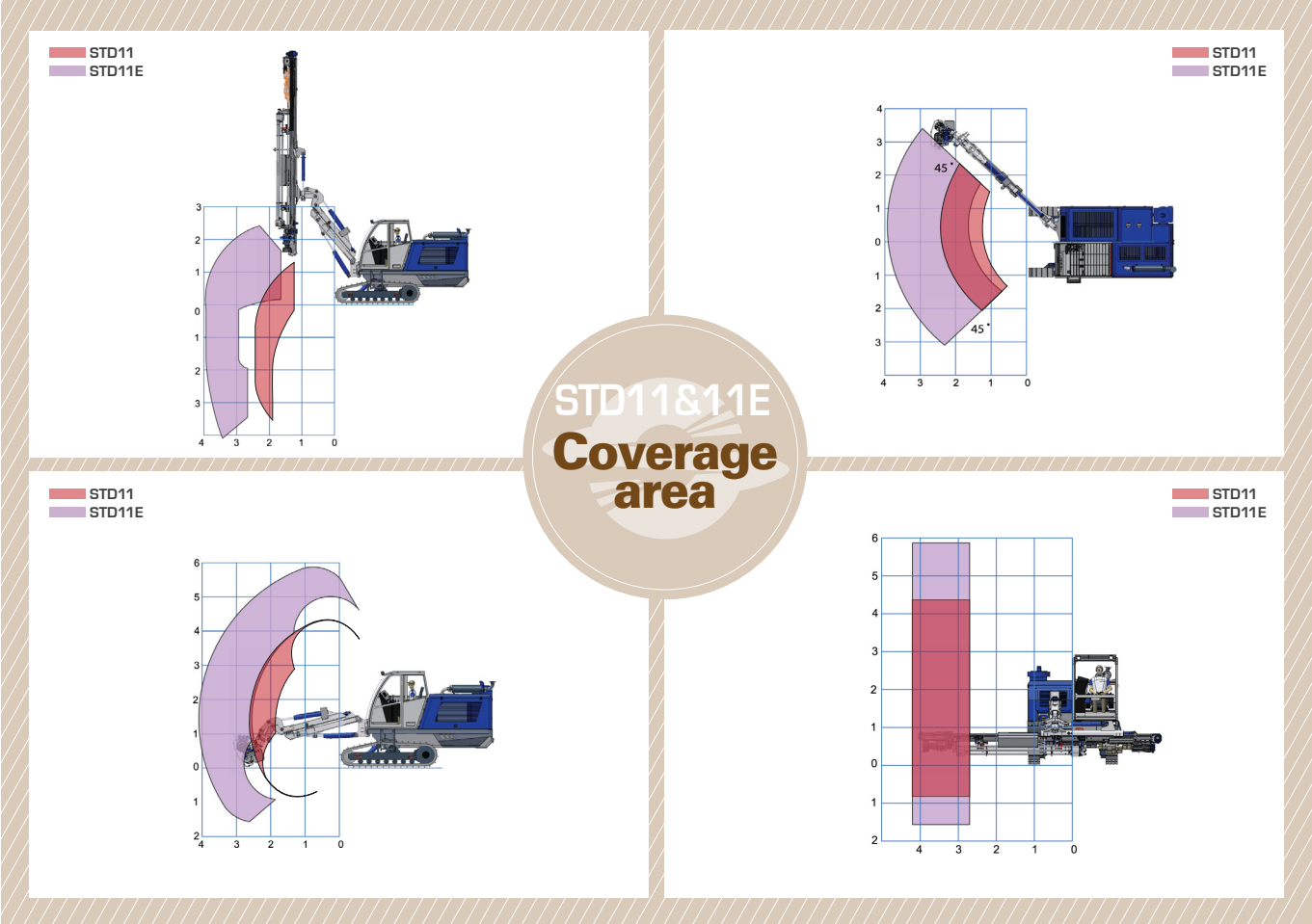
**► Options**

- Cold weather starting package (Fuel & Hydraulic oil heating device)
- Water-misting system
- Pre-separator (cyclone)



Specification	STD11	STD11E
Hole range	64 ~ 102 mm (2.5 ~ 4 inch)	64 ~ 102 mm (2.5 ~ 4 inch)
Drill steel	T38, T45	T38, T45
Drill steel length	3,050 mm (10 ft)	3,660 mm (12 ft)
Hole depth	18 m (59 ft)	22 m (72 ft)
Boom variation	Single rigid boom	Extendable boom
Rock drill	TD45, 15 kw (20 Hp)	TD45, 15 kw (20 Hp)
On-board compressor	5.7 m³/min, 10.5 bar (1,506 gal/min, 152 psi)	5.7 m³/min, 10.5 bar (1,506 gal/min, 152 psi)
Dust collector	23 m³/min (6,076 gal/min)	23 m³/min (6,076 gal/min)
Diesel engine	160 Hp (119 kw) Cummins QSB6.7, Tier-III	160 Hp (119 kw) Cummins QSB6.7, Tier-III
Dimension, transport		
weight	10,990 kg (24,229 lb)	11,500 kg (2,5353 lb)
width	2,430 mm (96 inch)	2,430 mm (96 inch)
height	3,110 mm (122 inch)	3,231 mm (127 inch)
length	8,250 mm (325 inch)	8,851 mm (348 inch)
Safety cabin	ROPS & FOPS certified	ROPS & FOPS certified
Control	Joystick, electrically controlled	Joystick, electrically controlled

\*The above specifications can be changed without prior notice





# STD14E

## Features & advantages ;

### Simple & easy control with joysticks

### High quality straight holes ;

- Excellent stability with robust construction
- High-efficiency rock drill : TD51
- Powerful feed system
- Rigid boom

### Simplified rod changing system with trommel magazine

### Advanced intelligent drilling system ;

- Half drilling system for accurate drilling start
- Anti-jamming system
- Smooth drilling system
- Damping system on rock drill

### ROPS-FOPS certified safety cabin

- High visibility and more spacious

### Optimal power unit with load sensing hydraulic pump system

### Wide drilling coverage area with strong telescopic boom ; extension 900mm (35 inch)

### Tier-III diesel engine

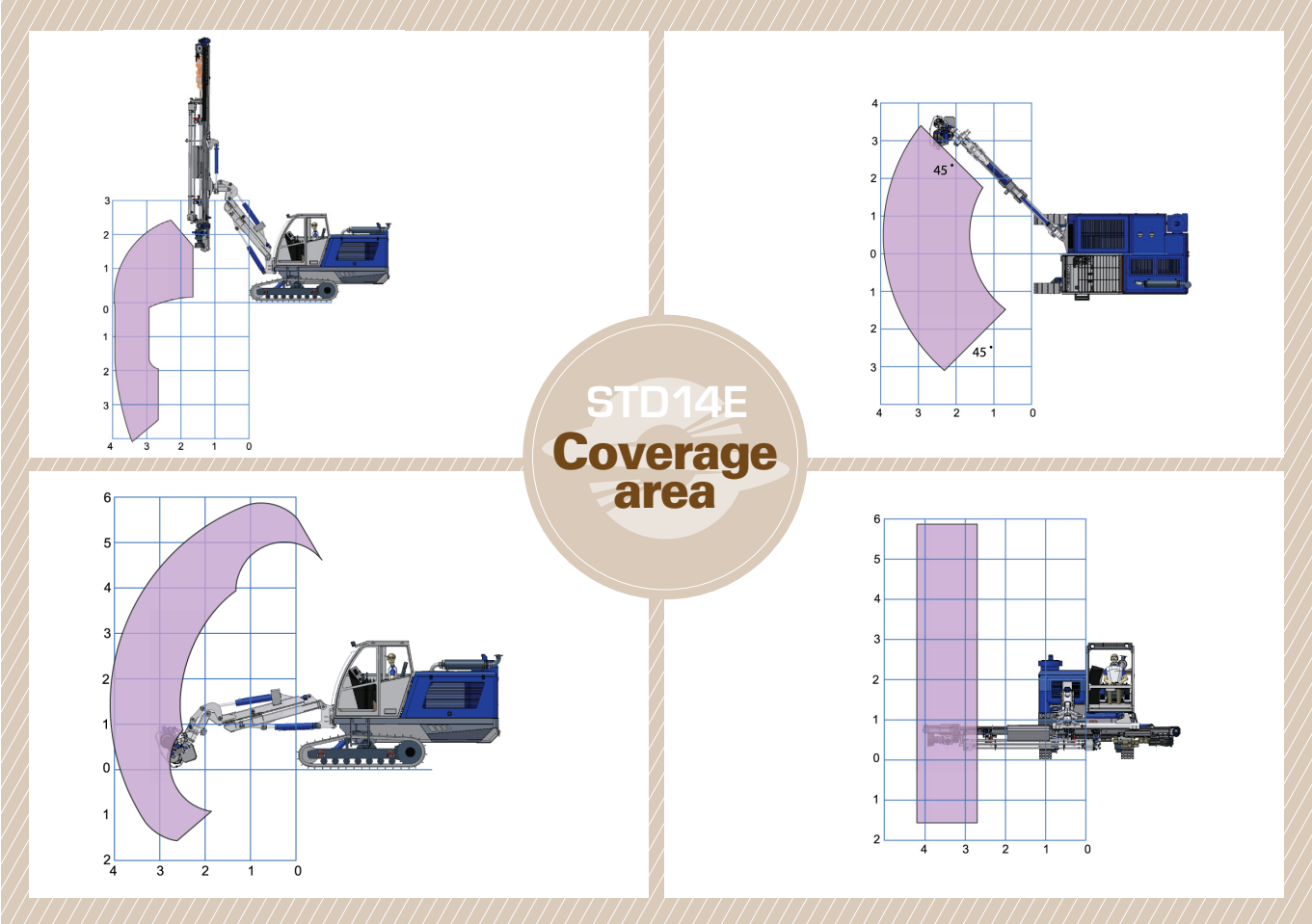
### ► Options

- Cold weather starting package (Fuel & Hydraulic oil heating device)
- Water-misting system
- Pre-separator (cyclone)



Specification	STD14E
Hole range	76 ~ 115 mm (3 ~ 4.5 inch)
Drill steel	T45, T51
Drill steel length	3,660 mm (12 ft)
Hole depth	25 m (82 ft)
Boom variation	Extendable boom
Rock drill	TD51, 20 kw (27 Hp)
On-board compressor	7 m³/min, 10.5 bar (1,849 gal/min, 152 psi)
Dust collector	23 m³/min (6,076 gal/min)
Diesel engine	220 Hp (164 kw) Cummins QSB6.7, Tier-III
Dimension, transport	
weight	12,500 kg (27,558 lb)
width	2,430 mm (96 inch)
height	4,059 mm (160 inch)
length	10,045 mm (395 inch)
Safety cabin	ROPS & FOPS certified
Control	Joystick, electrically controlled

\*The above specifications can be changed without prior notice





# STD11T

## Features & advantages ;

Wide drilling coverage area with extendable boom for face drilling

Simple & easy control with joysticks

High quality straight holes ;

- Excellent stability with robust construction
- High-efficiency rock drill : TD45T
- Powerful feed system
- Rigid boom

Tier-III diesel engine with exhaust gas reduction equipment

ROPS-FOPS certified safety cabin

Optimal power unit with load sensing variable hyd. pump

Advanced intelligent drilling system : surface drilling

- Half drilling system for accurate drilling start
- Anti-jamming system
- Smooth drilling system
- Damping system on rock drill

Tier-III diesel engine

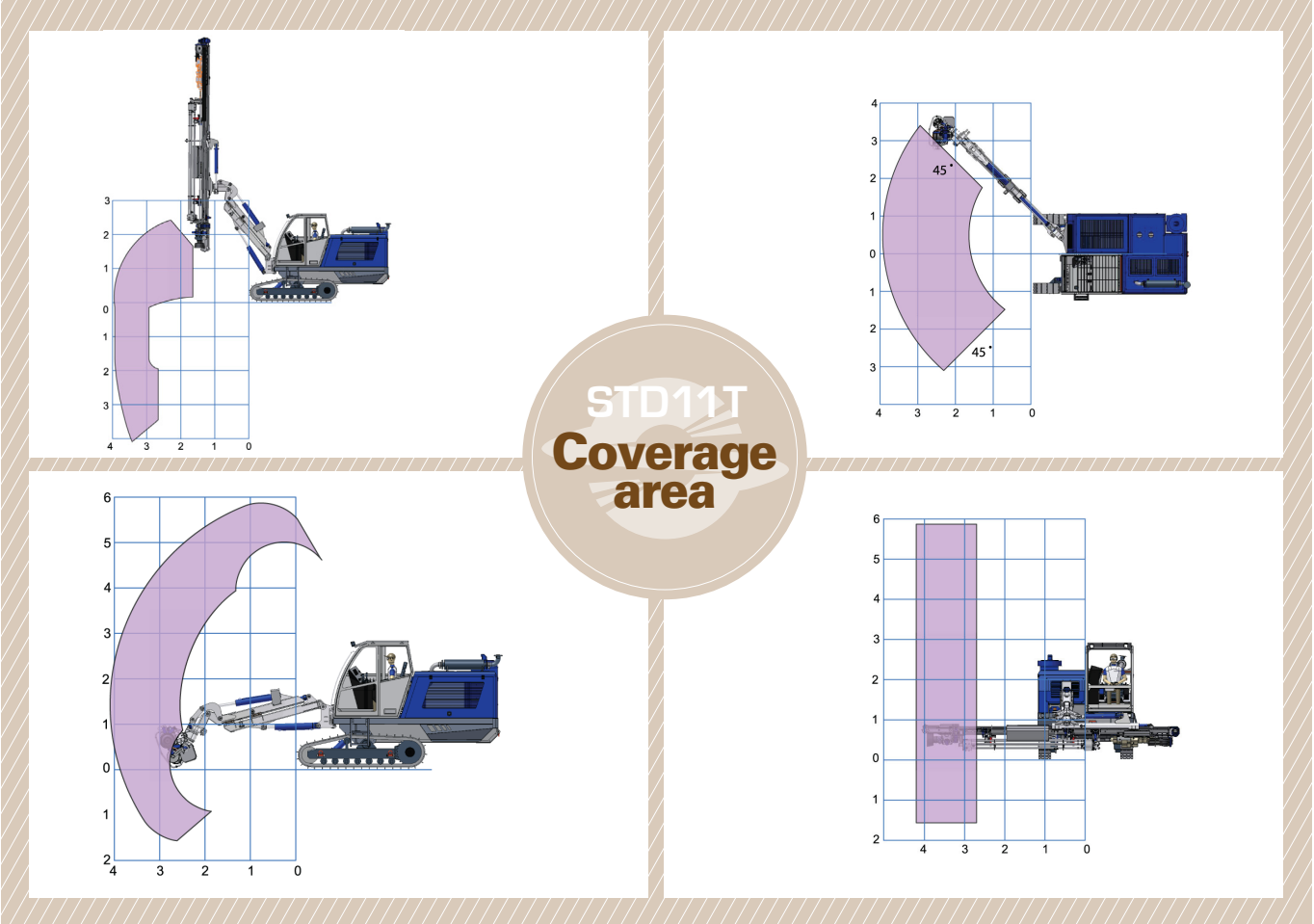
► Options

- Cold weather starting package (Fuel & Hydraulic oil heating device)
- Water-misting system
- Pre-separator (cyclone)



Specification	STD11T
Hole range	64 ~ 102 mm (2.5 ~ 4 inch)
Drill steel	T38, (T45)
Drill steel length	3,660 mm (12 ft)
Hole depth	3 m (10 ft)
Boom variation	Extendable boom
Rock drill	TD45T, 10 kw (13 Hp)
On-board compressor	7 m³/min, 10.5 bar (1,849 gal/min, 152 psi)
Dust collector	23 m³/min (6,076 gal/min)
Diesel engine	160 Hp (119 kw) Cummins QSB6.7, Tier-III
Dimension, transport	
weight	10,800 kg (23,810 lb)
width	2,430 mm (96 inch)
height	4,059 mm (160 inch)
length	10,045 mm (395 inch)
Safety cabin	ROPS & FOPS certified controlled
Control	Joystick, electrically controlled

\*The above specifications can be changed without prior notice \*The STD11T model is additionally equipped with a water flushing pump and DPF(Diesel Particle Filter)





Option



Water-misting system

The water-misting is turned on to dampen the cuttings and the drill steel/bit is rotated and raised up and down to make a “muddy thick slurry along hole sides to prevent material from dislodging from borehole side and falling in the hole and blocking it when the steel/bit is withdrawn.

The dust control application is usually used in dust sensitive or highly regulated environments where no rock dust may appear in the air.



Digital Angle Indicator



Rear view monitor & camera



Pre-separator



Cold weather starting package : -32 ~ -54

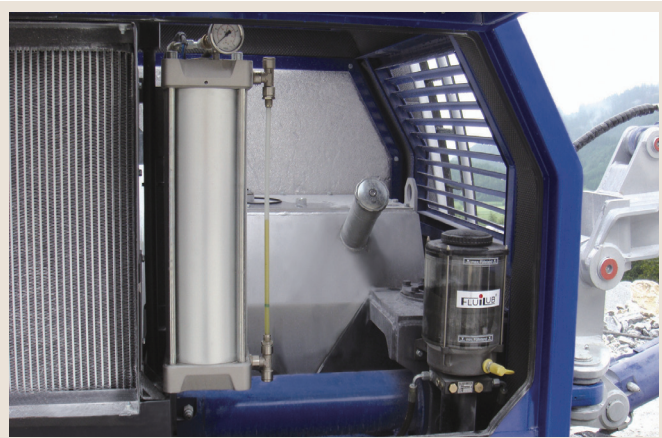
Preheating is essential to get engine started cold environments. The package consists of;

1. Coolant Heater
2. Fuel Heater
3. Thermatic Fan
4. Battery Heater
5. Engine Room Cover



Dual rod clamping

The stable rod guidance prevents the rods from bending thus enabling a straighter hole.



Automatic drifter lubrication

The automatic lubrication system uses oil from a separate oil tank to protect the drifter from damage that can occur by oil shortage.

Hydraulic Rock Drills Soosan "TD series"

More power, less and easier maintenance

The advanced TD series rock drills speedily perform drilling with high impact power and high rotation speed. It is equipped with a damping system. This function allows a 20% higher performance compared to our former SP series. A back-hammering system is available on TD rock drills. High productivity and enhanced durability are the most valuable features of TD rock drills.

15~20 kW hydraulic rock drills for the hole range 64~102 mm



Hydraulic Rock drills Soosan "SP series"

More power, less and easier maintenance

The well known SP rock drills, designed for surface drilling, have been developed with the very reliable percussion mechanism of SB breakers. It is one of the most reliable, durable and cost effective rock drills in the market.

7~16 kW hydraulic rock drills for the hole range 33~102 mm



\*used for SD700E, SD1000E, SD1300E, SD1200ED

Applications ;

- Blast hole drilling
- Surface & underground bolt hole drilling

Features & advantages ;

- The damping system increases the drilling efficiency and durability by using a damping piston which reduces rod bounces during hammering.
- Advanced technology of Soosan percussion mechanism enables optimum drilling performance on various work conditions.

Specifications	Unit	TD45	TD51	TD45T	SP3	SP6
Hole range	mm	64~102	76~115	64~102	64~102	76~115
Impact power	kW	15	20	10	13	16
Impact frequency	Hz	50	43	50	50	43
Operating pressure	bar	170	170	170	160	170
Weight	kg	228	278	220	210	270

\*TD45T : Application for underground/tunnel works(low profile) with water flushing system