

# SR-40

HYDRAULIC ROTARY RIG



# SR-40

## HYDRAULIC DRILLING RIG

### A new model

The SR-40 drilling rig on new Caterpillar 3.25 D high power module has been designed to perform the following jobs:

- **bored pile with or without drilling fluid;**
- **bored pile with casing installed by oscillator or rotary crowd system;**
- **continuous flight auger pile (CFA).**

The main features of SR-40 are the followings:

- Machine class: 45 tons;
- New Caterpillar Power 3.25 D module c/w diesel engine and sound proofed canopy, mounted on a 360 degrees slew ring;
- New electronic Caterpillar engine C7 ACERT<sup>®</sup> with max power 300 BHP and meeting latest TIER 3 emission regulations;
- New powerful rotary: 161 kNm, available on request as 3 gear version;
- Self-erecting mast able to withstand the max torque over the whole length;
- Casing driving by rotary crowd system;
- Crowd system by 5,1 m hydraulic cylinder;
- Advanced instrumentation;
- Reliability and safety;
- Stability and easy to handle;
- High productivity;
- Easy to transport, transport weight 45 tons;
- Mechanical and hydraulic pre-arrangement for casing oscillator (available on request);
- Crowd system by winch (available on request).

### Large diameter bored pile

|   |          |                           |
|---|----------|---------------------------|
| Max pile diameter                                   | mm       | 1500                      |
| Max cased diameter                                  | mm       | 1300                      |
| Max pile depth                                      | m        | 55                        |
| Max torque  | kNm      | 161                       |
| Max drilling speed (standard rotary)                | rpm      | 26                        |
| Max drilling speed (with 3 gear high speed rotary)* | rpm      | 26 / 48 / 102             |
| Spin off speed                                      | rpm      | 160                       |
| Main winch line pull                                | kN       | 150                       |
| Service winch line pull                             | kN       | 65                        |
| Engine <sup>1</sup>                                 | type     | CAT C7 ACERT <sup>®</sup> |
| Max Power   | kW (BHP) | 224 (300) @ 2200 rpm      |
| Cylinder crowd (Pull up/down force on kelly)        | kN       | 155 / 120                 |
| Stroke  | mm       | 5100                      |
| Winch crowd (Pull up/down force on kelly)           | kN       | 180 / 180                 |
| Stroke  | mm       | 11000                     |
| Operating weight (c/w kelly w/o tool) <sup>2</sup>  | ton      | 49                        |
| Transport weight (w/o kelly)                        | ton      | 45                        |

The nominal values are referred to 100% total efficiency. / <sup>1</sup> Meeting the EPA-TIER3 emission regulations. / <sup>2</sup> Weight is based on final configuration.

### Continuous Flight Auger (CFA)

|                               |     |              |
|-------------------------------|-----|--------------|
| Max pile diameter             | mm  | 750 / 1000   |
| Max pile depth <sup>1</sup>   | m   | 20 / 17 / 14 |
| Max extraction force          | kN  | 520          |
| Max torque                    | kNm | 161          |
| Operating weight <sup>2</sup> | ton | 48           |

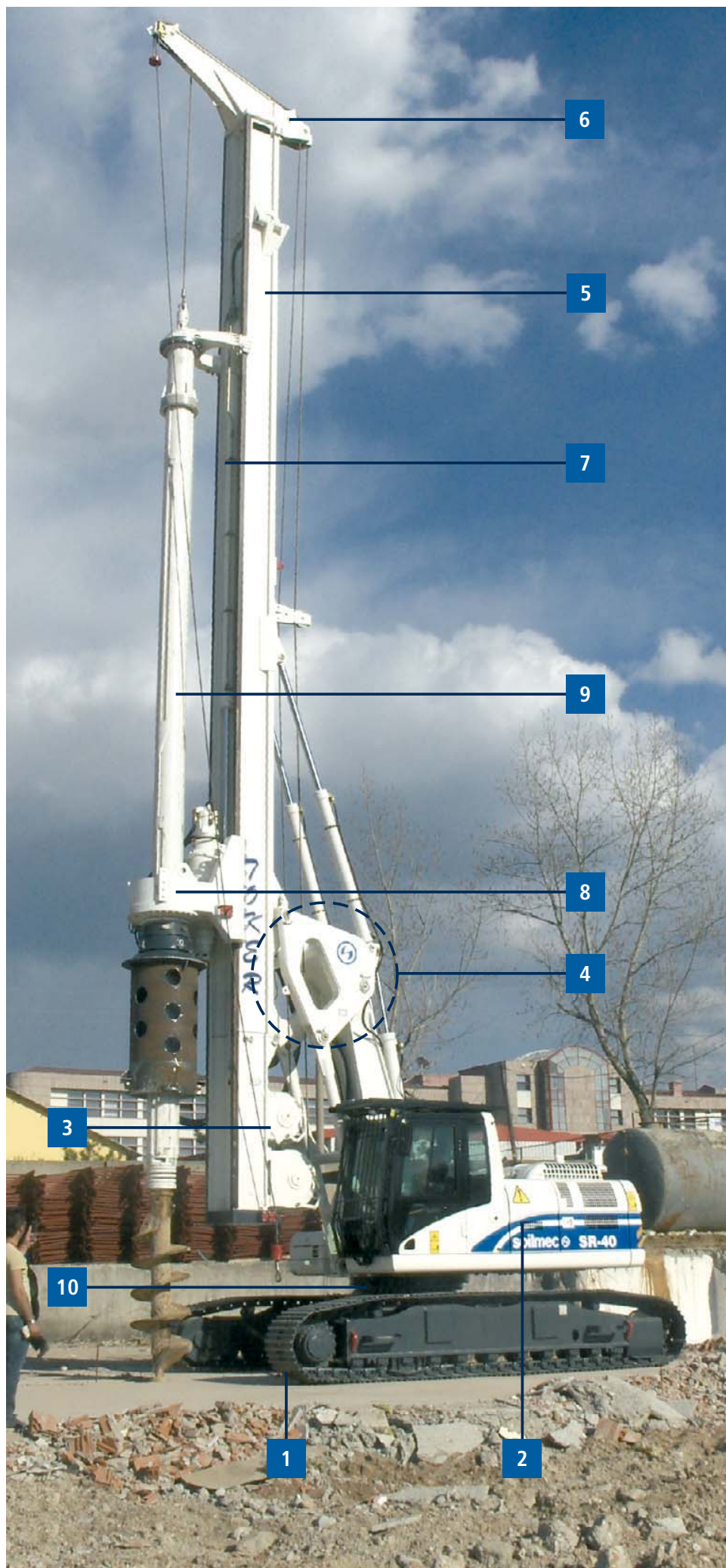
<sup>1</sup> Pile depth depends on sleeve length. / <sup>2</sup> Weight is based on final configuration.

| * 3 gear high speed rotary |     | 1°  | 2° | 3°  |
|----------------------------|-----|-----|----|-----|
| Max drilling speed         | rpm | 26  | 48 | 102 |
| Max torque                 | kNm | 162 | 87 | 24  |

- 1 - **Undercarriage** class D5 with expandable tracks by means of hydraulic cylinders.
- 2 - **Caterpillar** power module 3.25D c/w diesel engine C7 ACERT® and sound proofed canopy, mounted on a 360 degrees slew ring.
- 3 - **Winch** assembly.
- 4 - **Parallelogram system** which allows various working radius and always maintaining the mast in vertical position.
- 5 - **Self-erecting mast** which can withstand the max torque over the whole length it is composed by 11,43 m intermediate element, 2,1 m bottom element and 1,85 m extension.
- 6 - **Sheave cathead.**
- 7 - **Crowd system** by 5,1 m hydraulic cylinder.
- 8 - **Rotary head** with 4 hydraulically shifted drilling speeds and one high speed spin-off. On request a gear with 3 mechanical shifts is available.
- 9 - **Telescopic kelly bar** with guide on mast either available friction or mechanical locking type.
- 10- **Mechanical and hydraulic** pre arrangement for casing oscillator (optional).



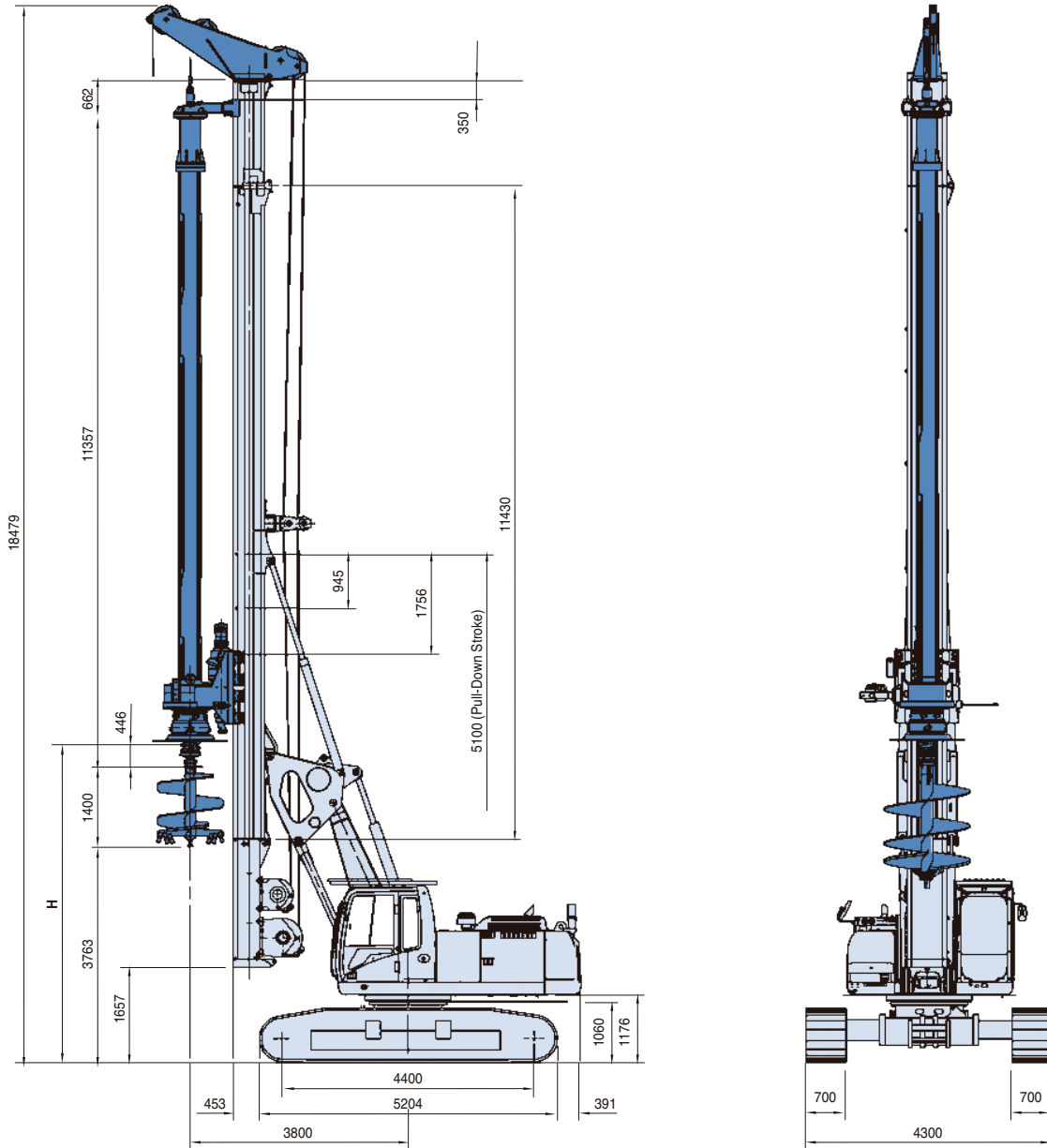
The new SR-40 is installed on new "Caterpillar" turret with easy access to any hydraulic and mechanical parts. New designed cabin allows better visibility and easier way of use.



# SR-40

## LARGE DIAMETER BORED PILES

### Working Condition



### Kelly Bars

#### Mechanical locking kelly bar – Ø 355 mm

| elements<br>n° | length<br>m | depth<br>m | weight<br>ton | H height<br>m |
|----------------|-------------|------------|---------------|---------------|
| 4x             | 6,0         | 18,5       | 2,4           | 6,9           |
| 4x             | 8,0         | 28,5       | 3,0           | 6,9           |
| 4x             | 9,0         | 32,5       | 3,3           | 6,6           |
| 4x             | 10,5        | 38,5       | 3,8           | 5,1           |
| 4x             | 12,0        | 45,0       | 4,2           | 3,4           |
| 4x             | 13,0        | 48,0       | 4,6           | 2,6           |

H = Kelly stub height from ground level

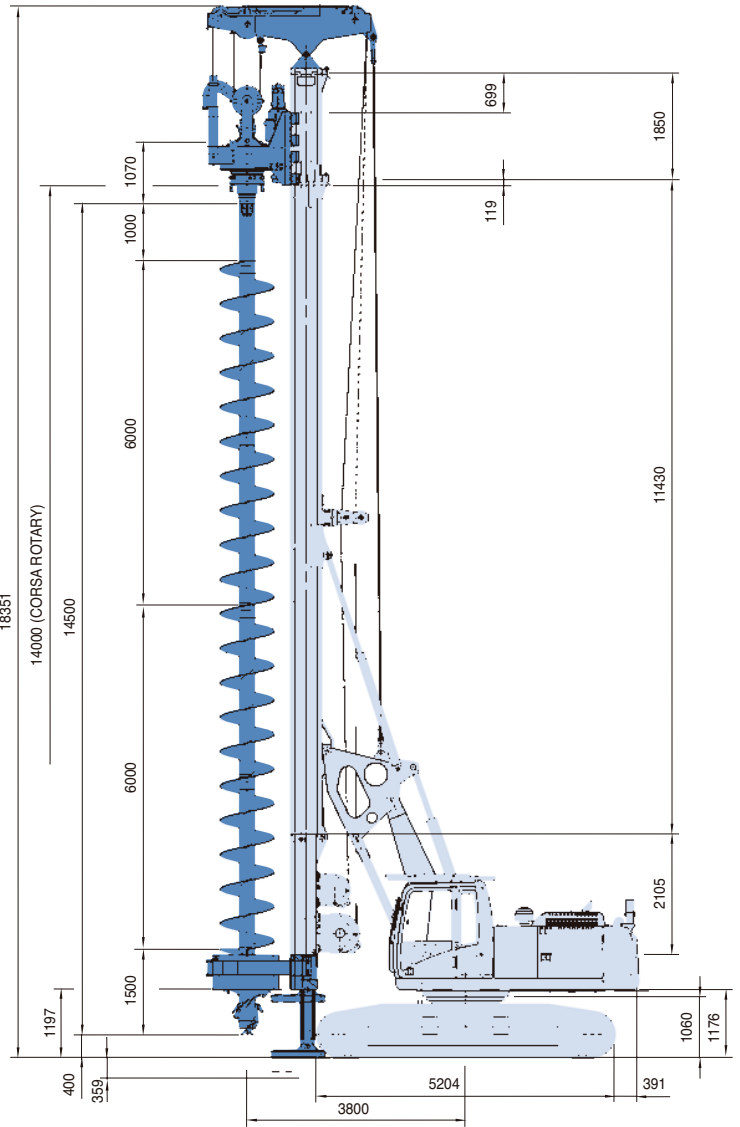
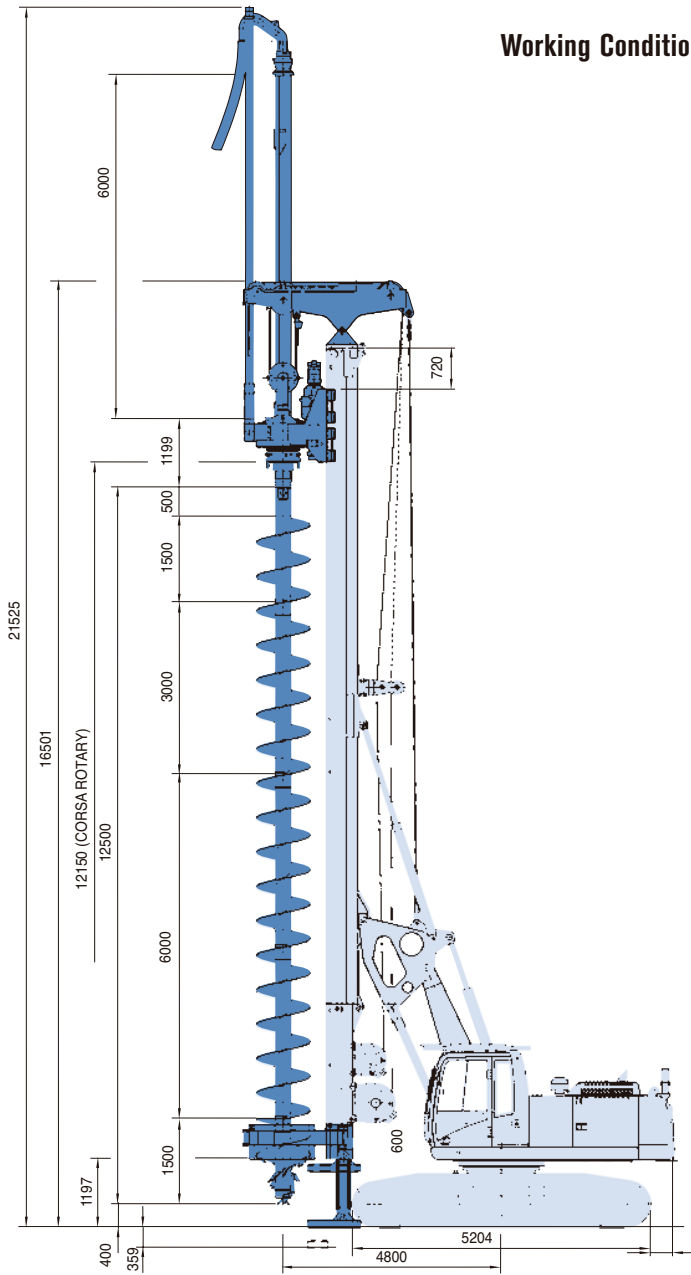
#### Friction kelly bar – Ø 355 mm

| elements<br>n° | length<br>m | depth<br>m | weight<br>ton | H height<br>m |
|----------------|-------------|------------|---------------|---------------|
| 4x             | 6,0         | 20,0       | 2,4           | 6,9           |
| 4x             | 9,0         | 33,0       | 3,4           | 6,6           |
| 4x             | 11,0        | 40,0       | 3,7           | 4,2           |
| 4x             | 12,0        | 46,0       | 4,2           | 3,4           |
| 5x             | 8,5         | 39,0       | 4,1           | 6,9           |
| 5x             | 9,0         | 41,0       | 4,3           | 6,6           |
| 5x             | 11,0        | 50,0       | 5,1           | 3,6           |
| 5x             | 12,0        | 55,0       | 5,5           | 3,8           |

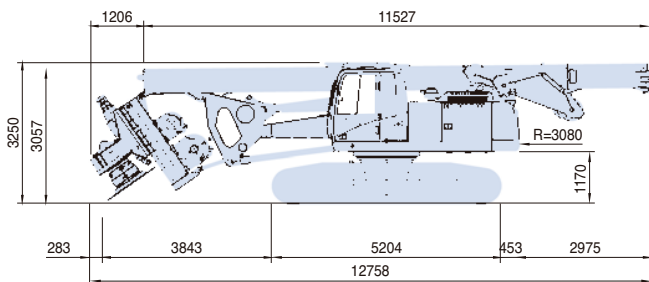
# SR-40

CFA VERSION

## Working Condition



## Transport Conditions LDP







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