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**CERTIFIED QUALITY SYSTEM**

In 1990 Soilmec was awarded the certification of its own Quality System to the ISO 9001:2000 series standard.
A new model

After the success of the R-312 HD Soilmecc introduces the new model R-312/200 performing:
- bored piles with dry drilling or bentonite mud
- continuous flight auger piles (CFA)

The main features of the R-312/200 are the following:
- new powerful rotary
- high speed drilling
- easy transport: it can be transported with rotary and kelly bar installed
- compliance with the machine laws for safety standards
- total reduction of rig up time, about 20 minutes from arrival to the job site
- easy to use and handle
- low operating costs
- wide range of accessories (depthmeter, inclinometer, air conditioning, free fall winch)

### Large diameter bored pile

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max pile diameter</td>
<td>mm</td>
<td>1500</td>
</tr>
<tr>
<td>Max pile depth</td>
<td>m</td>
<td>48 (with 5x11 kelly bar)</td>
</tr>
<tr>
<td></td>
<td>m</td>
<td>38.5 (with 4x11 kelly bar)</td>
</tr>
<tr>
<td>Max nominal torque</td>
<td>kNm</td>
<td>130</td>
</tr>
<tr>
<td>Max drilling speed</td>
<td>rpm</td>
<td>42</td>
</tr>
<tr>
<td>Spin off speed</td>
<td>rpm</td>
<td>153</td>
</tr>
<tr>
<td>Main winch nominal line pull</td>
<td>kN</td>
<td>133</td>
</tr>
<tr>
<td>Auxiliary winch nominal line  pull</td>
<td>kN</td>
<td>56</td>
</tr>
<tr>
<td>Engine</td>
<td>Type</td>
<td>CUMMINS QS85.9</td>
</tr>
<tr>
<td>Power</td>
<td>BHP</td>
<td>200 @ 2200 rpm</td>
</tr>
<tr>
<td>Crowd system</td>
<td>kN</td>
<td>123.7 / 101.8</td>
</tr>
<tr>
<td>Operating weight</td>
<td>tons</td>
<td>35</td>
</tr>
<tr>
<td>Transport weight (c/w kelly bar)</td>
<td>tons</td>
<td>34</td>
</tr>
</tbody>
</table>

The nominal values are referred to 100% total efficiency.

### Continuous Flight Auger (CFA)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max pile diameter</td>
<td>mm</td>
<td>750</td>
</tr>
<tr>
<td>Max pile depth</td>
<td>m</td>
<td>13-6</td>
</tr>
<tr>
<td>Max nominal extraction force</td>
<td>kN</td>
<td>380</td>
</tr>
<tr>
<td>Transport weight</td>
<td>tons</td>
<td>31</td>
</tr>
</tbody>
</table>

### Friction kelly bar – Ø 355 mm

<table>
<thead>
<tr>
<th>No.</th>
<th>Length</th>
<th>Depth</th>
<th>Weight</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x</td>
<td>6.0</td>
<td>19.0</td>
<td>2.4</td>
<td>5.0</td>
</tr>
<tr>
<td>4x</td>
<td>7.5</td>
<td>25.0</td>
<td>2.9</td>
<td>5.0</td>
</tr>
<tr>
<td>4x</td>
<td>9.0</td>
<td>32.0</td>
<td>3.3</td>
<td>5.0</td>
</tr>
<tr>
<td>4x</td>
<td>11.0</td>
<td>39.0</td>
<td>3.9</td>
<td>4.6</td>
</tr>
<tr>
<td>5x</td>
<td>9.0</td>
<td>40.0</td>
<td>4.3</td>
<td>5.0</td>
</tr>
<tr>
<td>5x</td>
<td>11.0</td>
<td>48.0</td>
<td>5.1</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Standard dimension of tool connection is 130x130 mm / 4x kelly stub height from ground level.

### Mechanical locking kelly bar – Ø 355 mm

<table>
<thead>
<tr>
<th>No.</th>
<th>Length</th>
<th>Depth</th>
<th>Weight</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x</td>
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</tr>
<tr>
<td>4x</td>
<td>11.0</td>
<td>38.0</td>
<td>3.9</td>
<td>4.6</td>
</tr>
</tbody>
</table>
A new model HYDRAULIC ROTARY RIG
- low operating costs
- easy to use and handle
- total reduction of rig up time, about 20 minutes from arrival to the job site
- compliance with the machine laws for safety standards
- easy transport: it can be transported with rotary and kelly bar installed
- high speed drilling
- bored piles with dry drilling or bentonite mud

After the success of the R-312 HD Soilmec introduces the new model R-312/200 performing:

- Large diameter bored pile
- Sheave cathead
- Turret
- Winch assembly
- Grand system by means of 3.5 m hydraulic cylinder
- Rocking head with 3 rocking speeds and one high speed off-speed
- Televisory tool bar with guide to main crane
- CFA standard version
- CFA 360° version
- CFA low overhead version

<table>
<thead>
<tr>
<th>Medium diameter bored pile</th>
<th>Large diameter bored pile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max pile diameter</td>
<td>Max pile diameter</td>
</tr>
<tr>
<td>900 mm</td>
<td>1200 mm</td>
</tr>
<tr>
<td>Max number of elements</td>
<td>Max number of elements</td>
</tr>
<tr>
<td>5 x 11</td>
<td>5 x 11</td>
</tr>
<tr>
<td>Max number of kelly bar</td>
<td>Max number of kelly bar</td>
</tr>
<tr>
<td>5 x 11</td>
<td>5 x 11</td>
</tr>
<tr>
<td>Max drilling speed</td>
<td>Max drilling speed</td>
</tr>
<tr>
<td>13500 rpm (MIN. 3000)</td>
<td>13500 rpm (MIN. 3000)</td>
</tr>
<tr>
<td>Operating weight</td>
<td>Operating weight</td>
</tr>
<tr>
<td>1000 kg</td>
<td>1000 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contiguous Flight Auger (CFA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max pile diameter</td>
</tr>
<tr>
<td>1200 mm</td>
</tr>
<tr>
<td>Max number of elements</td>
</tr>
<tr>
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</tr>
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<tr>
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</tr>
<tr>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport weight</td>
</tr>
<tr>
<td>12200 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Working Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working condition</td>
</tr>
<tr>
<td>32500 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport weight</td>
</tr>
<tr>
<td>4340 kg</td>
</tr>
</tbody>
</table>
The main features of the R-312/200 are the following:

- Continuously variable torque due to variable speed of the hydraulic engine
- Large bore diameter piles
- Extended tool length
- Large working radius
- Working capacity allowing working radius adjustment almost maintaining the mast vertical position
- Crowd system components and mast available with friction or mechanical locking type
- Mast available with guide to working radius adjustment always maintaining the mast in vertical position
- C/w electronic device for automatic stop
- Standard version
- CFA standard version
- H - kelly stub height from ground level
- CUMMINS QSB 5.9 @ 2200 rpm
- Low overhead version
- Standard version
- CFA 360

### Technical Data

<table>
<thead>
<tr>
<th>Element</th>
<th>Standard Version</th>
<th>Large Diameter Bored Pile</th>
<th>CFA Standard Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>11,0 m</td>
<td>11,0 m</td>
<td>3,5 m</td>
</tr>
<tr>
<td>Weight</td>
<td>13,900 kg</td>
<td>33,000 kg</td>
<td>1,000 kg</td>
</tr>
<tr>
<td>Max. pile depth (length x diameter)</td>
<td>3,0 x 0,75 m</td>
<td>3,5 x 0,75 m</td>
<td>3,5 x 0,75 m</td>
</tr>
<tr>
<td>Max. pile torque (length x diameter)</td>
<td>1199 kN</td>
<td>1660 kN</td>
<td>795 kN</td>
</tr>
<tr>
<td>Max. pile speed (length x diameter)</td>
<td>1509 rpm</td>
<td>2174 rpm</td>
<td>1509 rpm</td>
</tr>
<tr>
<td>Max. pile drilling speed (length x diameter)</td>
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</tbody>
</table>
R-312/200

A new model

200/R-312

HYDRAULIC ROTARY RIG

- wide range of accessories (depthmeter, inclinometer, air conditioning, free fall winch)
- low operating costs
- easy to use and handle
- total reduction of rig up time, about 20 minutes from arrival to the job site
- compliance with the machine laws for safety standards
- easy transport: it can be transported with rotary and kelly bar installed

Standard dimension of tool connection is 130x130 mm / H = kelly stub height from ground level

1. Undercarriage with expansion tracks
   2.5 to 3.7 m by means of hydraulic cylinders

2. Turret
   CUMMINS QSB5.9-C200
   Direct injection and cooled water diesel engine mounted on a 360° swing ring

3. Winch assembly

4. Parallel/gas system allowing working radius adjustment almost maintaining the mast in vertical position
   This device can be adapted to different mast height available

5. Self-erecting mast
   Composed by an intermediate element 11.9 m long and a top element 3.5 m long. The max torque can be applied all over the mast length

6. Crowd system
   C/w CUMMINS 6BTA55.9-C200

7. Sheave cathead
   Mounted on a 360° slew ring

8. Rotary head
   1199

9. Hydraulic cylinders
   From 2.5 to 3.7 m by means of hydraulic cylinder

10. Parallelogram system
    C/w electronic device for automatic stop maintaining the mast in vertical position.
    Working radius adjustment always possible

11. Mast available with friction or mechanical locking type

12. Telescopic kelly bar

13. Intermediate element 11.9 m long

14. Top element 3.5 m long

15. Top element 3.5 m long. The max torque can be applied all over the mast length

16. Diesel engine and sound proofed canopy,
    C/w CUMMINS 6BTA55.9-C200

17. Continuous flight auger
    CFA standard version

18. Continuous flight auger
    CFA 360° version

19. Working radius adjustment

20. Shovel width
   600 mm

21. Extended track width
   3700 mm

22. Max. depth: 13000 (19000)
   (3000+3500)

23. Weight: 33000 kg

24. Max. speed: 15000

25. Auxiliary winch CFA
   Nominal line pull 11,0
   Max. torque 750
   Max. pile depth 3850

26. Main winch
   Nominal line pull 11,0
   Max. torque 1330
   Max. pile depth 38,5 (with 4x11 kelly bar)

27. C/w electronic device for automatic stop maintaining the mast in vertical position.
    Working radius adjustment always possible

28. Parallelogram system
    C/w electronic device for automatic stop maintaining the mast in vertical position.
    Working radius adjustment always possible

29. CFA 360° version

30. Large diameter bored pile
    Continuous flight auger piles (CFA)
    Bored piles with dry drilling or bentonite mud

31. Mechanical locking kelly bar – Ø 355 mm

32. Large diameter bored pile
    Large diameter bored pile

33. Large diameter bored pile
    Friction kelly bar – Ø 355 mm

34. Max. nominal extraction force
   5x

35. Max. pile depth
   5x

36. Max. pile diameter
   5x

37. Max. nominal torque
   5x

38. Max. drilling speed
   4x

39. Max. nominal torque
   4x

40. Max. speed
   4x

41. Max. torque
   4x

42. Max. pile depth
   4x

43. Max. pile diameter
   4x

44. Max. nominal torque
   4x

45. Max. drilling speed
   4x

46. Max. nominal torque
   4x

47. Max. speed
   4x

48. Max. torque
   4x

49. Max. pile depth
   4x

50. Max. pile diameter
   4x

51. Max. nominal torque
   4x

52. Max. drilling speed
   4x

53. Max. nominal torque
   4x

54. Max. speed
   4x

55. Max. torque
   4x

56. Max. pile depth
   4x

57. Max. pile diameter
   4x

58. Max. nominal torque
   4x

59. Max. drilling speed
   4x

60. Max. nominal torque
   4x

61. Max. speed
   4x

62. Max. torque
   4x

63. Max. pile depth
   4x

64. Max. pile diameter
   4x

65. Max. nominal torque
   4x

66. Max. drilling speed
   4x

67. Max. nominal torque
   4x

68. Max. speed
   4x

69. Max. torque
   4x

70. Max. pile depth
   4x

71. Max. pile diameter
   4x

72. Max. nominal torque
   4x

73. Max. drilling speed
   4x

74. Max. nominal torque
   4x

75. Max. speed
   4x

76. Max. torque
   4x

77. Max. pile depth
   4x

78. Max. pile diameter
   4x

79. Max. nominal torque
   4x

80. Max. drilling speed
   4x

81. Max. nominal torque
   4x

82. Max. speed
   4x

83. Max. torque
   4x

84. Max. pile depth
   4x

85. Max. pile diameter
   4x

86. Max. nominal torque
   4x

87. Max. drilling speed
   4x

88. Max. nominal torque
   4x

89. Max. speed
   4x

90. Max. torque
   4x
In 1990 Soilmec was awarded the certification of its own Quality System to ISO 9001/UNI 29001 series standards.

CERTIFIED QUALITY SYSTEM

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