GIKEN

SILENT PILER F111

for U Sheet Piles

400mm wide

Extremely sophisticated modular model applicable to U Sheet Piles (400mm wide)

SILENT PILER F111

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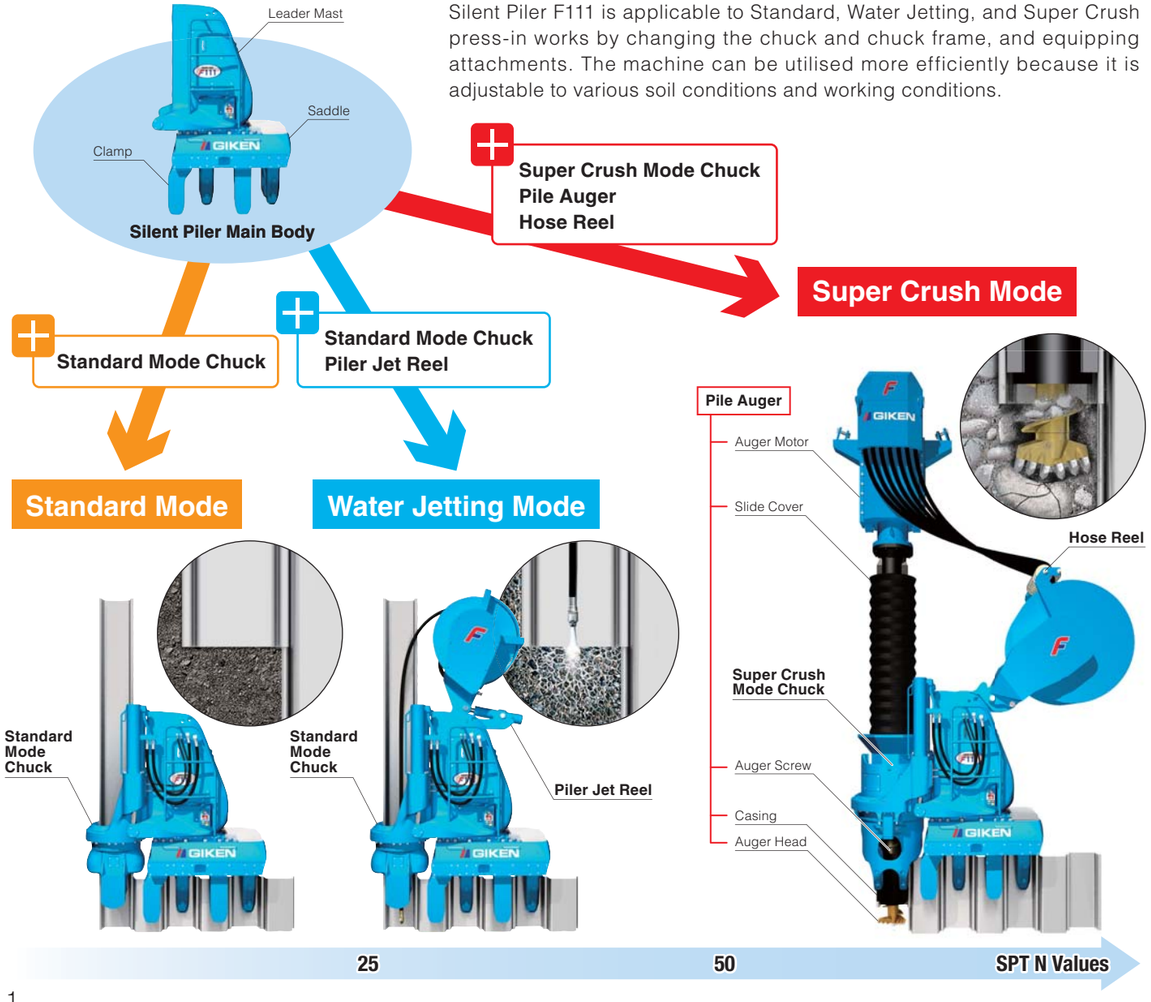
Flexible and Functional Formula

The F111 features a new modular design developed by optimising all the parts and drastically modifying the structure, shape, and material.
Not only are the main component parts more versatile, it is also equipped with a cutting-edge control system, and realising high functionality and longer operation life.

1 Optimising Work Efficiency with Modular Design

Silent Piler F111 is applicable to Standard, Water Jetting, and Super Crush press-in works by changing the chuck and chuck frame, and equipping attachments. The machine can be utilised more efficiently because it is adjustable to various soil conditions and working conditions.



2 Features of Silent Piler F Series (New Standards of Press-in Machine)

New Control System

The new control system manages the position of the press-in machine and controls load generation from press-in work during operation, maximising the durability of each part. Also, control of the machine is remarkably improved by the Press-in Force Control System and the Phaseless Linear Auger Torque Control System.

Operation Mode corresponding to the Chuck is automatically detected

↓

Position of the Press-in Machine is automatically detected

↓

Up/Down Stroke Force is optimised

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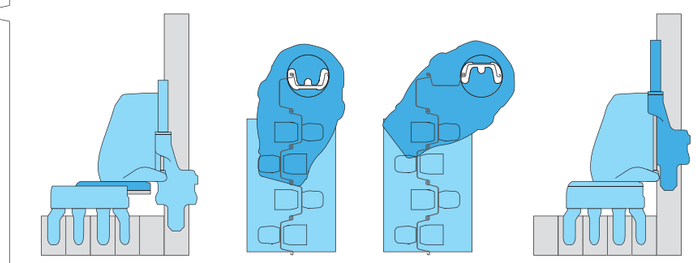
Maximum Up/Down Stroke Force is regulated

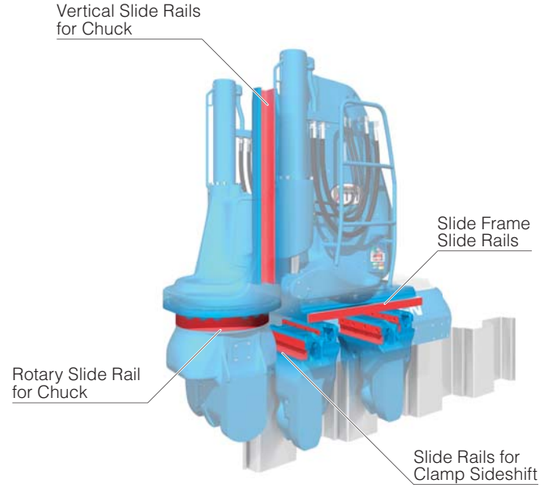
Load applied to Silent Piler can be reduced.

■ Secondary Piling ■ Corner Piling ■ Raised Chuck



Increased Machine Rigidity and Guiding Precision

For Silent Piler F Series, rigidity of components and guiding precision are increased compared to the previous models to achieve higher durability of the machines.
Also, assembly tolerances in guiding systems are minimised by implementing longer slide rails and greater sliding surfaces to increase machine life.



Addition of Abrasion Resistant Plates

Detachable abrasion resistant plates have been added along the vertical slide rails for Chuck and that provides 3.6 times wear resistance compared to the previous models. Hence, high guiding precision is achieved and maintenance costs are reduced.

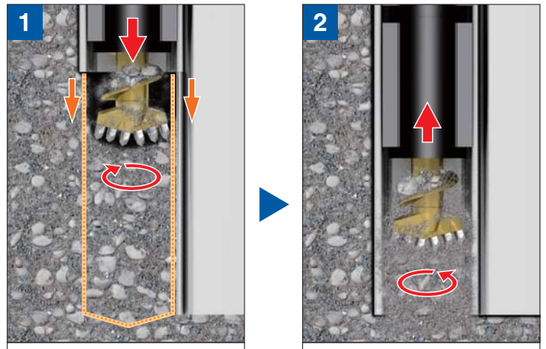
Tablet PC

The real-time information of piling operations can be displayed on a tablet PC which can be attached to the side of the Silent Piler.

- Displays piling monitoring data
- Displays comparison of the current data to the previous monitoring results
- Displays the machine settings and status during piling work
- Displays borehole log
- Displays Operation Manual & Parts List

3 Pile Installation into Hard Ground

The "Pilot Coring Theory", GIKEN's original theory, makes the Hard Ground Press-in Method able to install sheet piles into difficult ground conditions such as gravelly soil and cobble or boulder mixed soil without losing the advantages of the Press-in Method. Previous models of Crush Piler have proved the superiorities of the Hard Ground Press-in Method in the field. The augering area can be reduced to assist pile installation, minimising volume of spoil and disturbance to the soil strata. Hence, high bearing capacity is available from sheet piles which are installed by the Hard Ground Press-in Method. The Hard Ground Press-in Method can install sheet piles even under restricted site conditions such as on slopes or water where conventional piling techniques would be ineffective. By adapting the GRB System, temporary work platforms are no longer necessary, dramatically reducing the environmental burden.



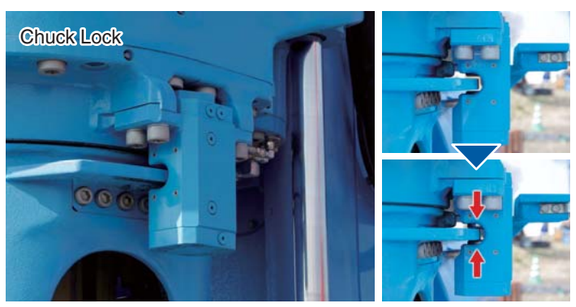
Press-in with the Pile Auger

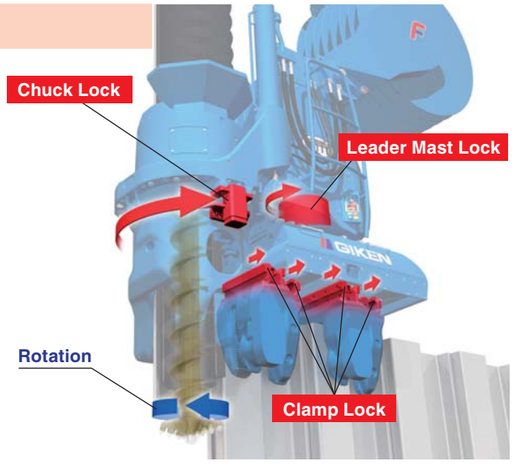
Extracting the Pile Auger after completion of sheet pile installation

NEW

1 Locking Function

Lock functions in the chuck, leader mast, and clamps secure Silent Piler against drilling torque and increase drilling efficiency and accuracy of pile installation.

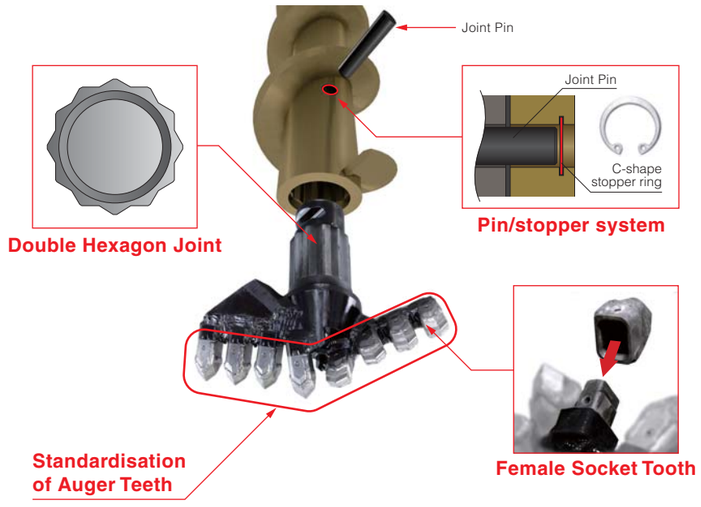




NEW

2 Improved Design of Auger Head and Teeth

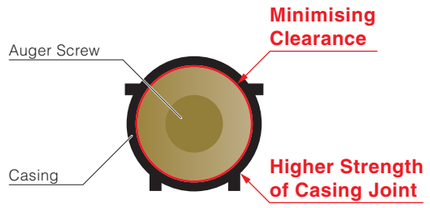
Female Socket Teeth can minimise wear on tooth mount and maximise drilling efficiency with minimal assembly tolerance. Also, pilot teeth and outer teeth are standardised.
12 point double hexagon joint of the Auger Shaft and Auger Head achieves higher torque application and reduces weight. The joint is locked with only one stopper pin instead of two for easier assembly and securely locked with C-shape stopper ring.



NEW

3 Improved Auger Screw & Casing

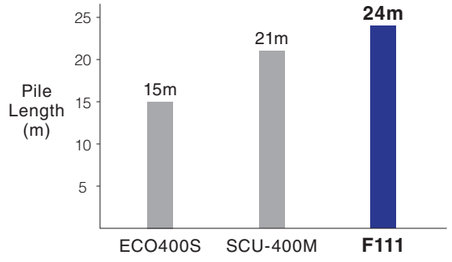
Improved Auger Screw and Auger Casing provide higher torque application and centre drilling accuracy, which achieve higher augering efficiency.
The durability of auger screw is also extended by minimising the tolerance between auger screw and auger casing; therefore the auger is less likely to wear out.



NEW

4 Longer Applicable Pile Length

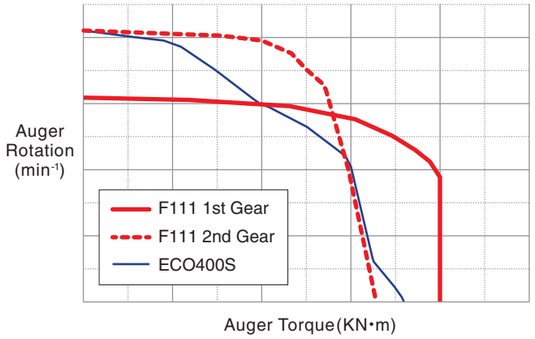
The applicable sheet pile length for F111 is 24m maximum, which is greater than those of previous models.



NEW

5 Increased Power Capacity of Auger

Auger motor of F111 has 1.4 times higher power capacity than the previous model (ECO400S). This results in maintaining high speed augering even in a greater torque range.



NEW

6 Compact Machine Size

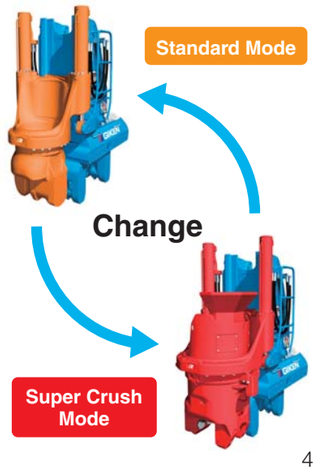
F111 is 150mm narrower than the previous model (ECO400S) and can be adopted to more confined site conditions.

ECO400S F111

4 High Performance Also in Standard Mode

Despite its universal design, F111 provides a similar high performance as a Standard Mode Custom Model.

Model	ECO100-4CA	**F111**	ECO400S
Operation Mode	Standard Mode (Custom Model)	**Standard Mode (Modular Model)**	Standard Mode (Custom Model)
Max. Press-in Force	1000 kN	**1000 kN**	800 kN
Max. Extraction Force	1100 kN	**1100 kN**	900 kN
Press-in Speed	1.9 ~ 35.2 m/min	**2.0 ~ 43.5 m/min**	1.5 ~ 35.5 m/min
Extraction Speed	1.8 ~ 39.1 m/min	**1.5 ~ 55.0 m/min**	1.5 ~ 50.5 m/min
Mass (Silent Piler Main Body)	7050 kg	**7050 kg**	7400 kg
Mass (Power Unit)	6650 kg	**7250 kg**	7300 kg
Rated Output	195 kW(265 ps)/1800 min^{-1}	**265 kW(360 ps)/1800 min^{-1}**	195 kW(265 ps)/1800 min^{-1}



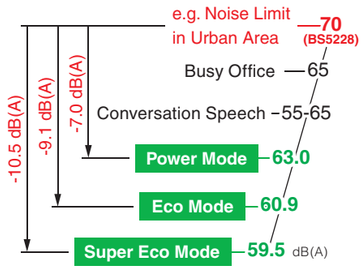
5 New Generation Power Unit EU300K4

Low Emission Engine

The Power Unit of the F111 is a new generation model and has environmentally-friendly specifications. It is designed with strict concepts for clean emissions with high combustion efficiency and GIKEN's original hydraulic control technologies.

Ultra Low Noise Level

It clears allowable construction noise levels in many industrialised countries.



dB(A):A-weighted Decibels

Standard Application of Biodegradable Oil

The F111 uses bio-degradable Piler Eco Oil and Piler Eco Grease. Hence, if hydraulic oil or grease is spilled into soil or water, there will be no environmental damage to the surrounding ecosystem. In addition, the machines are painted with TX-Free non-leaded paint*.

* Environmentally-friendly paint which does not contain toluene, xylene and lead based pigment.

6 Scientific Execution of Press-in Work & Advanced IT Functions

GIKEN IT System

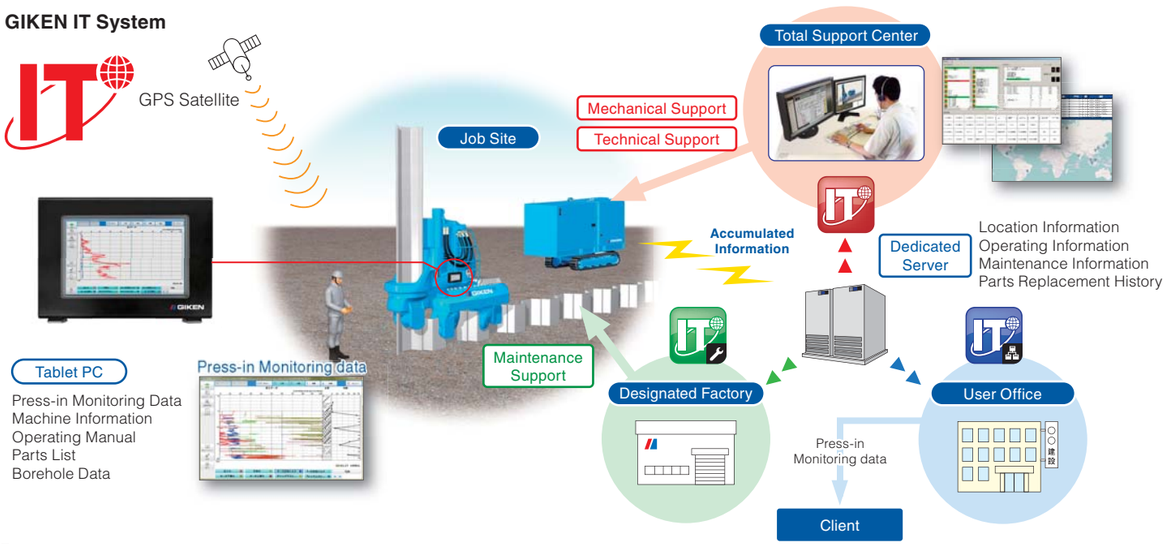
GIKEN's engineers can monitor individual Silent Pilers, such as operating condition, maintenance records and location. Quick advice for any technical troubles is available promptly and appropriate information can also be provided to prevent troubles.

* The system is not available in the countries where authorisation for usage cannot be acquired.

Press-in Monitoring and Data Logging System

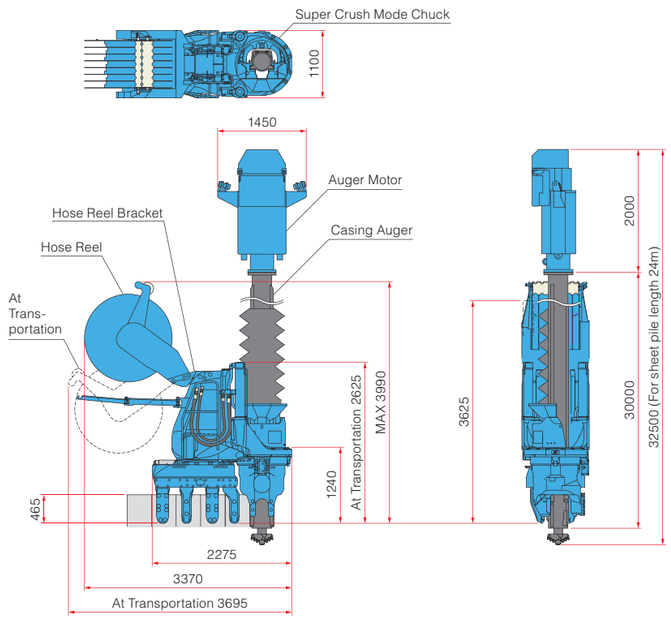
Press-in monitoring data can be used for quality control and information modelling of the foundation. Operators are able to keep working while checking data such as press-in force, auger torque, and working hours of press-in work, on a tablet or PC (both optional extras).

GIKEN IT System



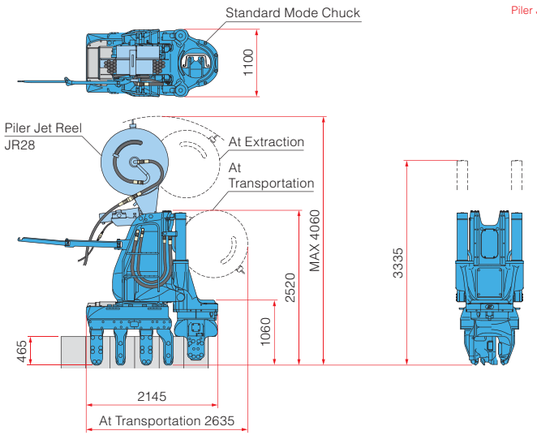
Dimensions & Specifications

Super Crush Mode F111-C400

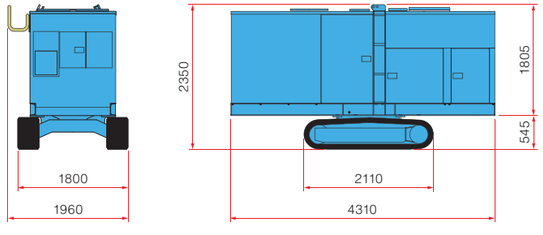


Standard / Water Jetting Mode F111-400

Piler Jet Reel is an optional item



Power Unit



SILENT PILER		F111
Applicable sheet piles		U Sheet Piles 400mm wide (SPII, SPIII, SPIV)
Max. Press-in Force		800 kN (Super Crush Mode)
		1000 kN (Standard / WJ Mode)
Max. Extraction Force		900 kN (Super Crush Mode)
		1100 kN (Standard / WJ Mode)
Stroke		850 mm
Press-in Speed		2.0 ~ 43.5 m/min
Extraction Speed		1.5 ~ 32.3 m/min
Control System		Radio Control
Movement		Self-Moving
Mass	Super Crush Mode (Main Body & Hose Reel)	10600 kg
	Water Jetting Mode (Main Body & Piler Jet Reel)	7870 kg
	Standard Mode (Main Body)	7050 kg
Hose Reel		**HR17B**
Mass (Standard)		2850 kg (including Hose Reel Bracket)
Pile Auger		**PA22**
Applicable pile length (Standard)		Max 24 m*
Mass	Auger Motor	1850 kg
	Casing Auger	9050 kg
Total Mass		10900 kg

*Max 30m in special mode

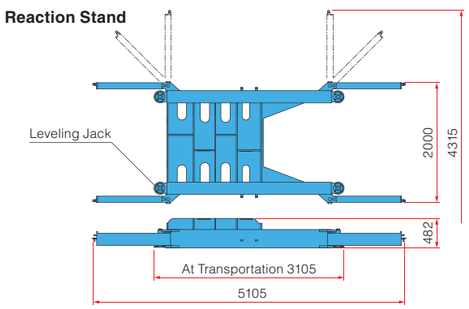
Piler Jet Reel	JR28
Applicable pile length	Standard 17.0 m (Max. 27.0 m)
Mass	820 kg

Power Unit		EU300K4
Power Source		Diesel Engine
Rated Output	Power Mode	265 kW (360 ps) / 1800 min^{-1}
	Eco Mode	236 kW (321 ps) / 1600 min^{-1}
	Super Eco Mode	206 kW (280 ps) / 1400 min^{-1}
Fuel Tank Capacity		600 L
Hydraulic Reservoir		Piler ECO Oil 630 L
Urea Additive Tank Capacity		38 L
Moving Speed		1.4 km/h
Mass		7250 kg (with 20m Hose)
Reaction Stand (with Leveling Jack)		
Mass		1400 kg

Mass (Chuck Only)

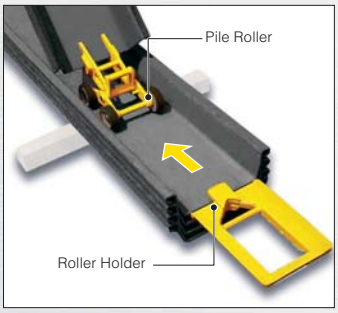
Standard Mode Chuck	Super Crush Mode Chuck
1970 kg	2700 kg

Reaction Stand

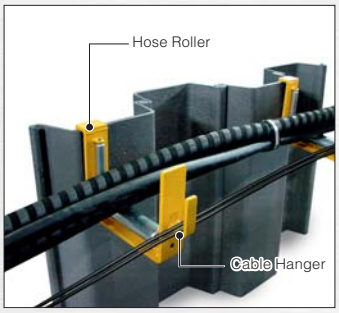


The above specifications are subject to alteration without prior notice

Basic Accessories



Pile Roller



Hose Roller

Pile Laser

Module Box

Tablet PC (encased)

Optional

Piler Jet Reel (JR28)

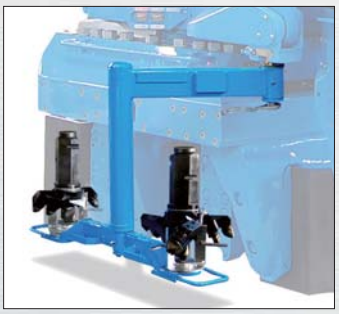
Optional

Piler Stage
for Standard Mode

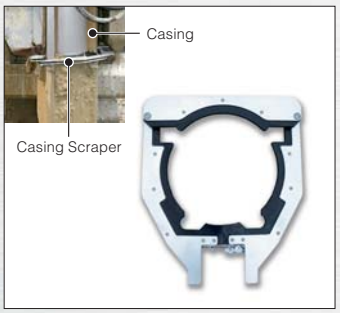
Super Crush Mode Accessories

Piler Stage
for Super Crush Mode

Auger Head



Auger Head Replacement
Attachment



Casing Scraper

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