



# **RX-4**

## **SURFACE CORING DRILL**



## RX-4 Surface Coring Drill Rig

RX-4 is fully hydraulic diamond core drilling rig, designed for surface research drillings.

It is the perfect combination of the proven RX concept, combined with new and powerful components.

The RX-4 uses well proven technology for diamond core drills combined with new improvements in order to get easy drill operation. Hydraulic jacks, mast dump, hinged top mast and all controls available at the control panel provide the driller an easy set-up. Other features such as the strong main winch, powerful direct feed cylinder, advanced diesel engine, telescopic mast and Hydraulic Rod Holder.

RX-4 Coring Rig rotation speed, power and rotation unit aperture diameter is designed to give optimal performance in 60-122.6 mm (B-P) diameter wireline or conventional drilling.

RX-4, drilling unit, power unit, wireline unit (automatic winding system), main winch control of the mixer and mud pump are performed from the operator panel.

The gauge located on the operator panel displays, drilling rig advancement position;

- Hold back force,
- Feed force,
- Rotation speed,

It can observe the data and is able to control diesel engine.

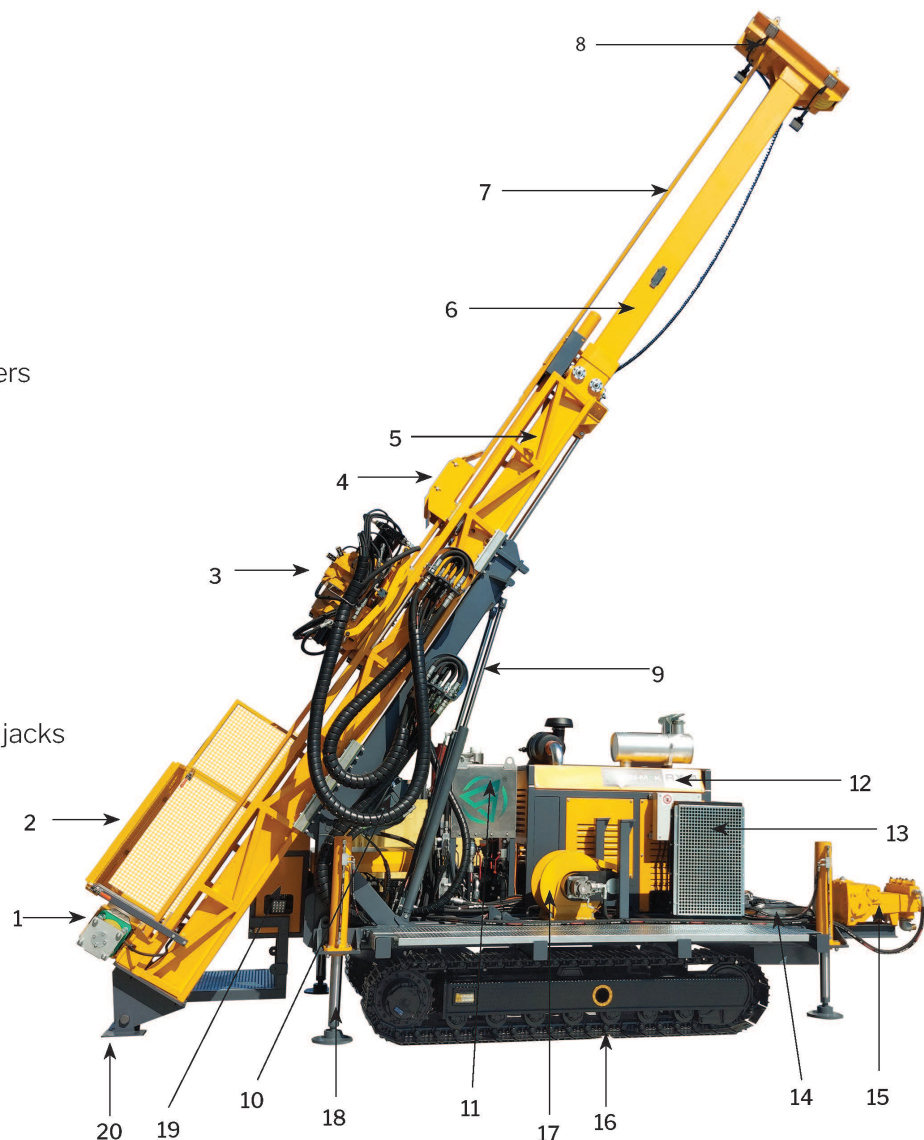
RX-4, can be mounted on 3 different chassis.

- Skid frame
- Wheel frame
- Crawler frame

RX-4 drilling rig, as progress is being achieved with the drilling rig hydraulic cylinder, more precise settings can be done.

RX-4 drilling rig, automatic rod removal and clamping feature allows high progress rate, optimal core percentage and big time save.

1. Rod holder
2. Head guard
3. Rotation unit
4. Rod centralizer
5. Feed frame
6. Telescopic mast
7. Rod guide
8. Crown block
9. Mast raising cylinders
10. Main hoist
11. Hydraulic oil tank
12. Power unit
13. Cooling circuit
14. Fuel tank
15. Fluid pump
16. Carrier
17. Wireline winch
18. Hydraulic leveling jacks
19. Control panel
20. Foot bracket



# Technical Specifications

## Drilling Depth Capacity

These figures serve as guidelines only. They are calculated with available pull/feed force, weight of drill string in water filled hole, average WOB and reserve for breaking solid core in rock with 5MPa Tensile Strength. Son-Mak cannot guarantee these capacities will be reached in all working conditions due to varying factors such ITH used, conditions of the ground and differences in operation.

| Drill Rod         | Fluid Filled |             |
|-------------------|--------------|-------------|
|                   | Metric       | U.S. System |
| BO / BRO Wireline | 1375 m       | 4511 ft     |
| NO / NRO Wireline | 1050 m       | 3444 ft     |
| NRO Thin Wall     | 1190 m       | 3904 ft     |
| HO / HRO Wireline | 720 m        | 2362 ft     |
| HRO Thin Wall     | 900 m        | 2952 ft     |
| PHD / PO Wireline | 475 m        | 1558 ft     |
| PHD Thin Wall     | 635 m        | 2083 ft     |

## Rotation Unit

|                            |  |
|----------------------------|--|
| Rod sizes:                 | B-P                                      |
| Power:                     | Hydraulic Motor                          |
| Transmission:              | Funk 4 speed                             |
| Final Drive:               | Straight cut gears                       |
| Ratio:                     | 2:1                                      |
| Rotation Unit Opener:      | Side shift type - hydraulically actuated |
| Hydraulic P Chuck          | Hydraulic Open, Closed by Gas Pressure   |
| Spindle inner diameter:    | 127 mm (5 in)                            |
| Chuck axial holding force: | 222 kN (50 000 lb)                       |

## Torque and RPM Ratings

| Torque and RPM Ratings |        | Speed    | Torque    |           |
|------------------------|--------|----------|-----------|-----------|
|                        |        | RPM      | Nm        | lbft      |
| Spindle Speeds         | Ratio  |          |           |           |
| 1st Gear               | 6.27:1 | 122-201  | 5320-3252 | 3923-2400 |
| 2nd Gear               | 3.12:1 | 246-403  | 2647-1620 | 1962-1195 |
| 3rd Gear               | 1.75:1 | 437-719  | 1485-907  | 1095-670  |
| 4th Gear               | 1.00:1 | 765-1245 | 848-520   | 625-383   |

## System Power Unit

| Cummins QSB 6.7 L, turbo charged, after cooled diesel engine. | Metric    | U.S. System  |
|---|-----------|--------------|
| Volume:   | 6.7 liter | 1.77 gallons |
| Power:  | 164 kW    | 220 bhp      |
| RPM:  | 2200      | 2200         |
| Electrical System:  | 12V       | 12V          |
| Cooling System:   | Water     |              |
| Emmissions Certifications:                                    | Stage III | Tier 3       |







| Hydraulic System       | Metric              | U.S. System             |
|------------------------|---------------------|-------------------------|
| Primary Pump:          | 165 l/min - 310 bar | 43.5 gal/min - 4500 psi |
| Secondary Pump:        | 65 l/min - 210 bar  | 17.2 gal/min - 3045 psi |
| Auxiliary Pump:        | 43 l/min - 210 bar  | 11.4 gal/min - 3045 psi |
| Hydraulic Oil Cooling: | Air                 |                         |

| Mast and Feed System | Metric                                 | U.S. System                          |
|----------------------|--|--------------------------------------|
| Feed Stroke:         | 3.35 m                                 | 11 ft                                |
| Thrust Force:        | 88.4 kN                                | 19880 lb                             |
| Pull Force:          | 167.7 kN                               | 37700 lb                             |
| Mast Dump Travel:    | 2.35 m                                 | 7.7 ft                               |
| Mast Telescope:      | 3.35 m                                 | 11 ft                                |
| Drilling Angle:      | 45 to 90 degrees                       | 45 to 90 degrees                     |
| Rod Pull Length:     | 3.05 m or 6.09 m<br>on telescopic mast | 10 ft or 20 ft<br>on telescopic mast |

| Rod Holder             | Metric              | U.S. System |
|------------------------|---------------------|-------------|
| Maximum Rod Size (HWT) | 114.3 mm            | 4.5 in      |
| Holding Force:         | 178 kN              | 40015 lb    |
| Type:                  | Hydraulically opens |             |

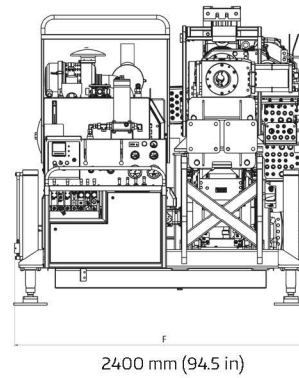
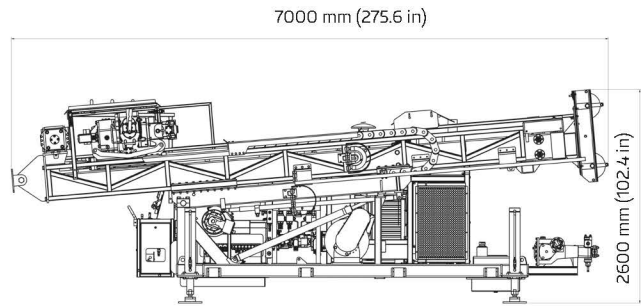
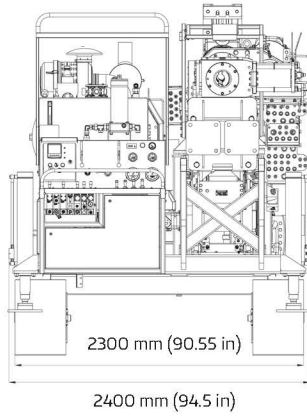
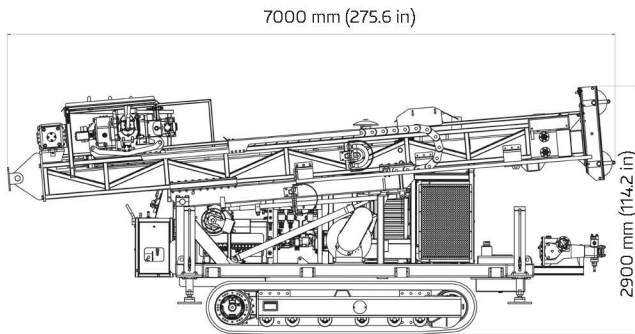
| Wireline Hoist                      | Metric    | U.S. System |
|-------------------------------------|-----------|-------------|
| Drum Capacity (4.76mm - 3/16" wire) | 1800 m    | 5905 ft     |
| Line pull min. (full drum)          | 3.5 kN    | 786 lb      |
| Line pull max. (bare drum)          | 12 kN     | 2698 lb     |
| Line speed min. (bare drum)         | 115 m/min | 377 ft/min  |
| Line speed max. (full drum)         | 420 m/min | 1377 ft/min |

\*\*\*There is an automatic winding system to prevent the rope from making straight or mixed winding.

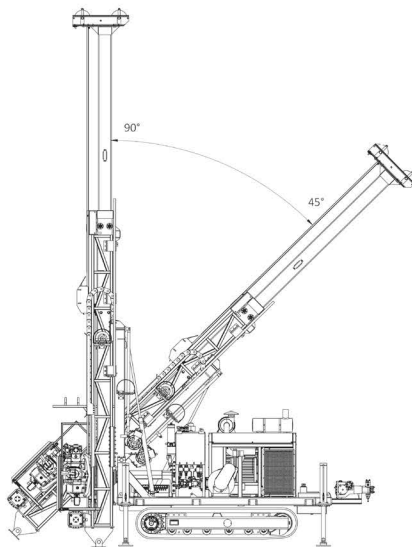
| Main Winch                        | Metric   | U.S. System |
|-----------------------------------|----------|-------------|
| Single line capacity: (bare drum) | 71.2 kN  | 16000 lb    |
| Line speed:(bare drum)            | 35 m/min | 114 ft/min  |
| Cable size:                       | 15 mm    | 0.59 in     |
| Cable length:                     | 35 m     | 114 ft      |

| Mud Pump  |           |             |
|-----------|-----------|-------------|
| TP135H    | Metric    | U.S. System |
| Flow:     | 135 l/min | 35 gal./min |
| Pressure: | 70 bar    | 1000 psi    |

## Transportation Dimensions

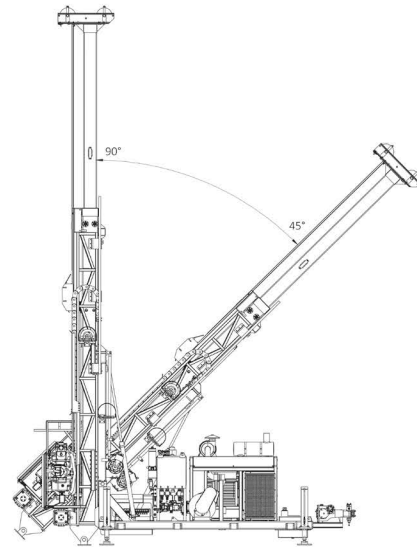


## Working Dimensions



### Weight

RX-4 Crawler: 11000 kg (24250 lb)



### Weight

RX-4 Skid Frame: 8500 kg (18740 lb)







# SON-MAK

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