



CANADA

Technical description: SR-75 serial # 5171 (approximately 2900 working hours)

SR-75 HYDRAULIC DRILLING RIG

ITEM A BASE MACHINE: TIER 4F – STAGE IV

UNDERCARRIAGE

Specially designed for heavy-duty applications that require low ground pressure which reflects in a better turning capability and less ground disturbance. The undercarriage mounted on Soilmec rig allows reducing maintenance costs and downtime in your job site. Maintenance-free crawler track.

Type:	<i>Telescopic</i>	
Overall width (retracted side frames):	<i>2,980 mm</i>	<i>(117,3 in)</i>
Overall width (extended side frames):	<i>4,480 mm</i>	<i>(176,4 in)</i>
Track shoe width:	<i>900 mm</i>	<i>(35,4 in)</i>
Track shoe type:	<i>triple grouser</i>	
Ground pressure:	<i>0,09 MPa</i>	<i>(13,1 psi)</i>
Gradeability:	<i>40%</i>	
Chain tensioning device		
Mechanical attachment for casing oscillator		

DIESEL POWER UNIT TIER IVF

Diesel Engine unit model:	<i>Volvo TAD1373VE</i>	
Emission certification:	<i>EU stage IV / US EPA Tier 4F</i>	
Aspiration:	<i>turbocharged and charge air-cooled</i>	
Rated power @ 1800 rpm:	<i>345 kW</i>	<i>(462 Hp)</i>
Sound pressure level in cabin:	<i>74 dB(A)</i>	
Guaranteed sound power level:	<i>112 dB(A)</i>	
Auto low idle system		

HYDRAULIC SYSTEM

Main pumps flow:	<i>2 x 304 l/min</i>	<i>(2 x 80,3 US gal/min)</i>
Third pump flow:	<i>93 l/min</i>	<i>(24,6 US gal/min)</i>
Auxiliary pumps flow:	<i>121 - 62 l/min</i>	<i>(32,0 – 16,4 US gal/min)</i>



UPPER STRUCTURE

The Soilmec-own turret enables operation in restricted space thanks to its small swing radius. All winches are mounted inside the main structure to allow a direct view from the operator's cabin. Swing ring for 360° rotation with double-row ball bearing, external teeth and planetary gearbox.

Width:	3,000 mm	(118,1 in)
Tail swing radius:	4,150 mm	(163,4 in)
Counterweight:	10,500 kg	(23149 lb)
Counterweight self-mounting capability		
Fuel tank capacity:	650 l	(171,7 US gal)
Hydraulic oil tank capacity:	685 l	(181,0 US gal)
Operator cabin type:	NEW 2020 Soilmec H-Cab	
Electric refueling pump		
Electric oil loading pump		
Tools box		
Rearview mirrors		
Acoustic alarm for translation		
Sound proofed canopies		
Wiring harness solution with quick-fit connector		

OPERATOR'S CABIN

By assessing the specific application and listening properly to the wishes and requirements of the operators, Soilmec provides the optimal operator cabin for comfort. Ergonomic seat with air suspension, fully adjustable, lumbar support air management, as well as lines of sight, quality and safety are standard aspects considered during the design of the right configuration for the cabin.

Cabin width:	1,050 mm	(41,3 in)
Sliding door		
Sliding window		
Courtesy lights		
Lighting system in front of the cab		
Joystick for all drilling operations: 4		
Air conditioning system and climate control unit		
Radio player with USB aux port		
FOPS (Falling Object Protective Structure)		
Protective grilles		
Lower grid		
Windscreen wiper		
Awning		



ELECTRONIC INSTRUMENT AND CONTROL DEVICES IN BASE MACHINE

GSM / GPRS / WIFI Modem

Depth meter device on main winch

Electronic inclinometer on X/Y axis

Mechanical inclinometer on main mast

PLC processor for electrically actuated functions

MAIN WINCH

Type:	<i>controlled descent</i>	
Mechanical system for correct winding		
1 st layer line pull:	<i>270 kN</i>	<i>(60698 lb)</i>
1 st layer rope speed:	<i>81.6 m/min</i>	<i>(267,7 ft/min)</i>
Rope diameter:	<i>30 mm</i>	<i>(1,2 in)</i>
Rope layers:	<i>2</i>	
FEM classification:	<i>M5 - L2 - T5</i>	

SERVICE WINCH

Type:	<i>controlled descent</i>	
Mechanical system for correct winding		
1 st layer line pull:	<i>127 kN</i>	<i>(28551 lb)</i>
1 st layer rope speed:	<i>70 m/min</i>	<i>(229,7 ft/min)</i>
Rope diameter:	<i>22 mm</i>	<i>(0,9 in)</i>
Rope layers:	<i>2</i>	
FEM classification:	<i>M5 - L2 - T5</i>	

ROPE FOR SERVICE WINCH

Rope diameter:	<i>22 mm</i>	<i>(0,9 in)</i>
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KINEMATICS MECHANISM BETWEEN MAST AND UPPER STRUCTURE

The design of mechanism allows changing the working radius and quick rig set-up in safety and security conditions for all person involved in the operations.

MAIN MAST ASSEMBLY

LOWER FOLDABLE MAST ELEMENT



ROTARY UNIT

Type:	<i>variable displacement</i>	
Max nominal torque:	<i>293 kNm</i>	<i>(216106 lbf ft)</i>
Rated torque:	<i>280.7 kNm</i>	<i>(207034 lbf ft)</i>
Maximum drilling speed:	<i>24.8 rpm</i>	
Spin-off system:	<i>yes</i>	
Spin-off speed:	<i>130 rpm</i>	
Inner passage for kelly bar:	431 mm	
Replaceable drive ribs		

ROTARY REDUCTION SUITABLE FOR D. 431MM KELLY BAR

PAINTING

Color: *STD SOILMEC*

Logo: *STD SOILMEC*

USE AND MAINTENANCE MANUAL

Language: *according to EU policy*

SOILMEC DMS® – SOILMEC DRILLING MATE SYSTEM

Electronic system for drilling equipment control, production supervision, and fleet management, developed and owned by Soilmec.

DMS ON BOARD

Hi-tech instrumentation on Soilmec equipment designed to improved operations control and automated drilling functions. The multi-language touch screen display in order to show in real-time all the operations and performances of the rig. DMS data is stored on a removable USB flash drive for subsequent elaboration and analysis on PC allowing to obtain detailed production reports.

DMS PC

Licensed software that displays and elaborates the data acquired by “DMS Onboard” to generate reports and produce quality assessment results. This reporting tool allows analyzing, processing and printing of production data while verifying rig performance, controlling usage of raw materials and fuel consumption, tracking operators' work shifts.

DMS MANAGER

Soilmec cloud-running application for remote, centralized supervision of the rig fleet, workforce, and productivity in real-time. Rigs can automatically send real-time geo-location, events, alarms, operation and performance data to the cloud server, in order to manage and share all the mission data.

Service activation is subject to “Soilmec DMS Manager 4.0” service terms and conditions.



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ITEM A.1 SAFETY KIT

SAFETY KIT 1

Soilmec will issue CE Certification for this drilling rig. The CE compliance kit includes:

- Acoustic alarm for tracking
- Greasing system for rotary cradle
- Led lighting system kit
- Limit switch for rope winding
- Load cell for service winch
- Radio remote control from tramming
- Video camera kit composed of 5 cameras
- Foldable side catwalks on the upper structure (900mm)
- Foldable side handrails
- Handrails on the upper structure

ITEM A.2 CROWD SYSTEM: WINCH CROWD SYSTEM

(Increased stroke and increased drilling diameter version)

Maximum pile diameter:	2,000 mm	(78,7 in)
Maximum pile diameter without lower mast element*:	2,800 mm	(110,2 in)
Maximum pile depth - friction kelly:	92.9 m	(304,8 ft)
Maximum pile depth - locking kelly:	73.9 m	(242,5 ft)
Mast inclination (backward/forward/lateral):	10° / 3,5° / 3° deg	



Working Radius:	4,110 – 4,800 mm	61,8 – 189,0 in)
Operating weight without tool:	77.7 t	(171299 lb)

*rotary stroke should be reduced.

PREARRANGEMENT FOR WINCH CROWD SYSTEM

WINCH CROWD SYSTEM ASSEMBLY

Type:	Winch	
Stroke:	18,900 mm	(744,1 in)
Nominal pull down force:	408 kN	(91722 lb)
Nominal pull up force:	408 kN	(91722 lb)
Speeds up:	6.8 - 29 m/min	(22,3 - 95,1 ft/min)
Speeds down:	6.8 - 29 m/min	(22,3 - 95,1 ft/min)

LOWER MAST FOOT ELEMENT WITH PAD

UPPER ROPE FOR WINCH CROWD SYSTEM

LOWER ROPE FOR WINCH CROWD SYSTEM

LDP SPECIAL MAST EXTENSION L=3,100 MM

ADDITIONAL COUNTERWEIGHT, 1500 KG 1

ITEM B TECHNOLOGY KIT: LARGE-DIAMETER PILE

ITEM B.1 COMPLETION ITEMS

(Common items between ECT2 and LDP version)

These items are common between LDP and CFA technology 2nd line pull.

Note: Winch crowd system is requested for CFA technology 2nd line pull

CATHEAD FOR LDP

UPPER MAST EXTENSION

ROPE FOR MAIN WINCH

Rope diameter:	30 mm	(1,2 in)
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ITEM B.2 LARGE-DIAMETER PILE BASE KIT

FLANGE FOR CASING DRIVING COMPATIBLE WITH GERMAN CASING DRIVER 1

Diameter:	1300 mm	(51,2 in)
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CARDAN JOINT

Universal joint connecting the rotary sleeve to the casing driving flange.

KELLY BAR GUIDE FOR 1180 MM INTERAXIS

Fixed on the top of the external kelly bar element, it allows the best stability and verticality of the Kelly bar, reducing the wearing of the rotary head and saves downtime.

KELLY BAR SWIVEL

BLOCK FOR CATHEAD IN LDP CONFIGURATION

ITEM B.2.1 TELESCOPIC KELLY BAR: 4x10,5m ML

TELESCOPIC KELLY BAR 4X10,5 ML 1

Type:	<i>mechanical locking</i>	
Outer element diameter:	<i>431 mm</i>	<i>(17,0 in)</i>
N° of elements and length:	<i>4 x 10,5 m</i>	
Stub:	<i>200 mm</i>	

ITEM B.3 OPTIONAL FOR LDP VERSION

HYDRAULIC PREARRANGEMENT FOR CASING OSCILLATOR

AUTOMATIC RETURN TO THE HOLE

AUTOMATIC GREASING BASE KIT

AUTOMATIC GREASING KIT FOR LDP

AUTOMATIC GREASING KIT FOR WCS

AUTOMATIC FOLDING SYSTEM FOR UPPER MAST EXTENSION FOR LDP

KIT FOR WCS W/O MAST FOOT

ANTISLACK SYSTEM FOR MAIN WINCH

SWIVEL HOOK FOR SERVICE ROPE, 15T CAPACITY

SERVICE ROPE HOLDER

LOAD CELL FOR MAIN WINCH 1