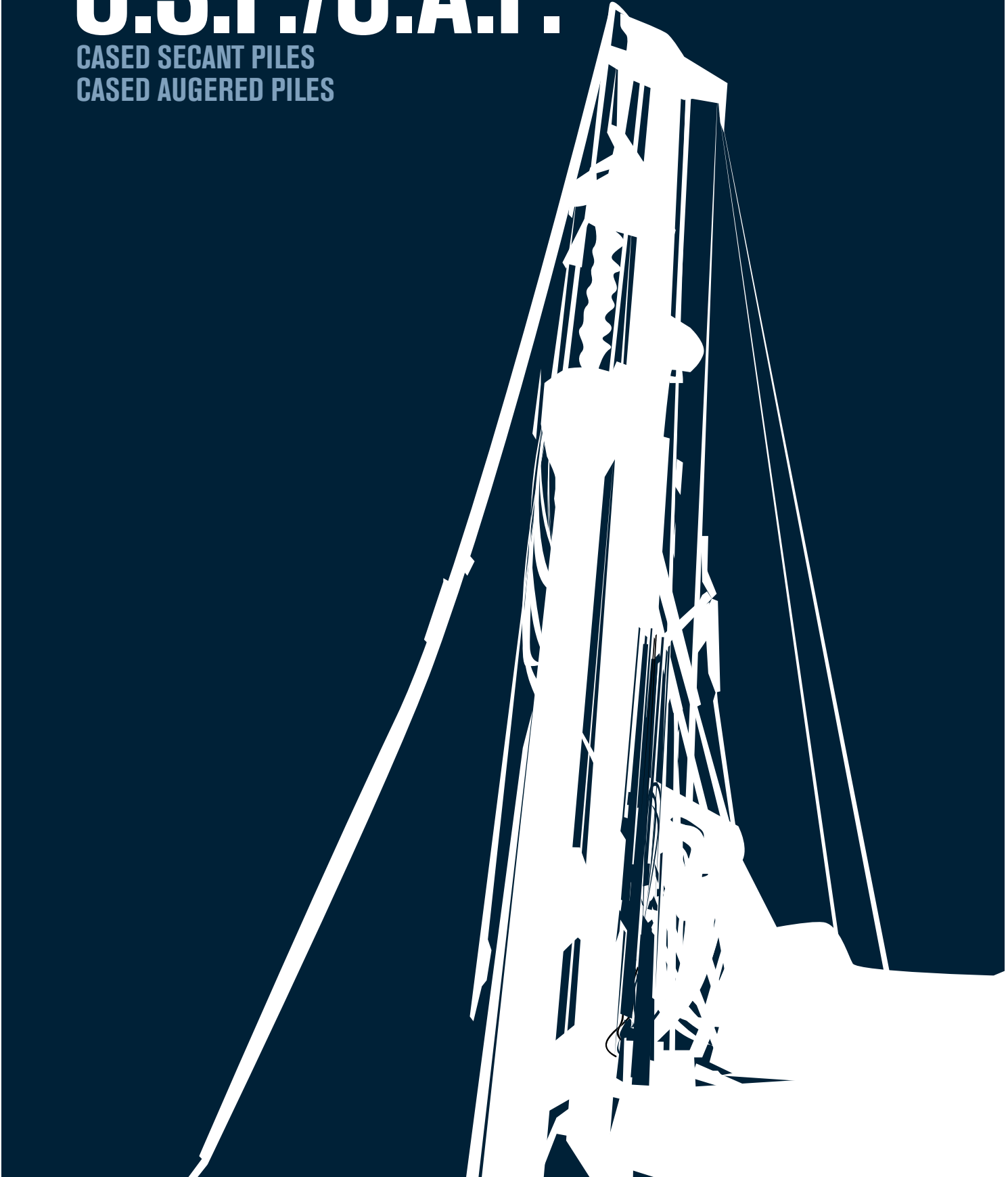


# C.S.P./C.A.P.

CASED SECANT PILES  
CASED AUGERED PILES



# C.S.P./C.A.P./FoW Methods

## CASED SECANT PILES / CASED AUGERED PILES

**Method**

The **CSP** (Cased Secant Piles) **system** has been developed to perform secant piles for the construction of continuous diaphragm wall.

The **CAP** (Cased Augered Piles) **system** has been developed for the execution of "berlinese" type wall.

The **FoW** (Front of the Wall) **system** has been developed for drilling in front of the wall.

The execution of a conventional diaphragm wall by using grabs and bentonite mud involves a series of problems such as:

- using of large bentonite mud plant for the preparation, storage and desanding process, which are, in many cases, not admitted in restricted urban areas;
- cleaning operations within the working area;
- transit of trucks loaded with soil polluted by bentonite mud;
- disposal of waste material.

**Applications and advantages**

The CSP/CAP system has been therefore developed to:

- Excavate the piles without bentonite mud in any kind of soil, also in presence of water table;
- Guarantee a deviation from verticality of less than 1-1.5%;
- Minimise the jobsite installation plant;
- Operate in restricted areas;
- Reduce the execution time of the pile by using a double rotary equipment;
- No need of service crane.

**Equipments**

CSP/CAP equipment:

The excavating system is made by an auger housed inside a casing;

Auger and casing are driven by two independent rotaries;

An auger cleaner can be used.

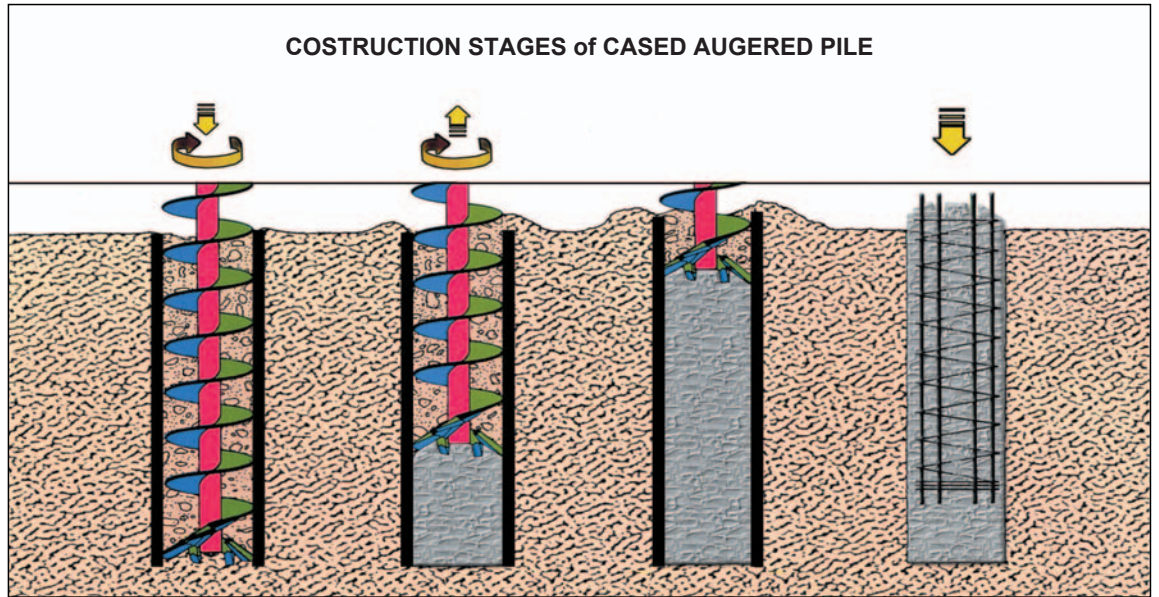
Main Equipment							
Model	max diameter mm	max pile depth m	max cased depth m	first rotary max torque second rotary kN.m	engine power kW	extraction force kN	weight tot. t
<b>R-625 CSP</b>	1000	26,5	15	250/250	300	732	75
<b>R-825 CSP</b>	1000	21,5	16,5	250/300	300	732	85
<b>R-930 CSP</b>	1000	23	18,5	300/360	400	1140	105
<b>CM-120 CSP</b>	1000	25	19,8	250/360	400	1160	105



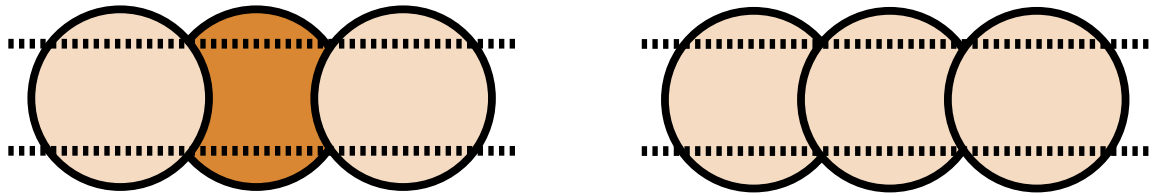
CSP type Wall



CSP - Guide Wall



CSP system has been designed for maximum diameter of purposely 1000 mm. Such a diameter offers the right compromise between the resulting actual wall thickness and the executed pile diameter in terms of concrete to be cut during the execution of the secondary piles.

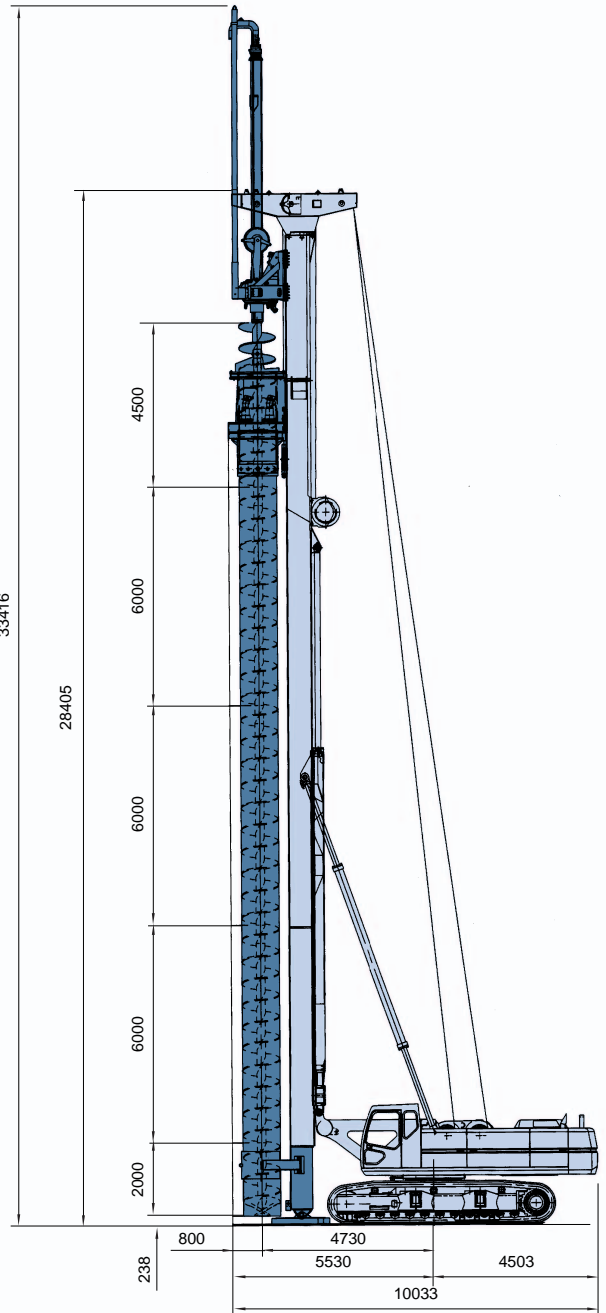


Berlinese type Wall

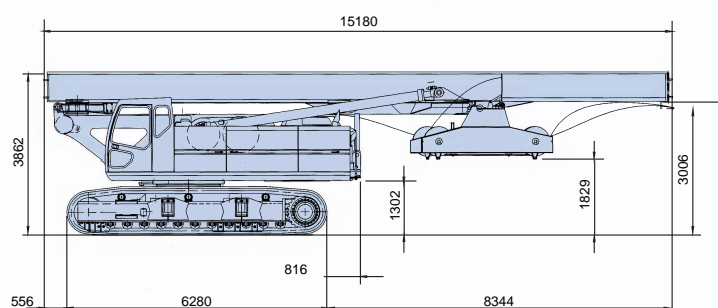
# CM-120 CSP

## HYDRAULIC CFA/CSP ROTARY RIG

### Working Condition



### Transport Condition



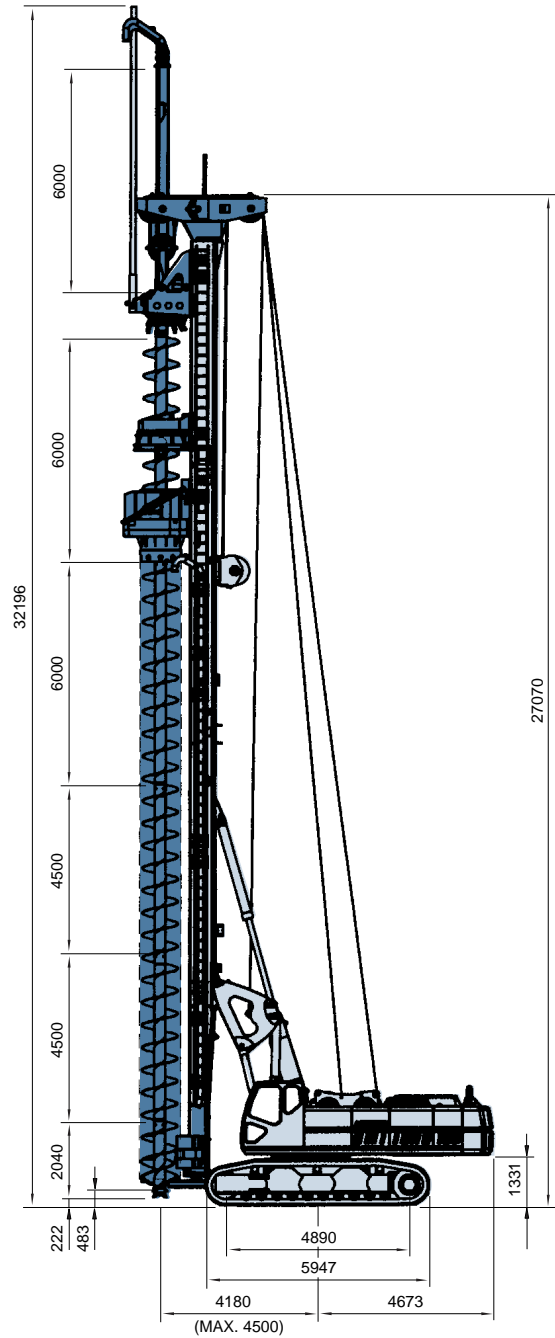
### CM-120 CSP

Max pile depth	m	26,5
Max cased depth.	m	19,8
Max diameter	mm	1000
Nom. max torque	kN	250/360
Engine power	kN	400
Nom. extraction force	kN	1160
Machine weight	t	105

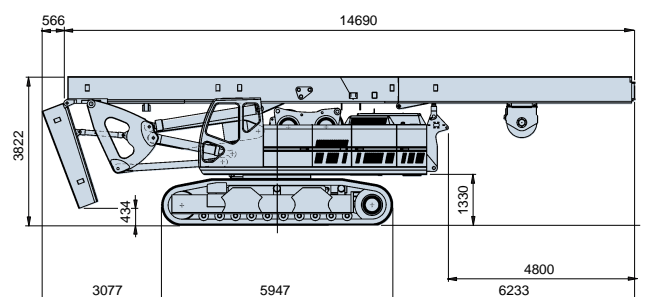
# R-930 CSP

C.S.P./C.A.P./FOW CONFIGURATION

## Working Condition



## Transport Condition



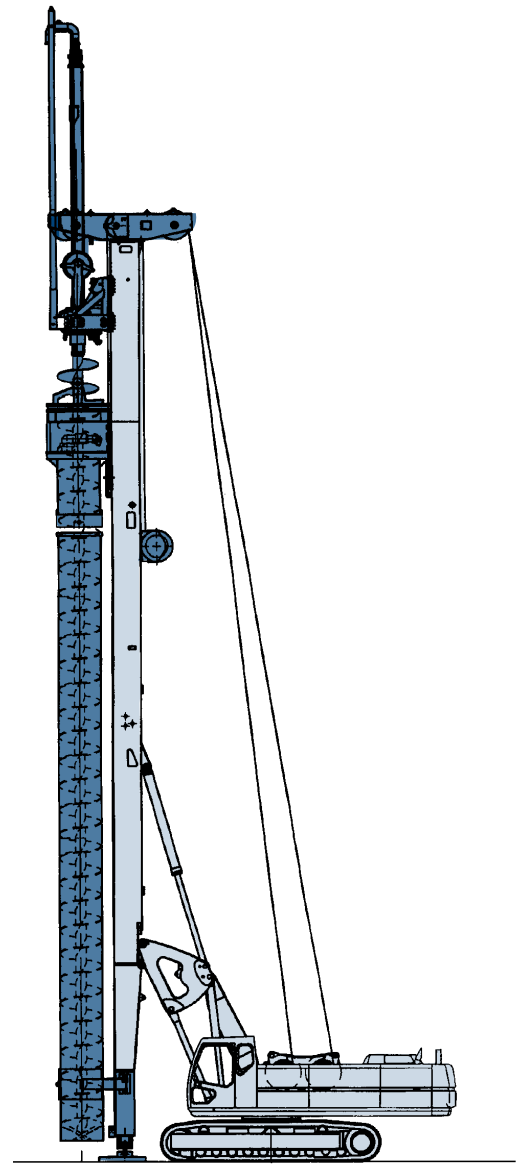
## R-930 CSP

Max pile depth	m	25
Max cased depth.	m	18,5
Max diameter	mm	1000
Nom. max torque	kN	300/360
Engine power	kN	400
Nom. extraction force	kN	1140
Machine weight	t	105

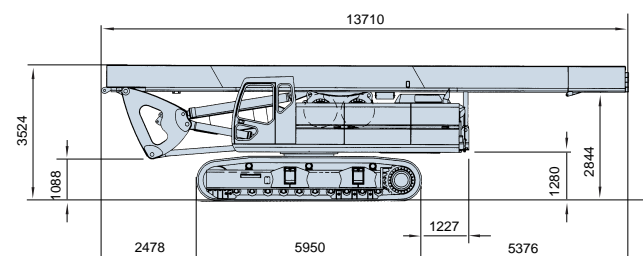
# R-825 CSP

C.S.P./C.A.P./FOW CONFIGURATION

## Working Condition



## Transport Condition



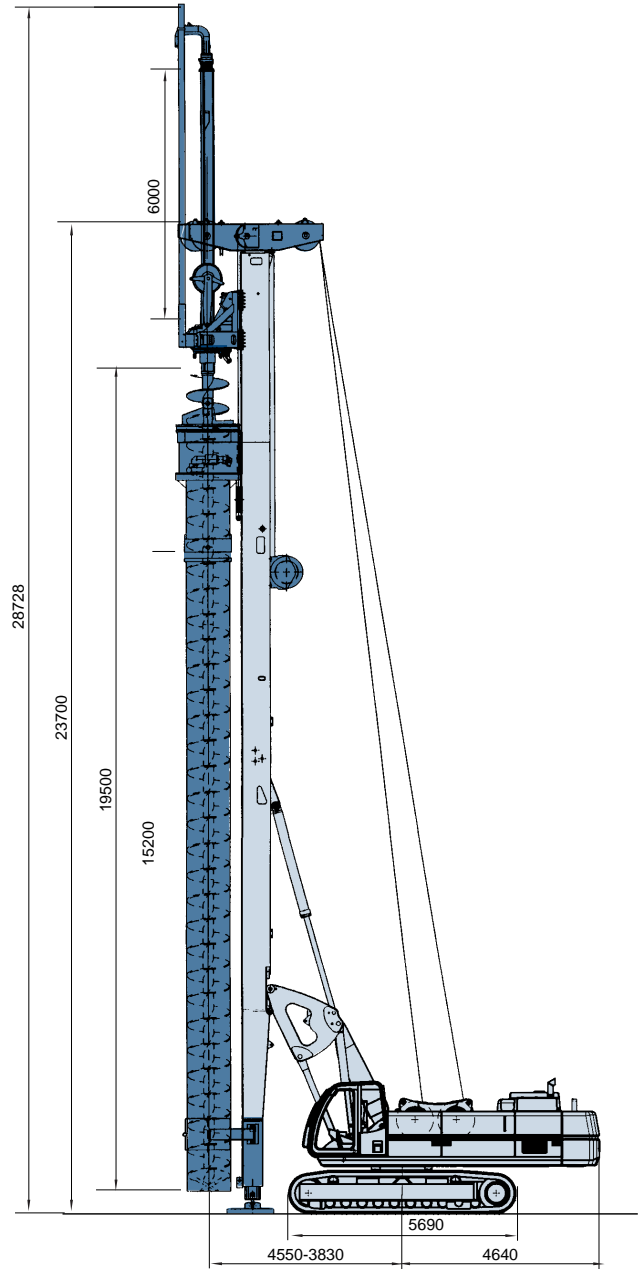
## R-825 CSP

Max pile depth	m	23
Max cased depth.	m	16,5
Max diameter	mm	1000
Nom. max torque	kN	250/250
Engine power	kN	300
Nom. extraction force	kN	732
Machine weight	t	85

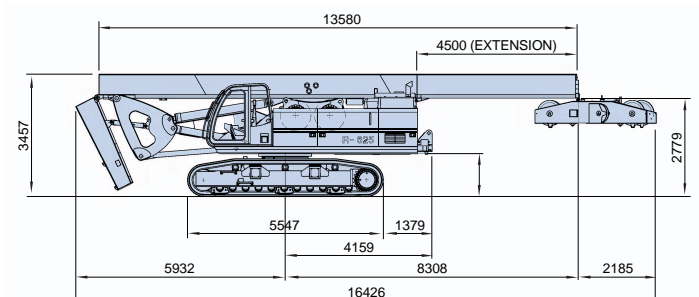
# R-625 CSP

## C.S.P./C.A.P./FOW CONFIGURATION

### Working Condition



### Transport Condition



### R-625 CSP

Max pile depth	m	21,5
Max cased depth.	m	15
Max diameter	mm	1000
Nom. max torque	kN	250/250
Engine power	kN	300
Nom. extraction force	kN	732
Machine weight	t	75

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