

GIKEN

SILENT PILER™
F301

for Hat Sheet Piles
900mm wide



GIKEN

Construction Solutions Company

www.giken.com

CONTACT US



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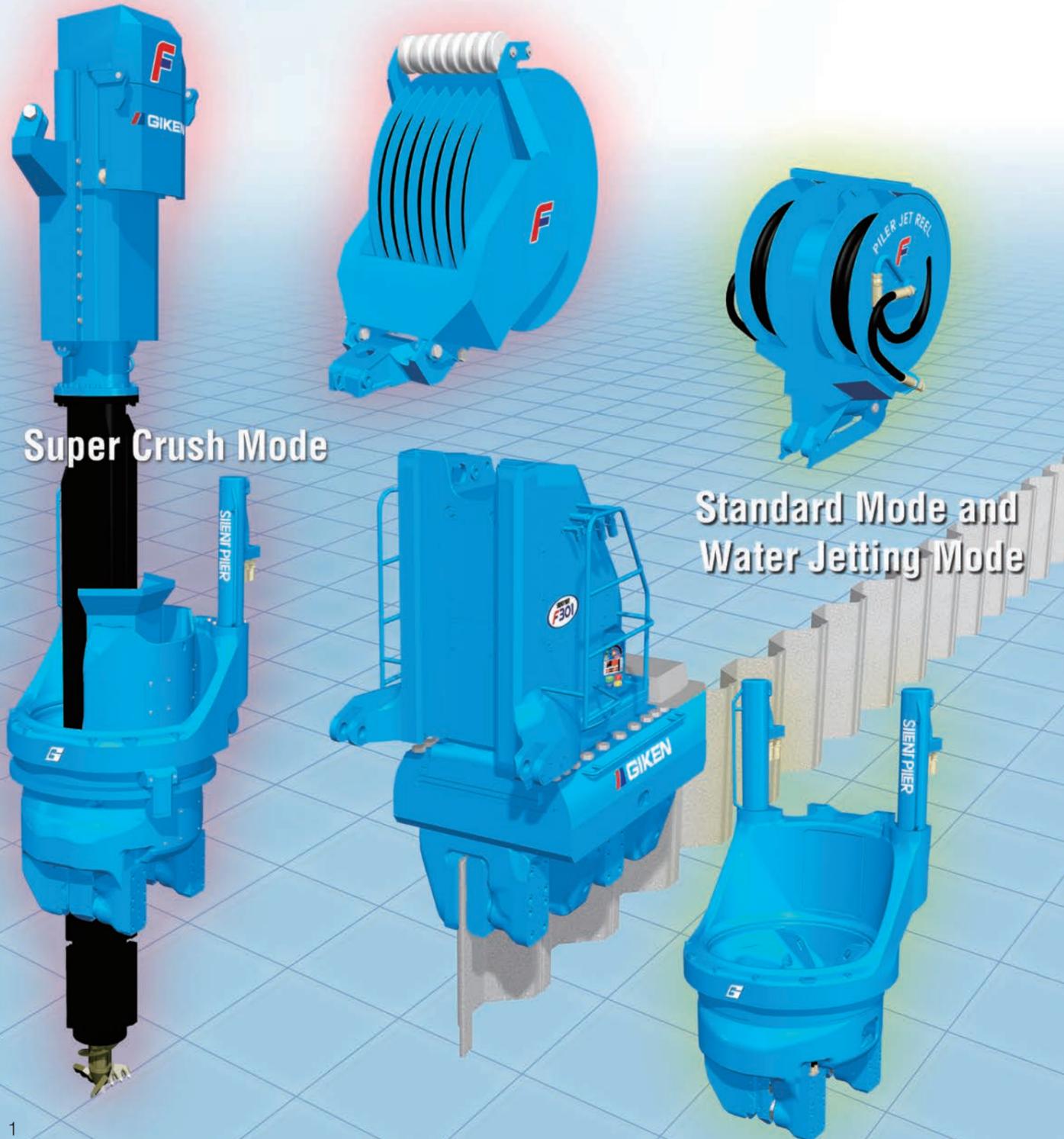
Modular model applicable to Hat Sheet Piles (900mm wide)

SILENT PILER™ F301

SILENT PILER F301

Flexible and Functional Formula

The F301 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.

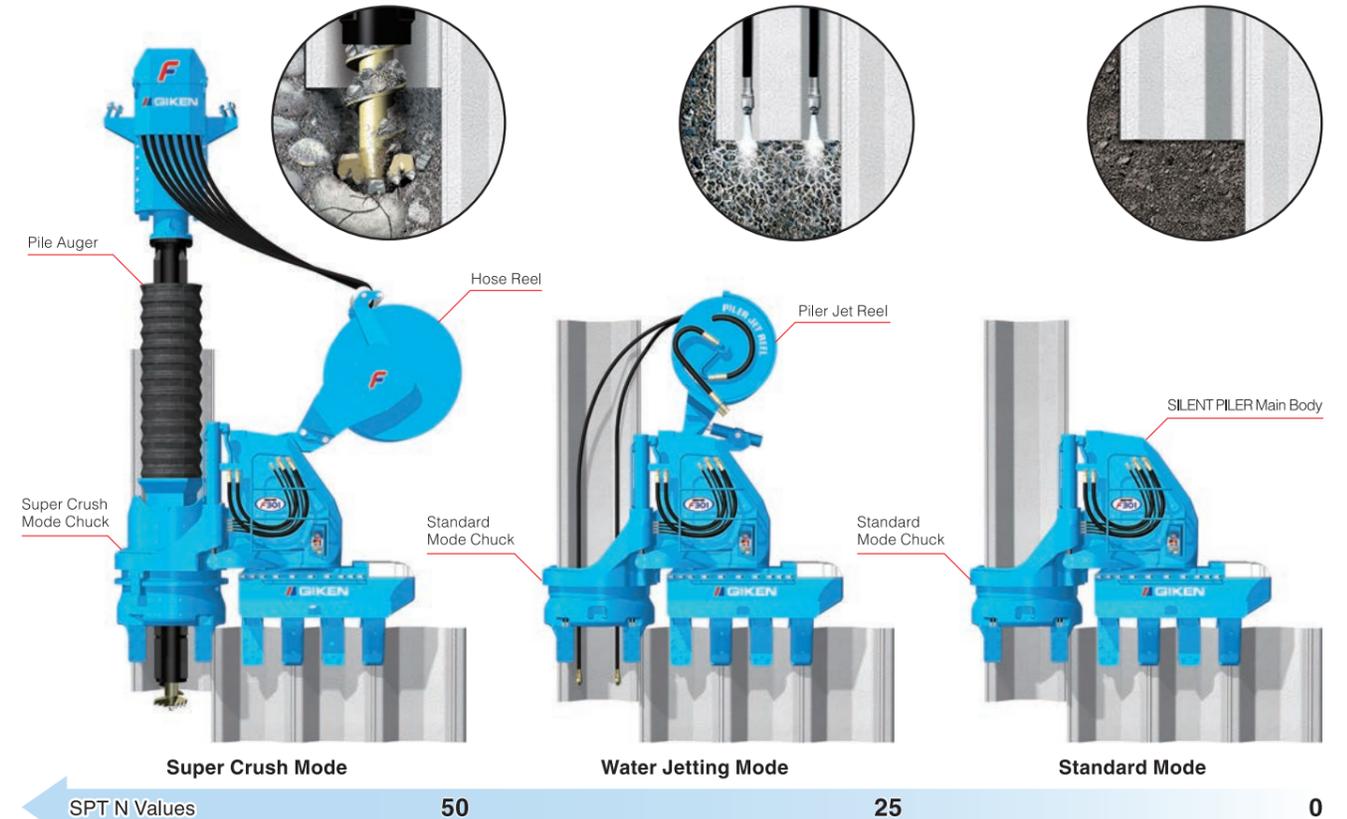


Super Crush Mode

Standard Mode and Water Jetting Mode

1 Optimising Work Efficiency with Modular Design

SILENT PILER F301 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 Longer Operational Life and Higher Functionality by 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.



3 Advanced Principles for Higher Accuracy

The combination of SILENT PILER F301 and Hat Sheet Pile achieves high quality installation.

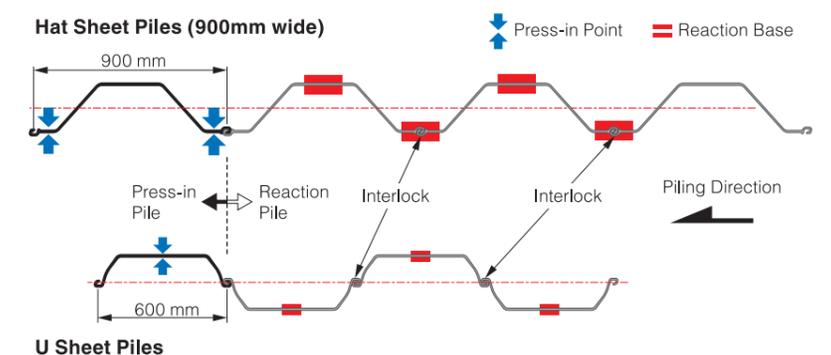
Two Press-in Points

Press-in force can be transferred efficiently by gripping the pile with two points.

High Stability of Reaction Base

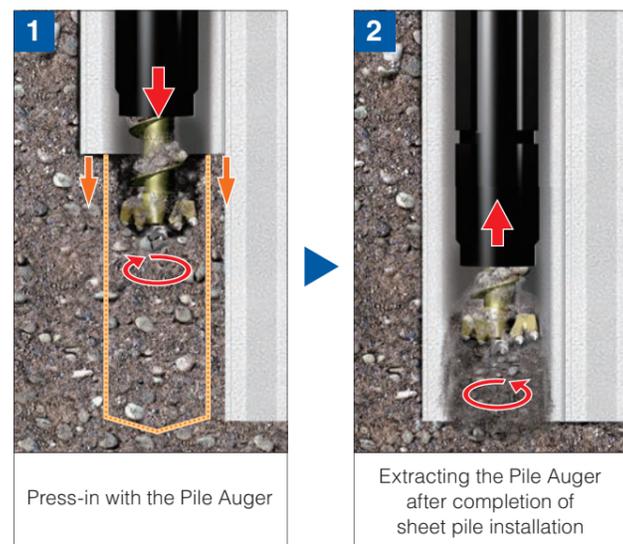
Clamping reaction piles at Interlock positions optimises the stability of the reaction base.

Comparison of Hat Sheet Pile 900 and U Sheet Pile

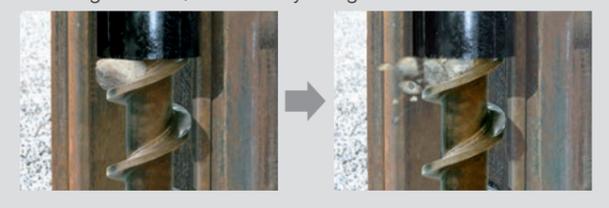


4 Pile Installation into Hard Ground

The "Pilot Coring Theory", GIKEN 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. 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.

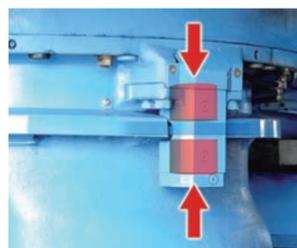


Crushing cobbles / boulders by wedge effect

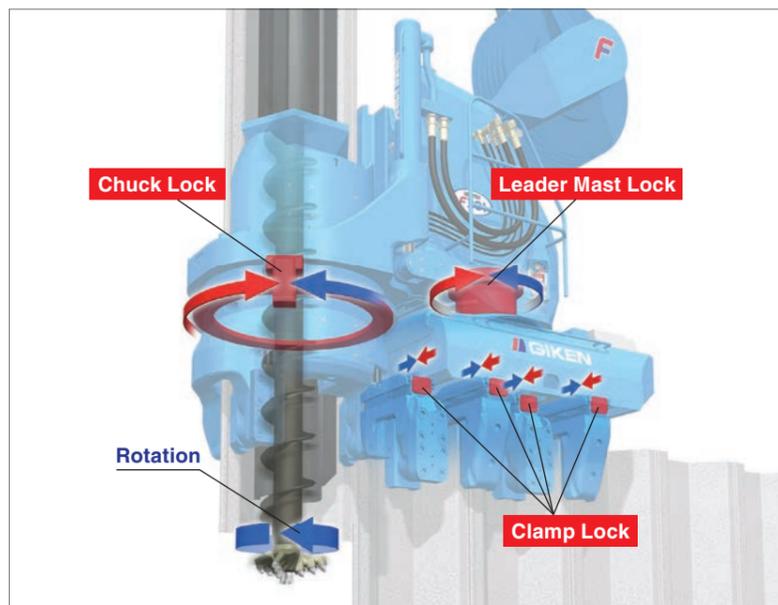


Locking Function

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



Chuck Lock



5 New Generation Power Unit EU300K4

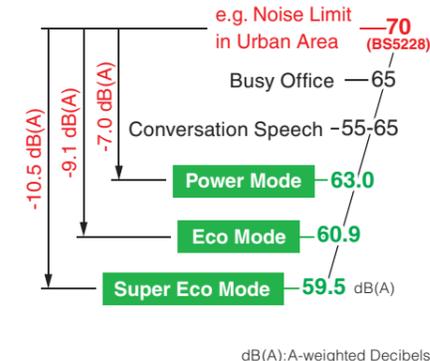
Low Emission Engine

The Power Unit of the F301 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 original hydraulic control technologies.



Ultra Low Noise Level

It clears allowable construction noise levels in many industrialised countries.



Standard Application of Biodegradable Oil

The F301 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-lead paint*.

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



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

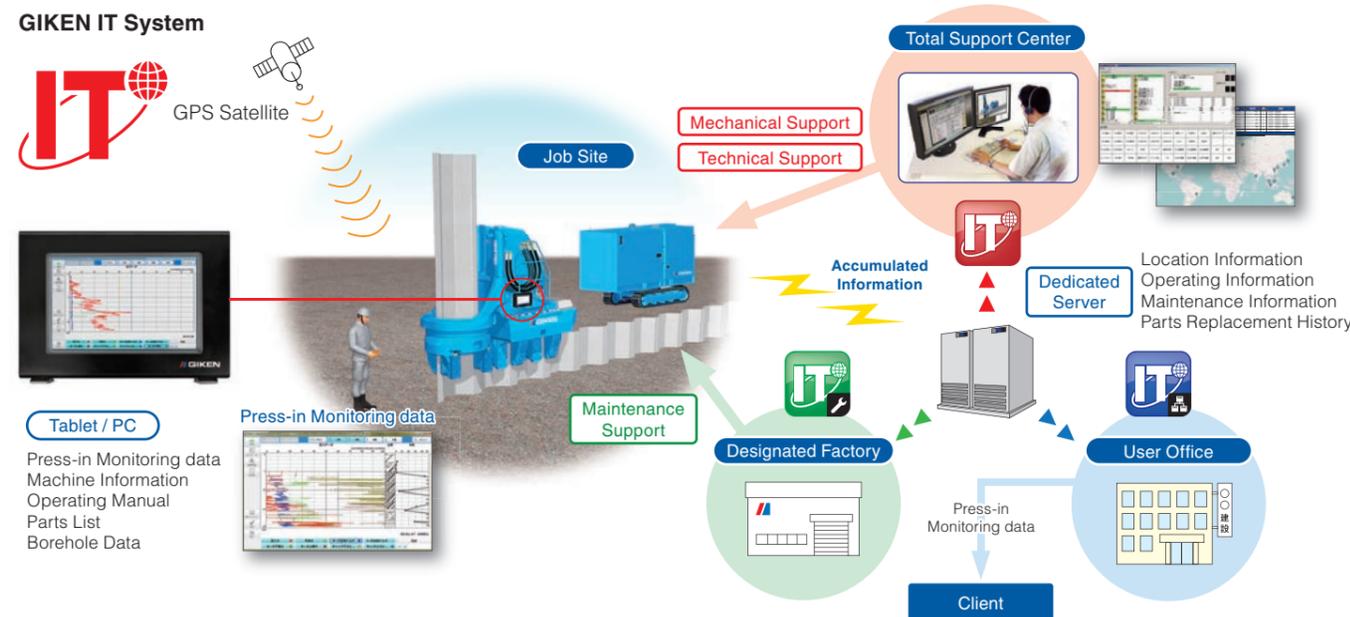
GIKEN IT System

GIKEN's engineers can monitor individual SILENT PILER, 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

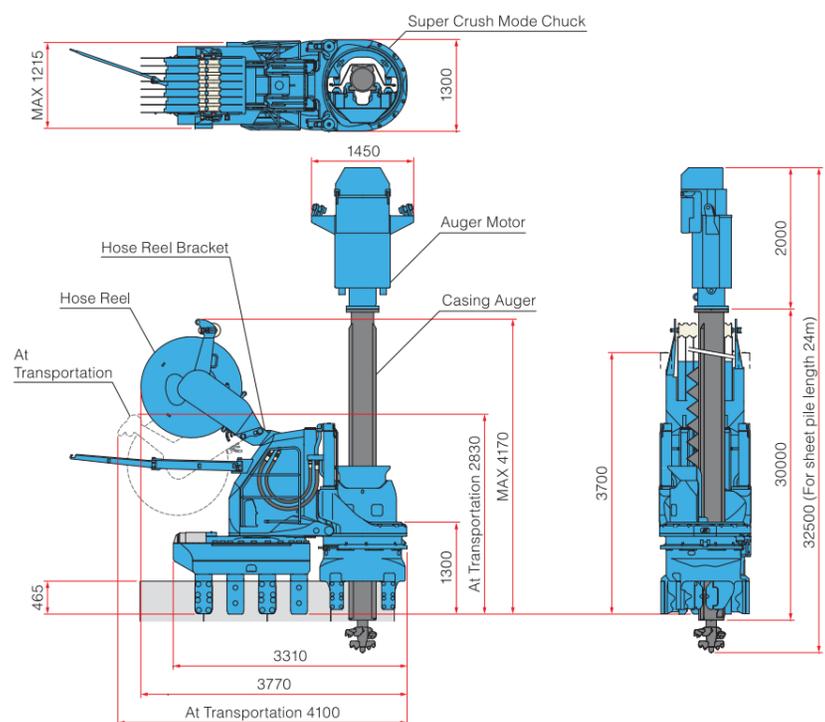
Press-in monitoring data can be used for quality control and information modelling of the foundation. Operators are able to keep working while checking data such as press-in force, auger torque, and working hours of press-in work, on a tablet or PC (both optional extras).



Dimensions & Specifications

Super Crush Mode

F301-C900



SILENT PILER		F301
Applicable sheet piles	Hat Sheet Pile (900mm wide) (10H,25H,45H,50H)	
Max. Press-in Force	800 kN (Super Crush Mode) 1000 kN (Standard / WJ Mode)	
Max. Extraction Force	900 kN (Super Crush Mode) 1200 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	

Super Crush Mode (Main Body & Hose Reel)	14880 kg
Water Jetting Mode (Main Body & Piler Jet Reel)	12250 kg
Standard Mode (Main Body)	11000 kg

Hose Reel		HR17D
Mass (Standard)	2780 kg (including Hose Reel Bracket)	

Pile Auger		PA22
Applicable pile length (Standard)	Max 24 m*	
Mass	Auger Motor	1850 kg
	Casing Auger	10050 kg
Total Mass	11900 kg	

*Max 30m in special mode

Piler Jet Reel		JR29
Applicable pile length	Standard 17.0 m (Max. 27.0 m)	
Mass	1250 kg	

Power Unit		EU300K4
Power Source	Diesel Engine	
Power Mode	265 kW (360 ps) / 1800 min ⁻¹	
Rated Output	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	7550 kg (with 30m Hose)	

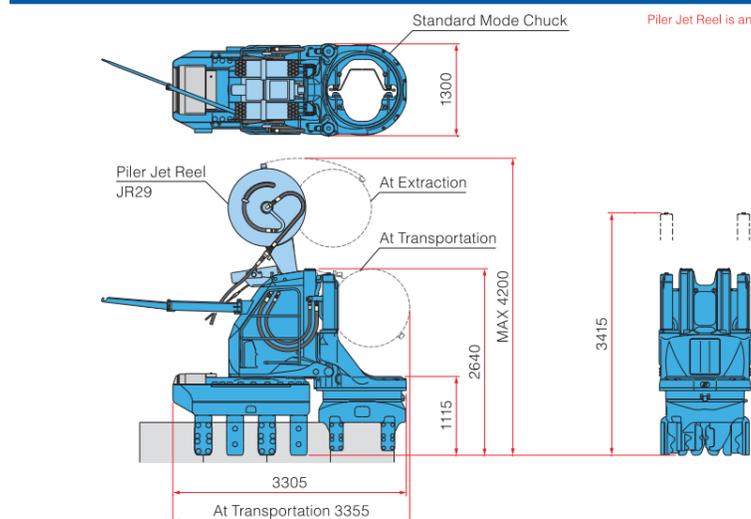
Reaction Stand (with Leveling Jack)	
Mass	2000 kg

The above specifications are subject to alteration without prior notice

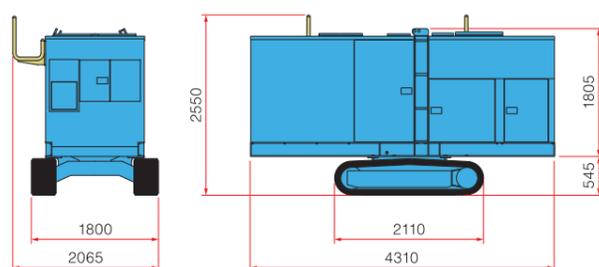
Standard / Water Jetting Mode

F301-900

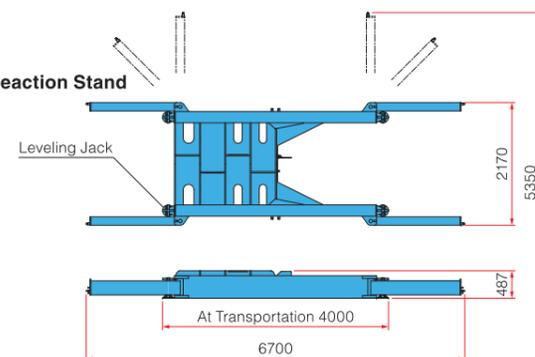
Piler Jet Reel is an optional item



Power Unit



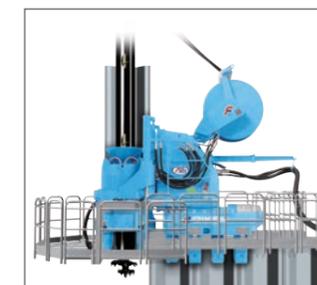
Reaction Stand



Accessories

Standard Accessories

* Available for Super Crush Mode only.



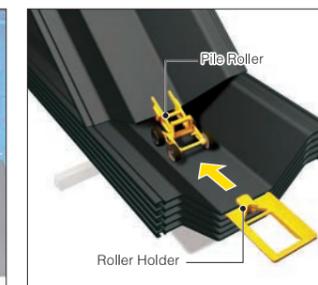
Piler Stage



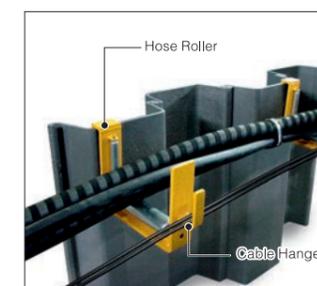
Chuck Stage *



Auger Head Replacement Attachment *



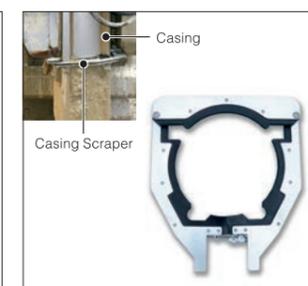
Pile Roller



Hose Roller



Pile Laser



Casing Scraper *



Module Box



Auger Head *

Optional Accessories



Piler Jet Reel (JR29)



φ685 Twin Blades

Auger Head *