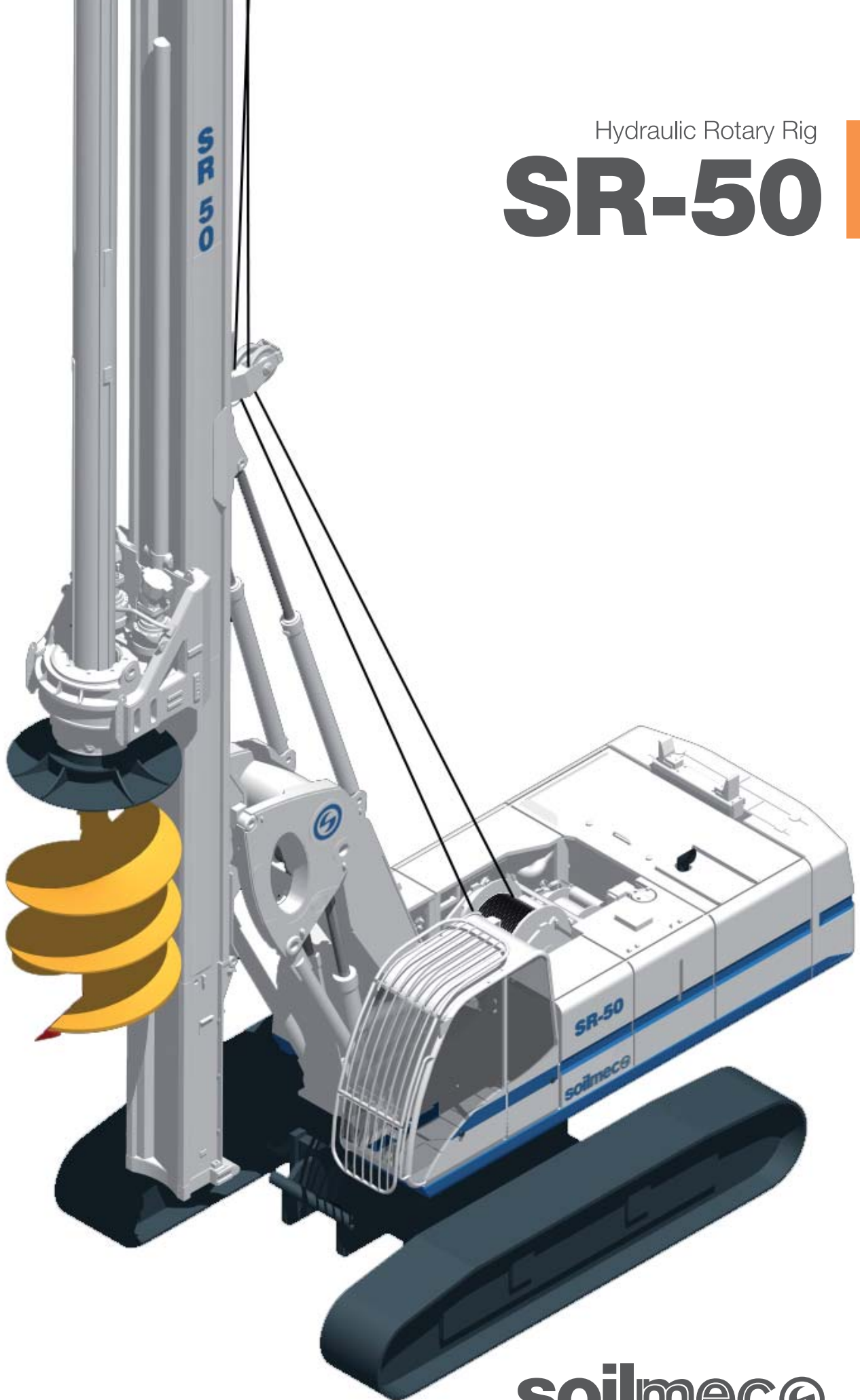


Hydraulic Rotary Rig

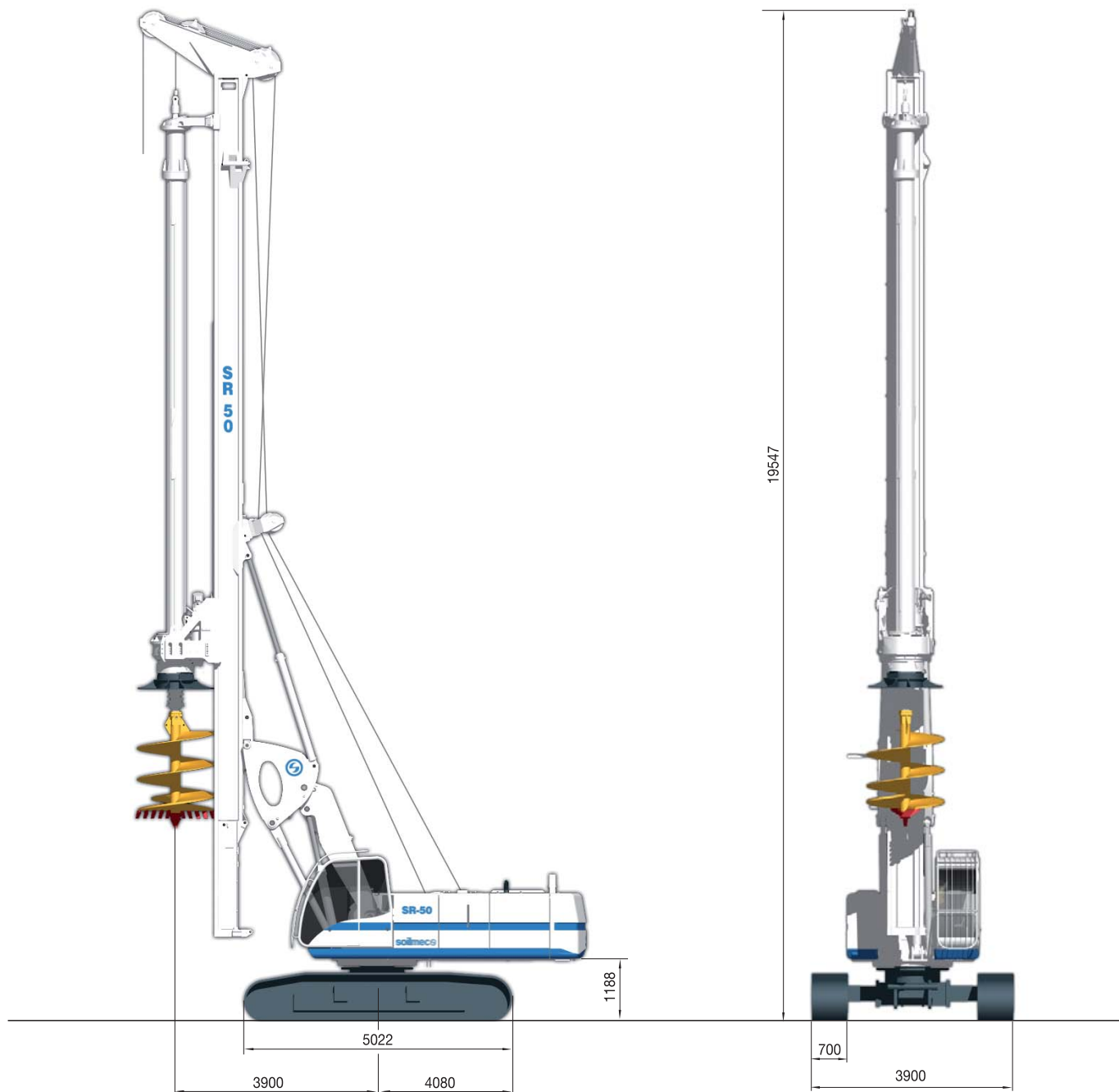
# SR-50



**soilmecc**   
Drilling and Foundation Equipment

# SR-50 Hydraulic Rotary Rig

## LDP APPLICATIONS



### LDP - Large Diameter Piles - CCS version

|   |          |           |
|---|----------|-----------|
| Operating weight c/w 4x11 kelly bar; rotary Ø 355           | 50200 kg | 110671 lb |
| Operating weight c/w 4x11,5 kelly bar; rotary Ø 406         | 53100 kg | 117064 lb |
| Maximum pile diameter                                       | 1500 mm  | 59 in     |
| Max pile diameter - w/o lower mast section, tool below mast | 2000 mm  | 79 in     |
| Maximum pile depth - friction kelly                         | 66 m     | 216 ft    |
| Maximum pile depth - locking kelly                          | 52 m     | 171 ft    |

# SR-50 Hydraulic Rotary Rig

## TECHNICAL DATA SHEET

|   |  |  |
|---|--|--|
| <b>CCS - Cylinder crowd system</b>                  |  |  |
| - Cylinder stroke                                   | 5100 mm  | 201 in   |
| - Crowd force pull (down/up)                        | 133 / 220 kN                                   | 29899 / 49457 lbf                              |
| - Speed up  | 15 m/min                                       | 49 ft/min                                      |
| - Speed down  | 6 / 12,7 m/min                                 | 20 / 42 ft/min                                 |
| <b>Main winch</b>                                   | <b>controlled descent</b>                      | <i>controlled descent</i>                      |
| - Line pull (1st layer)                             | 185 kN   | 41589 lbf                                      |
| - Rope diameter                                     | 24 mm  | 1 in   |
| - Line speed (max.)                                 | 63 m/min                                       | 207 ft/min                                     |
| <b>Auxiliary winch</b>                              | <b>controlled descent</b>                      | <i>controlled descent</i>                      |
| - Line pull (1st layer)                             | 75 kN  | 16860 lbf                                      |
| - Rope diameter                                     | 18 mm  | 0.71 in  |
| - Line speed (max.)                                 | 62 m/min                                       | 203 ft/min                                     |
| <b>Engine type</b>                                  | <b>CAT C17 ACERT</b>                           | <i>CAT C17 ACERT</i>                           |
| - Rated output ISO 3046-I                           | 187 kW @ 1800 rpm                              | 251 HP @ 1800 rpm                              |
| - Engine conforms to Exhaust emission Standard      | <b>EU stage IIIA, US EPA Tier 3</b>            | <i>EU stage IIIA, US EPA Tier 3</i>            |
| - Aspiration  | <b>Turbocharged and charge air cooled</b>      | <i>Turbocharged and charge air cooled</i>      |
| - Diesel tank capacity                              | 400 l  | 106 US gal                                     |
| <b>Hydraulic system rated pressure</b>              | <b>32 Mpa</b>                                  | <i>4786 psi</i>                                |
| - Flow rates (main circuits)                        | 2x 230 l/min                                   | 2x 61 US gal/min                               |
| - Hydraulic oil tank capacity                       | 440 l  | 116 US gal                                     |
| <b>Undercarriage</b>                                | <b>variable gauge, telescoping side frames</b> | <i>variable gauge, telescoping side frames</i> |
| - Overall width of crawlers retracted/extended      | 2500 / 3900 mm                                 | 99 / 154 in                                    |
| - Width of triple grouser track shoes               | 700 mm   | 28 in  |
| - Overall length of crawlers                        | 5200 mm  | 205 in   |
| - Traction force                                    | 410 kN   | 92170 lbf                                      |
| - Travel speed                                      | 2,3 km/h                                       | 1.4 mph  |
| <b>Mast inclination - Backward/ Forward/Lateral</b> | <b>10/4/3°</b>                                 | <i>10/4/3°</i>                                 |

## STANDARD EQUIPMENT

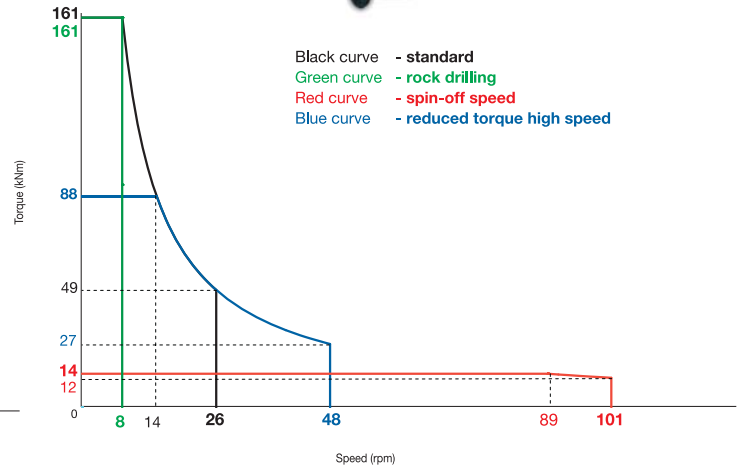
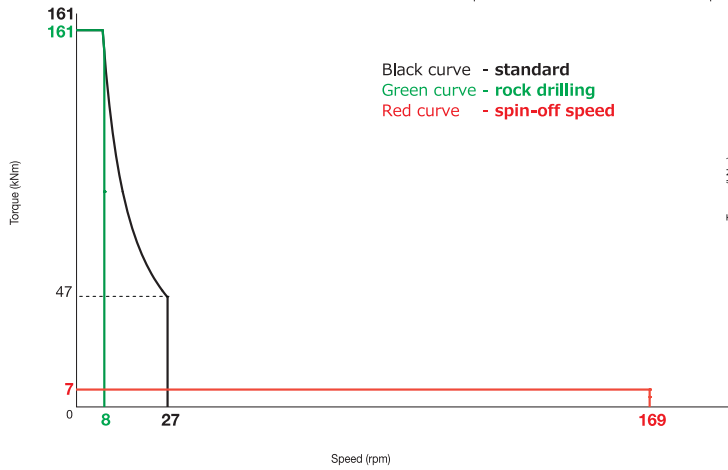
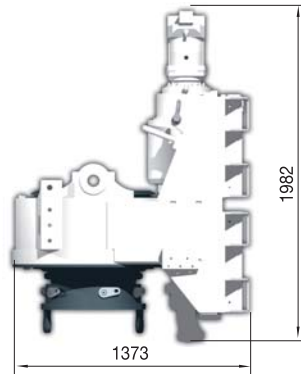
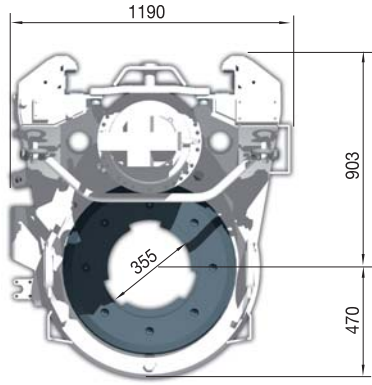
- Main and auxiliary winch controlled descent type with special grooving
- Hoist limit switch on main rope
- Swivel for main rope
- Service rope parking point
- DMS system electronic monitoring and visualization system
- Mast inclination measurement on X/Y axes (digital/analog display)
- Automatic vertical mast alignment
- Depth measuring device on main winch
- Speed measuring device on rotary
- Crowd pressure setting
- Oscillator attachment brackets
- Central lubrication system
- Emergency mode of operation for engine
- Engine diagnostic system
- Diagnostic panel for hydraulic functions
- Removable counterweight
- Transport securing lugs on crawler units
- Access ladder on upper carriage
- On board lighting set
- On board tool set
- Electric refuelling pump
- High comfort operator's CAT cab (1000 mm width)
- Protective roof grate (FOPS compliant)
- Air conditioning system
- Radio and CD player

## OPTIONAL EQUIPMENT

- Biodegradable oil
- Pressurized air conditioning system
- Freefall auxiliary winch
- Swivel for auxiliary rope
- Videocamera set
- Main winch load cell
- CFA version - additional crowd force on auger (90kN)

# SR-50 Hydraulic Rotary Rig

## ROTARY HEAD RD-160 /160G Ø 355 mm and RD-170 Ø 406 mm



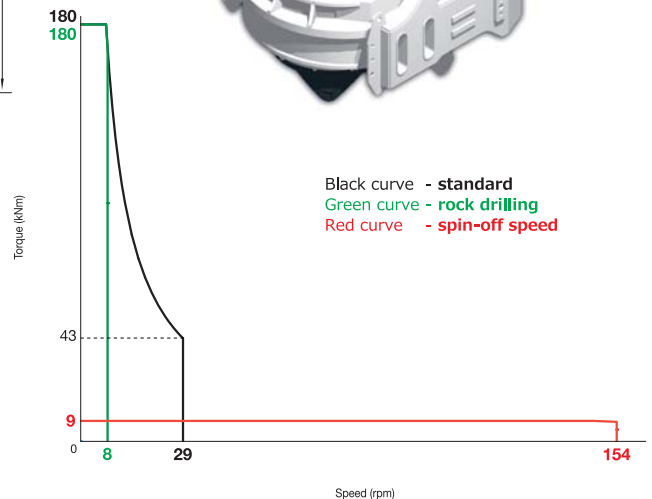
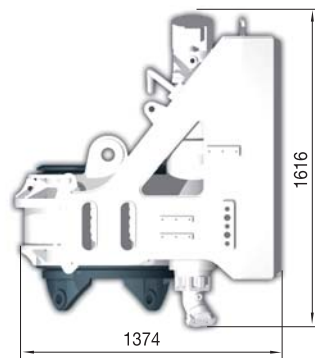
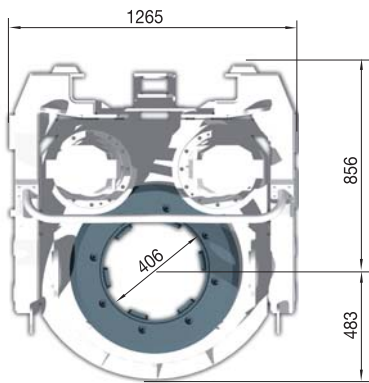
### Rotary Drive Ø 355 - Single gear, Spin off type

|                          |          |               |
|--------------------------|----------|---------------|
| - Max torque*            | 161 kNm  | 118746 lbf*ft |
| - Rated torque**         | 147 kNm  | 108420 lbf*ft |
| - Maximum drilling speed | 25,2 rpm | 25 rpm        |
| - Spinoff speed          | 130 rpm  | 130 rpm       |
| - Inner passage w/o ribs | 407 mm   | 16 in         |

### Rotary Drive Ø 355 - Shifting gear

|                          |          |               |
|--------------------------|----------|---------------|
| - Max torque*            | 162 kNm  | 119483 lbf*ft |
| - Rated torque**         | 145 kNm  | 106945 lbf*ft |
| - Maximum drilling speed | 25,7 rpm | 26 rpm        |
| - Spinoff speed          | 101 rpm  | 101 rpm       |
| - Inner passage w/o ribs | 407 mm   | 16 in         |

\*Theoretical; \*\*Theoretical, restricted, intermittent

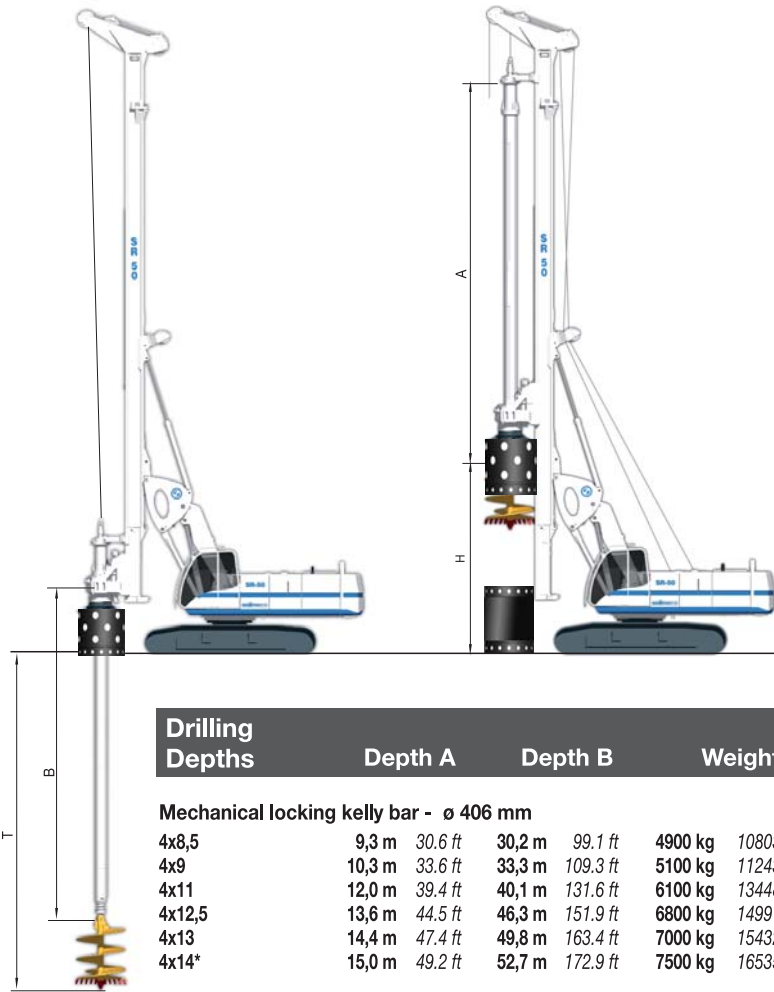


### Rotary Drive Ø 406 - Single gear, Spin off type

|                          |         |               |
|--------------------------|---------|---------------|
| - Max torque*            | 180 kNm | 132759 lbf*ft |
| - Rated torque**         | 159 kNm | 117270 lbf*ft |
| - Maximum drilling speed | 29 rpm  | 29 rpm        |
| - Spinoff speed          | 144 rpm | 144 rpm       |
| - Inner passage w/o ribs | 458 mm  | 18 in         |

\*Theoretical; \*\*Theoretical, restricted, intermittent

# SR-50 Hydraulic Rotary Rig KELLY DRILLING SYSTEM



| Drilling Depths                                | Depth A |         | Depth B |          | Weight  | CYLINDER  |          |           |          | WINCH     |          |           |          |          |
|--|---------|---------|---------|----------|---------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|----------|
|  |         |         |         |          |         | High pos. | Low pos. | High pos. | Low pos. | High pos. | Low pos. | High pos. | Low pos. |          |
| <b>Mechanical locking kelly bar - ø 406 mm</b> |         |         |         |          |         |           |          |           |          |           |          |           |          |          |
| 4x8,5  | 9,3 m   | 30.6 ft | 30,2 m  | 99.1 ft  | 4900 kg | 10803 lb  | 6,0 m    | 19.7 ft   | 29,3 m   | 96.0 ft   | 8,1 m    | 26.6 ft   | 27,2 m   | 89.1 ft  |
| 4x9  | 10,3 m  | 33.6 ft | 33,3 m  | 109.3 ft | 5100 kg | 11243 lb  | 6,0 m    | 19.7 ft   | 32,4 m   | 106.2 ft  | 7,7 m    | 25.2 ft   | 30,3 m   | 99.3 ft  |
| 4x11   | 12,0 m  | 39.4 ft | 40,1 m  | 131.6 ft | 6100 kg | 13448 lb  | 5,9 m    | 19.5 ft   | 39,2 m   | 128.5 ft  | 5,9 m    | 19.5 ft   | 37,1 m   | 121.6 ft |
| 4x12,5   | 13,6 m  | 44.5 ft | 46,3 m  | 151.9 ft | 6800 kg | 14991 lb  | 4,4 m    | 14.4 ft   | 45,4 m   | 148.8 ft  | -        | -         | -        | -        |
| 4x13   | 14,4 m  | 47.4 ft | 49,8 m  | 163.4 ft | 7000 kg | 15432 lb  | 3,5 m    | 11.5 ft   | 48,9 m   | 160.3 ft  | -        | -         | -        | -        |
| 4x14*  | 15,0 m  | 49.2 ft | 52,7 m  | 172.9 ft | 7500 kg | 16535 lb  | 2,9 m    | 9.6 ft    | 51,8 m   | 169.8 ft  | -        | -         | -        | -        |
| <b>Friction kelly bar - ø 406 mm</b>           |         |         |         |          |         |           |          |           |          |           |          |           |          |          |
| 4x10,5   | 11,4 m  | 37.5 ft | 38,4 m  | 126.0 ft | 5800 kg | 12787 lb  | 6,0 m    | 19.7 ft   | 37,5 m   | 122.9 ft  | 6,5 m    | 21.4 ft   | 35,4 m   | 116.0 ft |
| 4x11   | 12,3 m  | 39.4 ft | 40,8 m  | 127.0 ft | 6100 kg | 12787 lb  | 5,7 m    | 19.5 ft   | 39,9 m   | 123.9 ft  | 5,7 m    | 18.6 ft   | 37,8 m   | 123.9 ft |
| 4x11,5   | 12,8 m  | 42.0 ft | 42,8 m  | 140.4 ft | 6300 kg | 13889 lb  | 5,2 m    | 16.9 ft   | 41,9 m   | 137.3 ft  | 5,2 m    | 16.9 ft   | 39,8 m   | 130.4 ft |
| 4x13,5   | 14,6 m  | 47.8 ft | 51,1 m  | 167.6 ft | 7300 kg | 16094 lb  | 3,4 m    | 11.1 ft   | 50,2 m   | 164.6 ft  | -        | -         | -        | -        |
| 5x10,5*  | 11,3 m  | 37.1 ft | 47,7 m  | 156.5 ft | 6100 kg | 13448 lb  | 6,0 m    | 19.7 ft   | 46,8 m   | 153.4 ft  | 6,6 m    | 21.8 ft   | 44,7 m   | 146.5 ft |
| 5x11*  | 12,0 m  | 39.4 ft | 50,0 m  | 164.0 ft | 6400 kg | 14109 lb  | 5,9 m    | 19.5 ft   | 49,1 m   | 161.0 ft  | 5,9 m    | 19.5 ft   | 47,0 m   | 154.0 ft |
| 5x11,5*  | 12,4 m  | 40.8 ft | 53,1 m  | 174.2 ft | 6600 kg | 14550 lb  | 5,5 m    | 18.1 ft   | 52,2 m   | 171.1 ft  | 5,5 m    | 18.1 ft   | 50,1 m   | 164.2 ft |
| 5x12*  | 13,0 m  | 42.7 ft | 55,0 m  | 180.4 ft | 6800 kg | 14991 lb  | 4,9 m    | 16.2 ft   | 54,1 m   | 177.4 ft  | 4,9 m    | 16.2 ft   | 52,0 m   | 170.5 ft |
| 4x13*  | 14,4 m  | 47.3 ft | 62,2 m  | 204.1 ft | 7300 kg | 16094 lb  | 3,5 m    | 11.6 ft   | 61,3 m   | 201.0 ft  | -        | -         | -        | -        |
| 5x13,5*  | 14,4 m  | 47.4 ft | 63,5 m  | 208.3 ft | 7600 kg | 16755 lb  | 3,5 m    | 11.5 ft   | 62,6 m   | 205.2 ft  | -        | -         | -        | -        |
| 5x14*  | 14,8 m  | 48.7 ft | 63,8 m  | 209.3 ft | 7600 kg | 16755 lb  | 3,1 m    | 10.2 ft   | 62,9 m   | 206.2 ft  | -        | -         | -        | -        |
| <b>Mechanical locking kelly bar - ø 355 mm</b> |         |         |         |          |         |           |          |           |          |           |          |           |          |          |
| 3x8  | 9,1 m   | 29.9 ft | 22,5 m  | 73.8 ft  | 3100 kg | 6834 lb   | 6,0 m    | 19.7 ft   | 21,6 m   | 70.7 ft   | 8,1 m    | 26.6 ft   | 19,5 m   | 63.8 ft  |
| 4x6  | 6,7 m   | 21.9 ft | 20,0 m  | 65.6 ft  | 2500 kg | 5512 lb   | 6,0 m    | 19.7 ft   | 19,1 m   | 62.5 ft   | 8,1 m    | 26.6 ft   | 17,0 m   | 55.6 ft  |
| 4x8  | 9,4 m   | 30.7 ft | 30,2 m  | 99.1 ft  | 3100 kg | 6834 lb   | 6,0 m    | 19.7 ft   | 29,3 m   | 96.0 ft   | 8,1 m    | 26.6 ft   | 27,2 m   | 89.1 ft  |
| 4x9  | 10,2 m  | 33.4 ft | 33,2 m  | 108.9 ft | 3400 kg | 7496 lb   | 6,0 m    | 19.7 ft   | 32,3 m   | 105.8 ft  | 7,8 m    | 25.5 ft   | 30,2 m   | 98.9 ft  |
| 4x10,5   | 11,8 m  | 38.7 ft | 39,8 m  | 130.6 ft | 3900 kg | 8598 lb   | 6,0 m    | 19.7 ft   | 38,9 m   | 127.5 ft  | 6,2 m    | 20.2 ft   | 36,8 m   | 120.6 ft |
| 4x12   | 13,4 m  | 43.8 ft | 46,0 m  | 150.9 ft | 4300 kg | 9480 lb   | 4,6 m    | 15.1 ft   | 45,1 m   | 147.8 ft  | -        | -         | -        | -        |
| 4x13   | 14,0 m  | 45.9 ft | 49,5 m  | 162.4 ft | 4600 kg | 10141 lb  | 4,0 m    | 13.0 ft   | 48,6 m   | 159.3 ft  | -        | -         | -        | -        |
| <b>Friction kelly bar- ø 355 mm</b>            |         |         |         |          |         |           |          |           |          |           |          |           |          |          |
| 4x9  | 10,0 m  | 32.8 ft | 33,5 m  | 109.9 ft | 3100 kg | 6834 lb   | 6,0 m    | 19.7 ft   | 32,6 m   | 106.8 ft  | 8,0 m    | 26.1 ft   | 30,5 m   | 99.9 ft  |
| 4x11   | 11,6 m  | 38.2 ft | 40,1 m  | 131.6 ft | 4000 kg | 8818 lb   | 6,0 m    | 19.7 ft   | 39,2 m   | 128.5 ft  | 6,3 m    | 20.7 ft   | 37,1 m   | 121.6 ft |
| 4x12   | 12,9 m  | 42.2 ft | 46,0 m  | 150.9 ft | 4600 kg | 10141 lb  | 5,1 m    | 16.7 ft   | 45,1 m   | 147.8 ft  | 5,1 m    | 16.7 ft   | 43,0 m   | 140.9 ft |
| 5x8,5*   | 9,6 m   | 31.6 ft | 39,8 m  | 130.6 ft | 3900 kg | 8598 lb   | 6,0 m    | 19.7 ft   | 38,9 m   | 127.5 ft  | 8,1 m    | 26.6 ft   | 36,8 m   | 120.6 ft |
| 5x9*   | 10,0 m  | 32.8 ft | 41,3 m  | 135.5 ft | 4100 kg | 9039 lb   | 6,0 m    | 19.7 ft   | 40,4 m   | 132.4 ft  | 8,0 m    | 26.1 ft   | 38,3 m   | 125.5 ft |
| 5x9,5*   | 10,4 m  | 34.1 ft | 43,6 m  | 143.0 ft | 4300 kg | 9480 lb   | 6,0 m    | 19.7 ft   | 42,7 m   | 140.0 ft  | 7,6 m    | 24.8 ft   | 40,6 m   | 133.1 ft |
| 5x10*  | 11,0 m  | 36.1 ft | 46,6 m  | 152.9 ft | 4400 kg | 9700 lb   | 6,0 m    | 19.7 ft   | 45,7 m   | 149.8 ft  | 7,0 m    | 22.8 ft   | 43,6 m   | 142.9 ft |
| 5x11*  | 11,6 m  | 38.2 ft | 49,7 m  | 163.1 ft | 4800 kg | 10582 lb  | 6,0 m    | 19.7 ft   | 48,8 m   | 160.0 ft  | 6,3 m    | 20.7 ft   | 46,7 m   | 153.1 ft |
| 5x12*  | 12,9 m  | 42.2 ft | 56,0 m  | 183.7 ft | 5200 kg | 11464 lb  | 5,1 m    | 16.7 ft   | 55,1 m   | 180.6 ft  | 5,1 m    | 16.7 ft   | 53,0 m   | 173.7 ft |
| 5x13*  | 14,0 m  | 45.8 ft | 61,4 m  | 201.4 ft | 5500 kg | 12125 lb  | 4,0 m    | 13.1 ft   | 60,5 m   | 198.4 ft  | -        | -         | -        | -        |

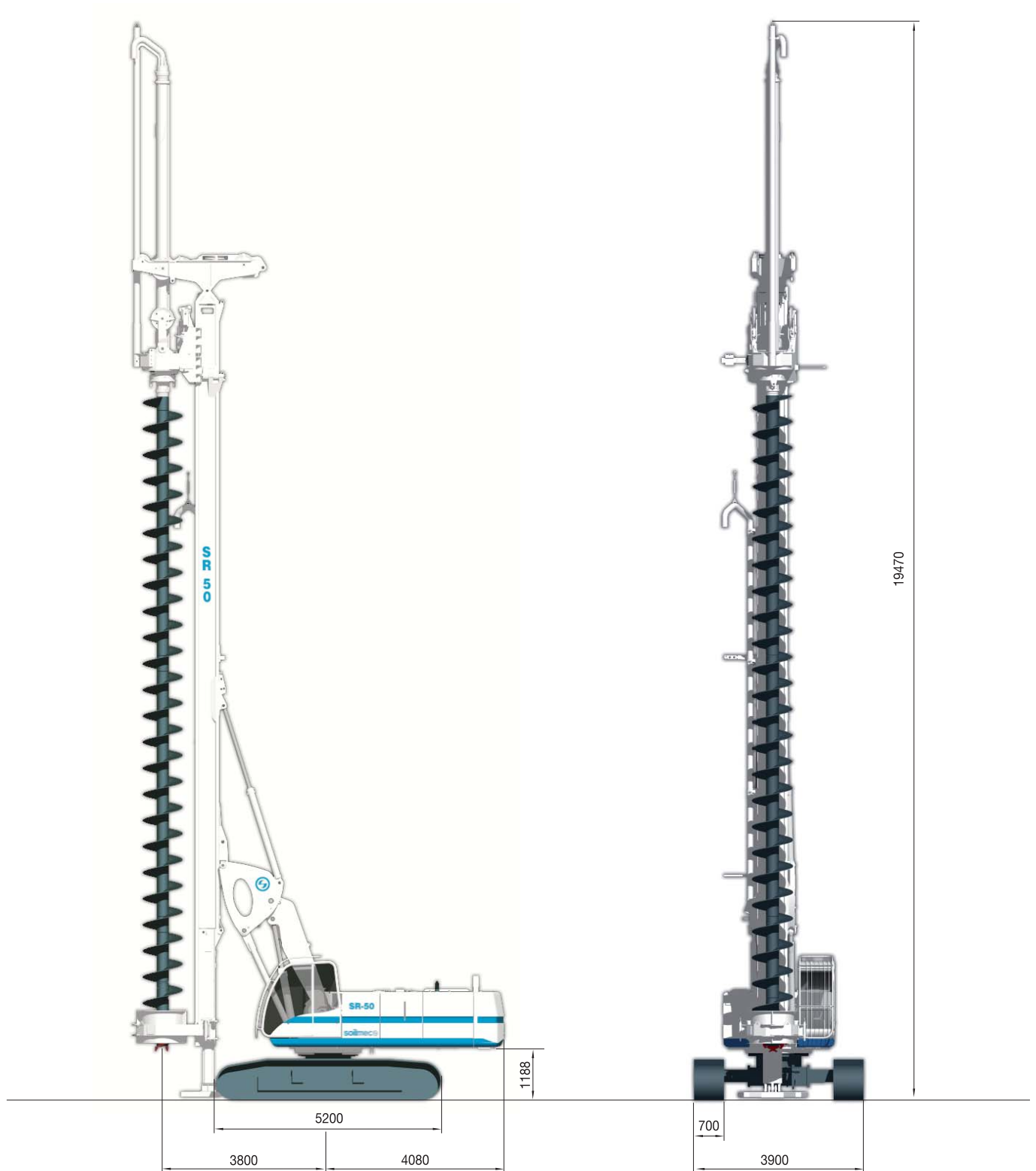
\* rotary head to be reset

| Drilling Diameters | CYLINDER |         | WINCH   |       |
|--------------------|----------|---------|---------|-------|
| Uncased            | 2000 mm  | 78.8 in | 1600 mm | 63 in |
| Cased              | 1800 mm  | 70.9 in | 1600 mm | 63 in |



# SR-50 Hydraulic Rotary Rig

## CFA APPLICATIONS

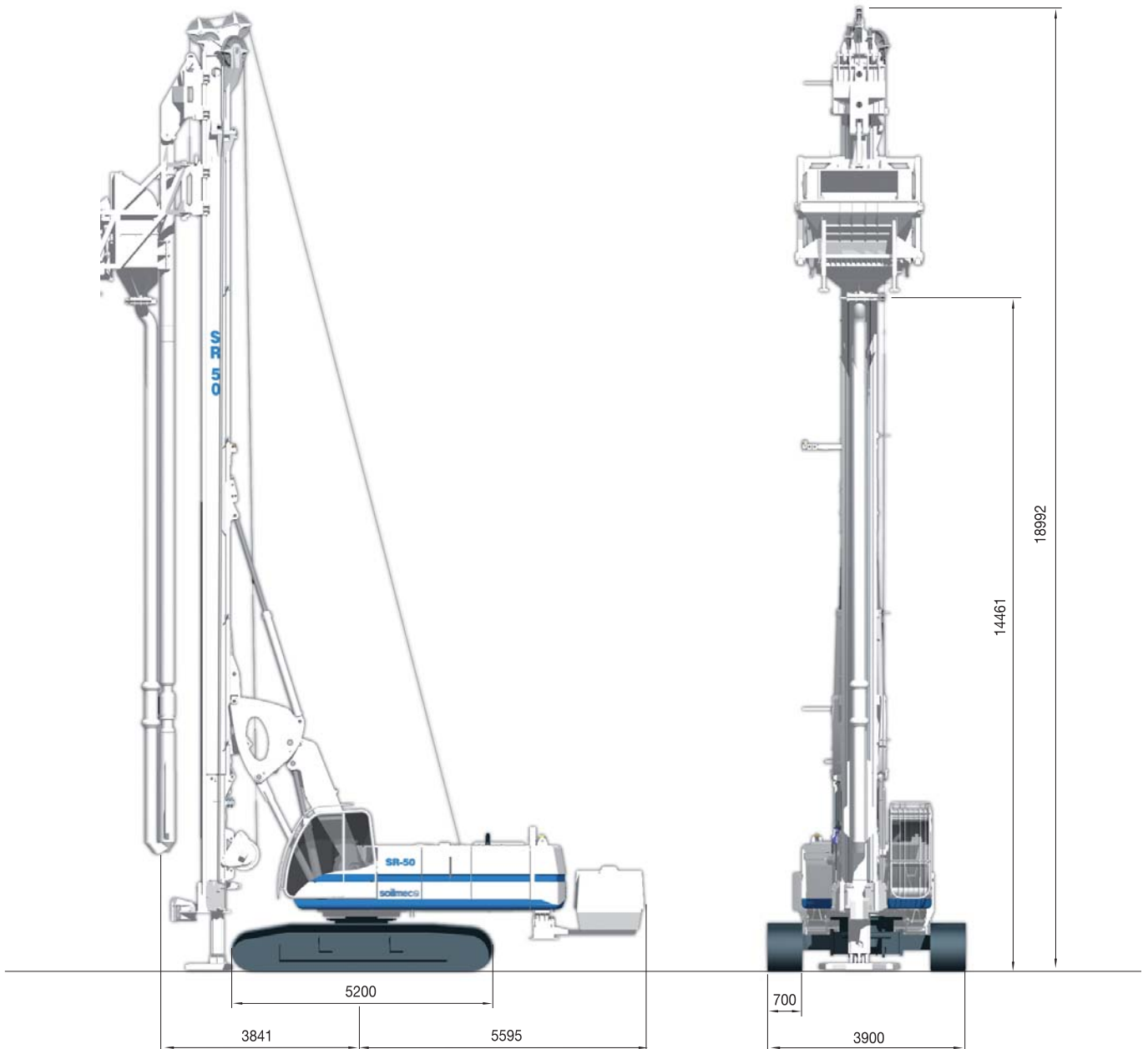


### CFA - Continuous Flight Auger

|   |                  |                    |
|---|------------------|--------------------|
| Operating weight rotary Ø 355 - Ø 406                     | 48000 - 48500 kg | 105821 - 106923 lb |
| Maximum pile diameter                                     | 1000 mm          | 39 in              |
| Max auger extension length rotary Ø 355 - Ø 406           | 4,5 - 6 m        | 15 - 20 ft         |
| Maximum pile depth rotary Ø 355 - Ø 406                   | 19,5 - 21 m      | 64 - 69 ft         |
| Maximum pile depth c/w auger cleaner rotary Ø 355 - Ø 406 | 18,3 - 19,8 m    | 60 - 65 ft         |
| Extraction force  | 520 kN           | 116899 lbf         |

# SR-50 Hydraulic Rotary Rig

## BFS APPLICATIONS

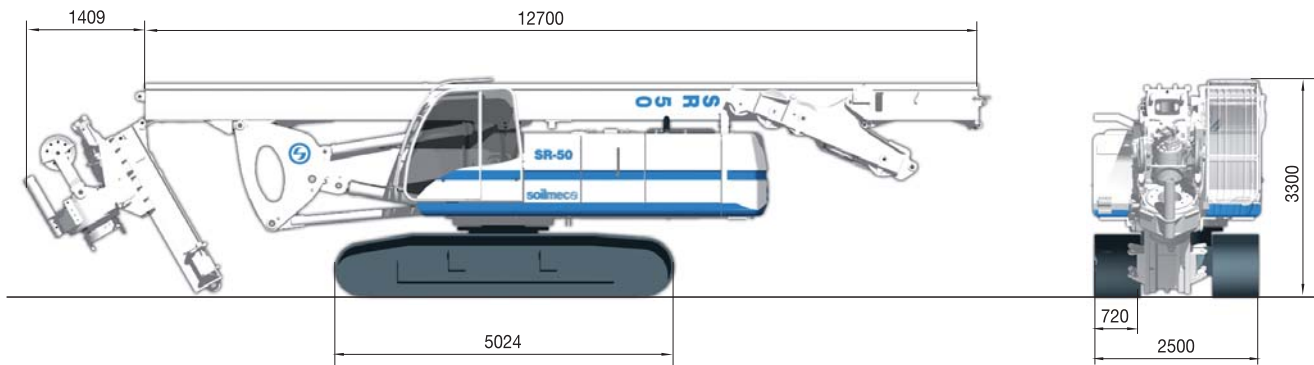
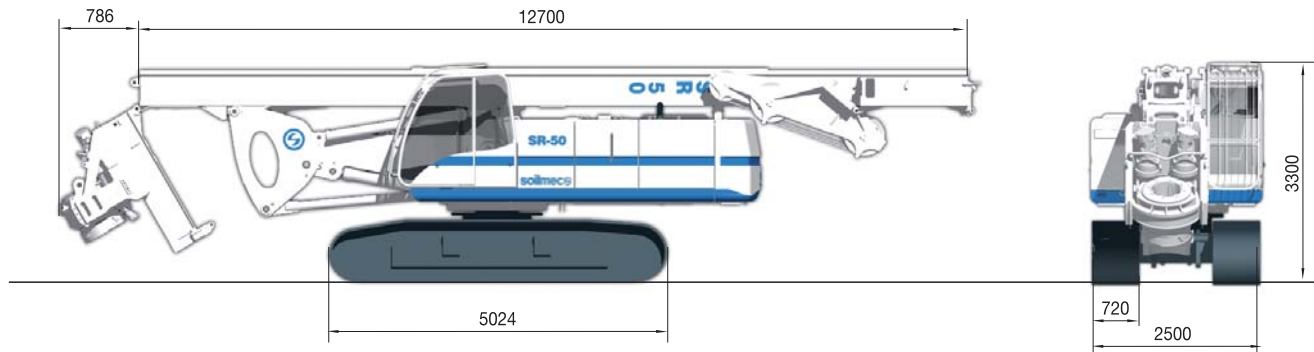


### BFS - Bottom Feed System

|  |                          |                  |
|--|--------------------------|------------------|
| Deep vibrator max penetration            | 10,4 m                   | 34 ft            |
| Eccentric moment                         | 1,8 kgm                  | 13.02 lbft       |
| Max centrifugal force                    | 181 kN                   | 40690 lbf        |
| Max rotation speed and frequency         | 3000 rpm - 50 Hz         | 3000 rpm - 50 Hz |
| Winch crowd stroke                       | 14000 mm                 | 551 in           |
| Pull down/up force on casing (nominal)   | 180/227 kN               | 40466/51032 lbf  |
| Air compressor delivery rated (ISO 1217) | 10,5 m <sup>3</sup> /min | 2774 gpm         |

# SR-50 Hydraulic Rotary Rig

## TRANSPORT, DIMENSIONS AND WEIGHTS



| Transport configuration |                            |                  |                    |
|-------------------------|----------------------------|------------------|--------------------|
| Width                   |                            | 2550 mm          | 100 in             |
| Height                  |                            | 3300 mm          | 130 in             |
| Length - LDP version    | Rotary Ø 355 mm - Ø 406 mm | 13630 - 13590 mm | 537 - 535 in       |
| Length - CFA version    | Rotary Ø 355 mm - Ø 406 mm | 14210 - 14210 mm | 559 - 598 in       |
| Weight - LDP version    | Rotary Ø 355 mm - Ø 406 mm | 45800 - 46300 kg | 100971 - 102073 lb |

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