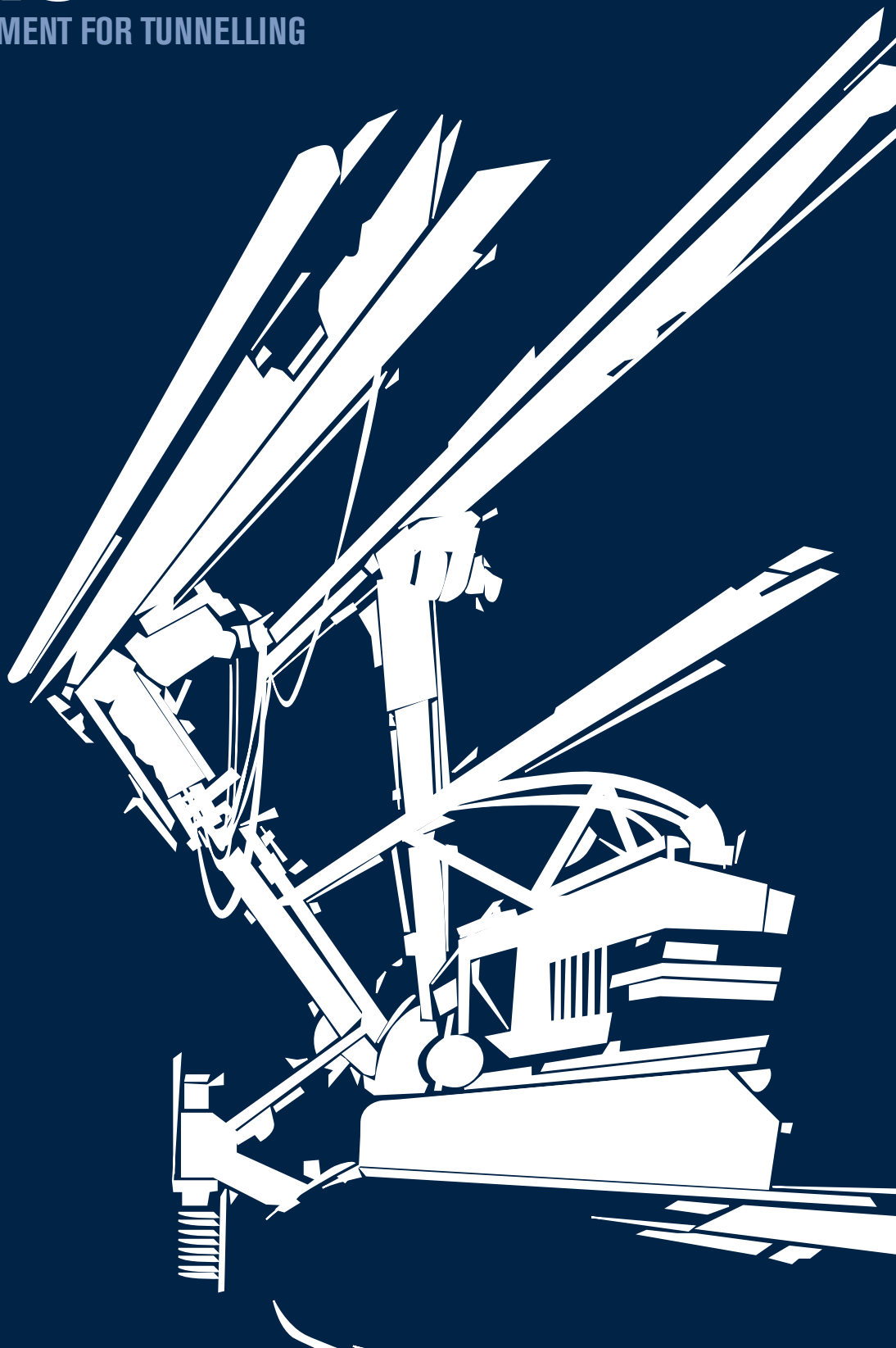


# ST-15

ROTARY EQUIPMENT FOR TUNNELLING



# ST-15

## ROTARY EQUIPMENT FOR TUNNELLING

### A new model

The market increasing demand for tunnelling equipment able to consolidate the weak/unstable soil ahead of the tunnel face before the excavation has brought Soilmec to again widen and complete its range including a very compact tunnelling machine named ST-15.

Especially designed for easily enter and work in narrow spaces keeping all the main features and high performances of the larger machines for tunnelling consolidation.

Brilliantly designed to be exceptionally valuable for Metro tunnels, Service tunnels, etc. and yet in all that cases in which the machine needs to be often and quickly moved from one narrow place to another and lowered down in very narrow shafts.

Main features:

- Overall width: 2100 mm
- Overall length: 2780 mm
- Front and rear fixed telescopic rams
- Front and rear hydraulic slewing rings
- Diesel engine and electric motor interchangeable.
- Rotary head achieving a max. torque of 1200 daNm.
- Jet grouting optional by mast extension
- Class of the machine: 12 ton.

### Radio-transmission Remote Control



The ST-15 is equipped with a special radiotransmission remote control system for the proportional control of the mast positioning, ram's cylinder sliding and slewing ring rotation and all drilling functions. In order to assure the best safety working conditions, the mobile remote control boards is equipped with an emergency button for automatic stopping. The same is also supplied with maximum freedom of movements. The mobile radio-transmission remote control board is able to operate in the most difficult locations like tunnels and mines.

Consolidation Height		
alfa (°)	H max (m)	H min (m)
0	4570	2900
1	4706	2933
2	4841	2965
3	4976	2997
4	5106	3035
5	5157	3151
6	5207	3267
7	5258	3383
8	5308	3499
9	5357	3616
10	5407	3732
11	5456	3849
12	5504	3966
13	5553	4083
14	5600	4201
15	5648	4319

Radius of Consolidation		
alfa (°)	R max (m)	R min (m)
0	2550	1880
1	2686	1913
2	2821	1945
3	2956	1977
4	3092	2015
5	3137	2131
6	3187	2247
7	3238	2363
8	3288	2479
9	3337	2596
10	3387	2712
11	3436	2829
12	3484	2946
13	3533	3063
14	3580	3181
15	3628	3299

# ST-15

## ROTARY EQUIPMENT FOR TUNNELLING

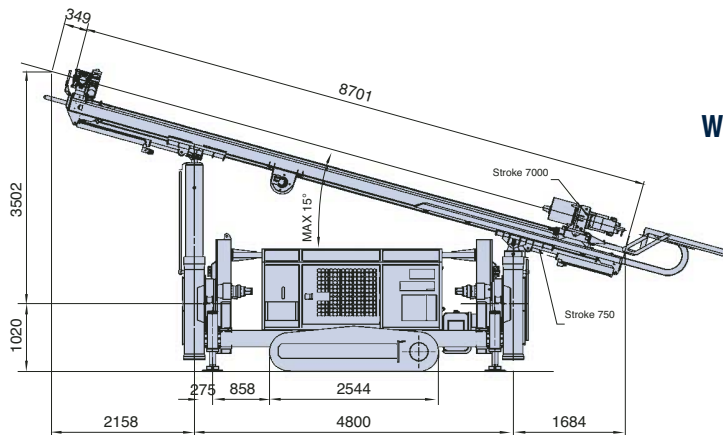
### A new model

Undercarriage			
Track shoe width	mm	350	
Wheel base	mm	1960	
Overall length	mm	2544	
Overall width (not extendable crawler)	mm	2100	
Travelling speed	km/h	2.4	
Max climbing capacity	% (deg)	70 % (35°)	
Average ground pressure	MPa	0.09	
Radius of consolidation treatment at 0°: min/max	mm	1880	2550
Radius of consolidation treatment at 5°(10°): min/max	mm	2131 (2712)	3137 (3387)
Radius of consolidation treatment at max angle	mm	3628 @ 15°	
Height from working level of slew ring rotation axis	mm	1020 - 2020	
Diesel engine		model	DEUTZ BF4M 2012C
Max Diesel Engine power (SAE J1995)	kW (BHp)	92 (125) @ 2100 rpm	
Diesel Engine power rating ( ISO 3046/1 )	kW (BHp)	83 (112) @ 2100 rpm	
Fuel tank capacity	l	150	
Electric motor		model	SIEMENS 4 POLS 50 Hz 380/660V
Rated power	kW (BHp)	90 (125) @ 1485 rpm	
<b>Main pumps:</b> variable displacement axial pumps	l/min	221	
Set pressure main pumps	MPa	28	
<b>Auxiliary pumps:</b> gear pumps	l/min	54 + 24 + 40 + 27	
Set pressure auxiliary pumps	MPa	25	
Hydraulic oil tank capacity	l	350	
Rotary head			
Gear box ratios		3	Continuous
Max. nominal torque (28 MPa )	daNm	1200	1122
Maximum drilling speed	rpm	355	159
Clamp & hydraulic joint breaker			
Nominal size	mm	60 - 225	40 - 160
Maximum clamping force (28 MPa)	kN	159	159
Maximum breaking torque	daNm	3830	3830
Flushing pumps		T-36 Model	
Triplex pump for foam	l/min	36 @ 150 bar	11 kW
Hoist & feed system		tunnel	tunnel jet
Rod lenght type (c/w one rotary head)	m	6	11
Feed type		Winch type	Winch type
Feed stroke	mm	7000	11250
Maximum hoist pull	kN	52	52
Maximum feed force	kN	52	52
Maximum speed (fast/low operation)	m/min	25 - 7	25 - 7
Weight			
Base machine (complete mast dismantled)	kg	9650	-
Base machine (complete mast & telescopic rams group dismantled)	kg	7150	-
Total weight	kg	12250 (Std)	12750 (Jet)

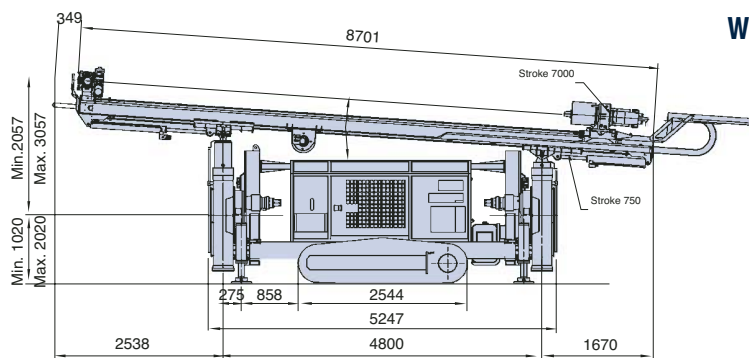
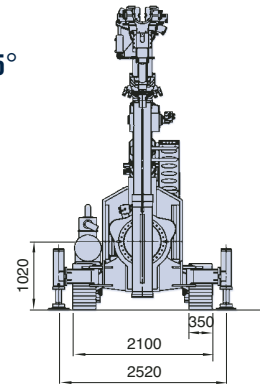
(\*) All technical data are purely indicative and subject to change without notice. Nominal value is referred to total efficiency 100%.

# ST-15

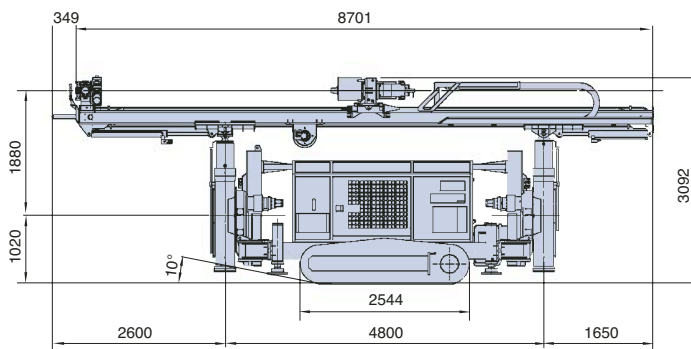
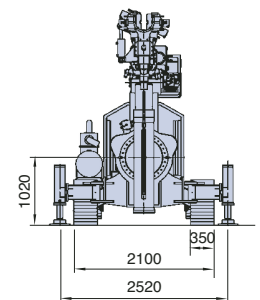
## ROTARY EQUIPMENT FOR TUNNELLING



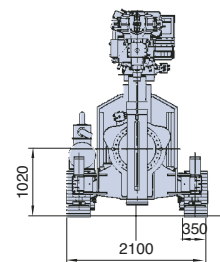
Working Radius at 15°



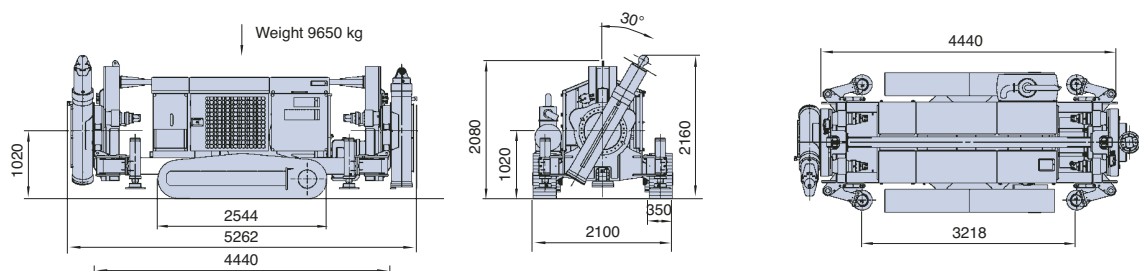
Working Radius at 4°



Working Radius at 0°



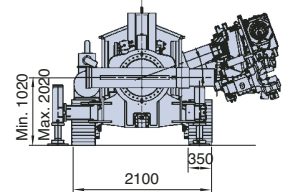
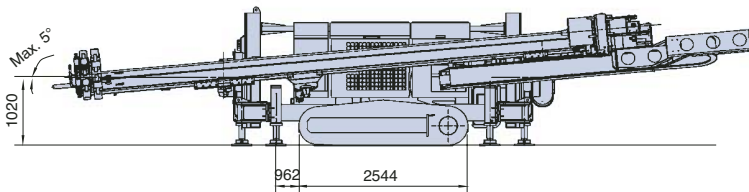
## Transport Condition



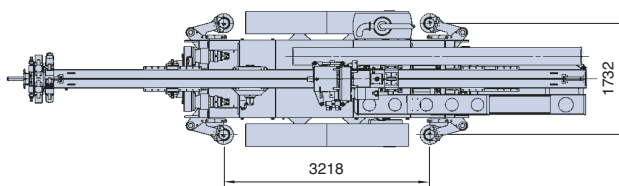
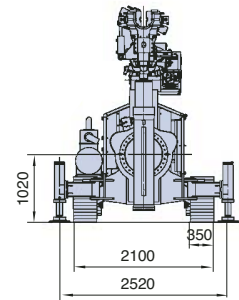
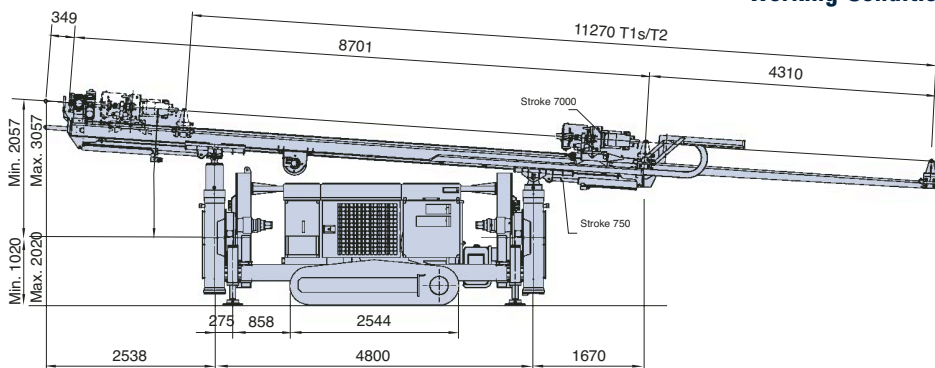
# ST-15

## ROTARY EQUIPMENT FOR TUNNELLING

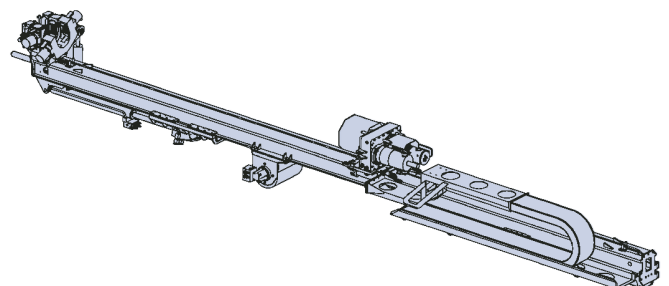
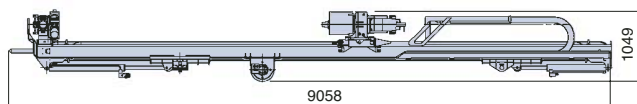
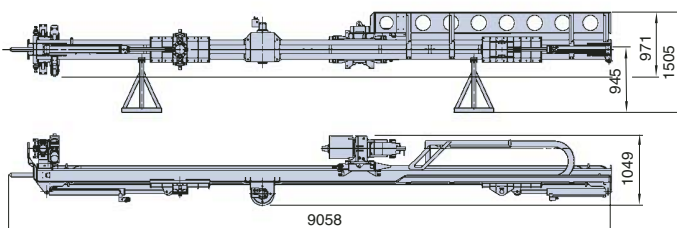
### Working Condition Std



### Working Condition with extension

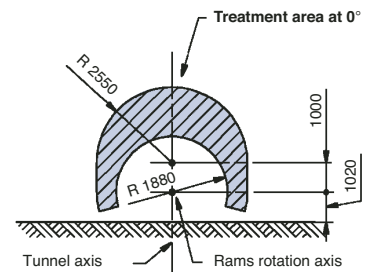
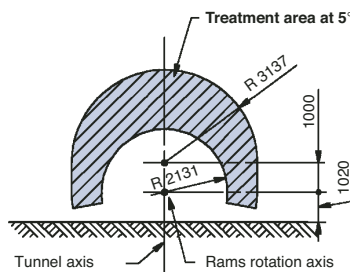
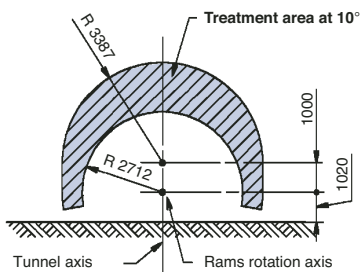
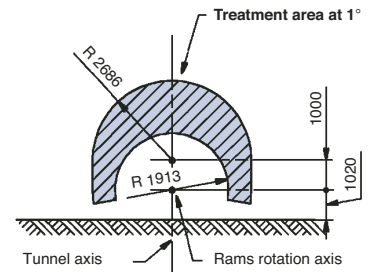
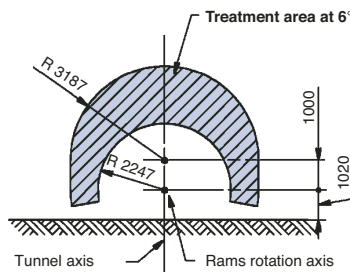
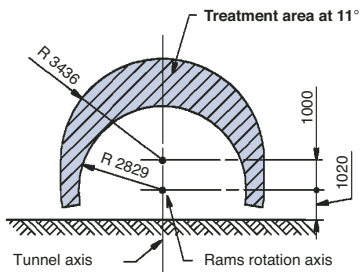
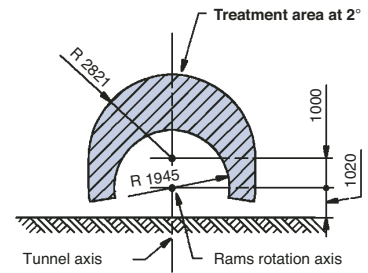
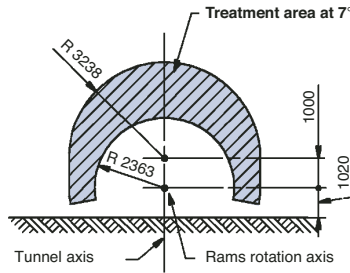
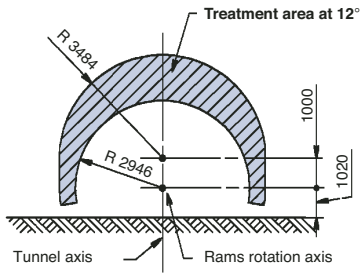
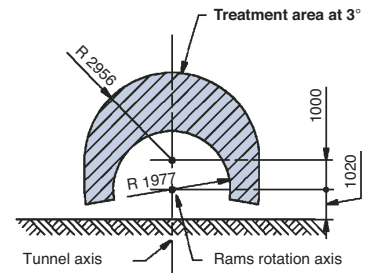
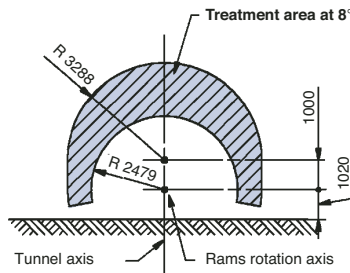
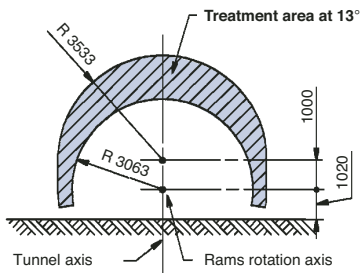
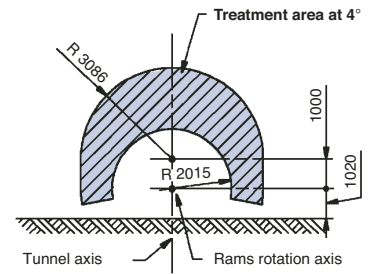
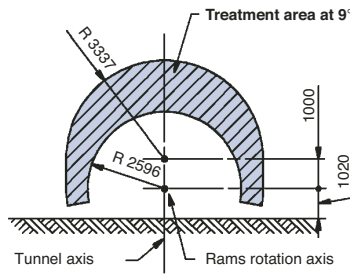
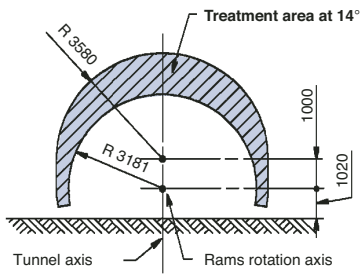
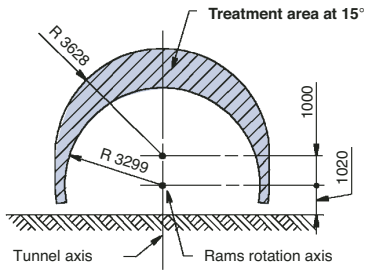


### Transport Condition - Standard version



# ST-15

## OPERATING RANGE





SOILMEC distributes machinery and structures all over the world, supported by SOILMEC subsidiary companies and representative offices as:

**SOILMEC LTD** - U.K.

**SOILMEC MISR S.A.E. Co.** - Egypt

**SOILMEC (H.K.) Limited** - Hong Kong

**SOILMEC JAPAN CO LTD** - Japan

**SOILMEC S.P.A. - Beijing Repr. Office** - P.R. China

**SOILMEC FAR EAST PTE.LTD** - Singapore

**SOILMEC EMIRATES** - U.A.E.

**SOILMEC GULF** - U.A.E.

**SOILMEC FRANCE S.A.S.** - France

## CERTIFIED QUALITY SYSTEM

In 1990 Soilmec was awarded with the certification of its Quality System complying with ISO 9001:2000 and ISO 14001:2004 standards.



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