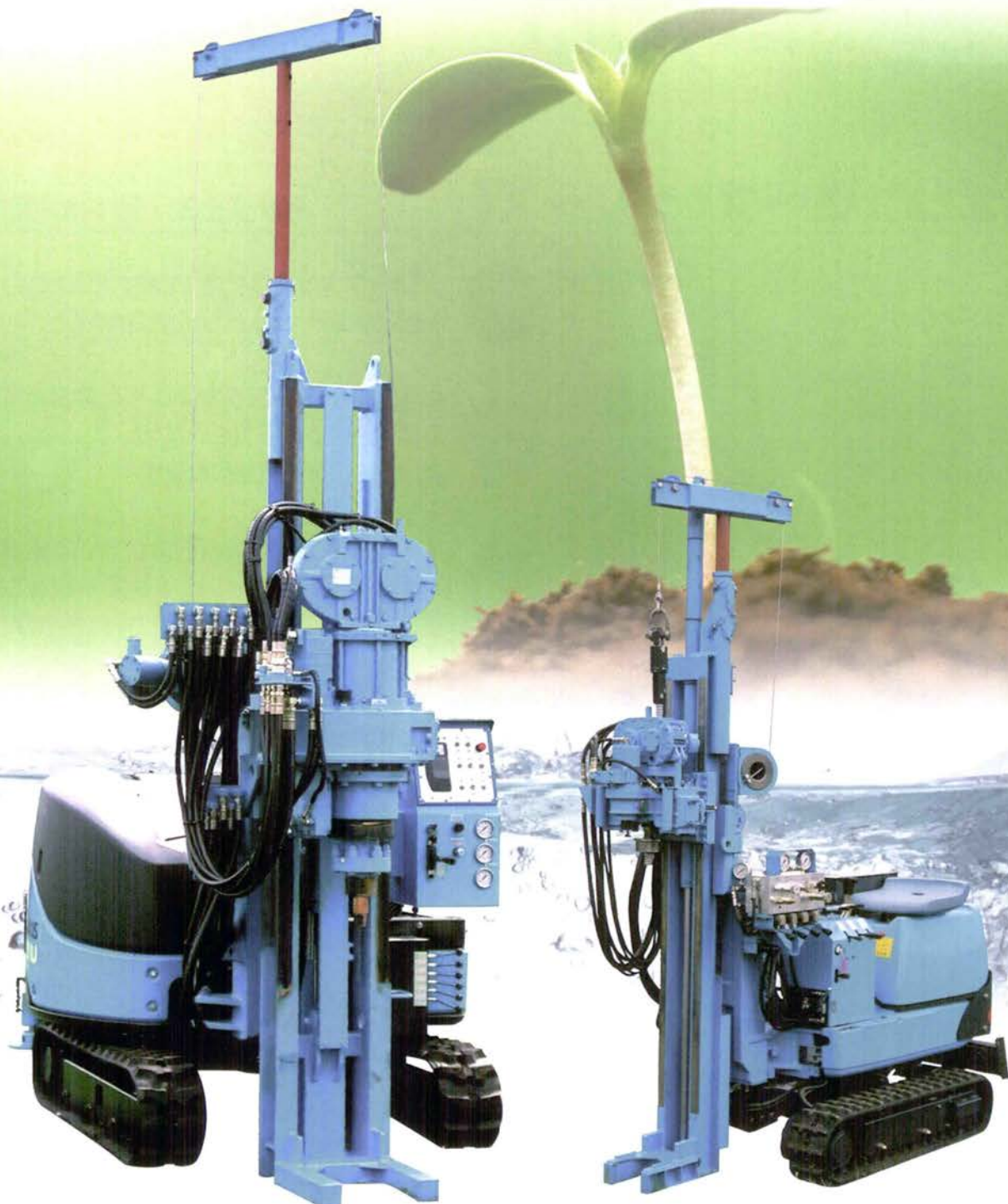


TOA-TONE BORING ECO-PROBE

ECO-PROBE™

**VIBRATORY ROTARY DRILL FOR ENVIRONMENTAL
INVESTIGATION**



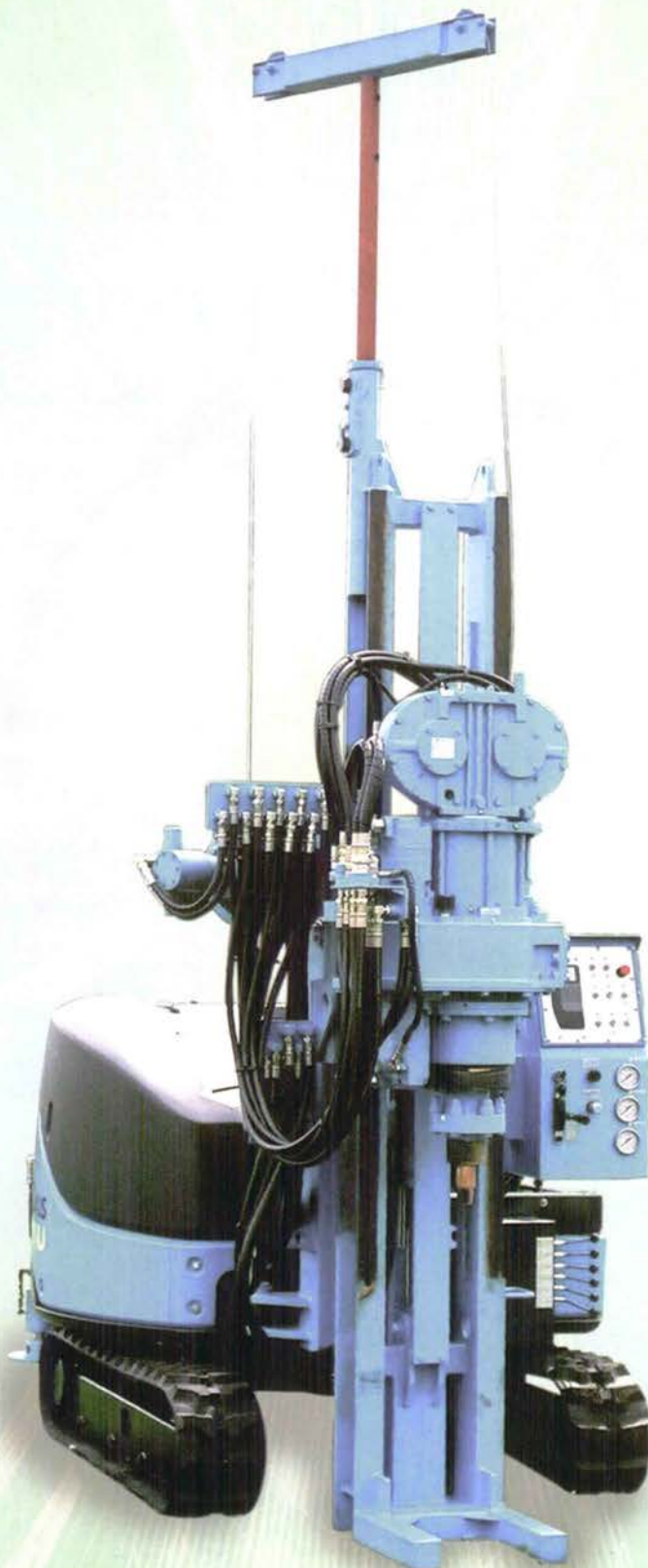
TOA-TONE BORING CO., LTD.

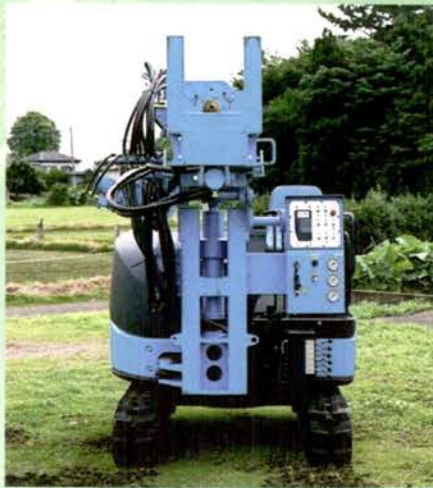
Point in Check

EP-26N

- 1 Standard equipment of hoist mast
- 2 Cast steel made vibro-case
- 3 Pneumatic damper
- 4 Swing open type drill head
- 5 Improved hydraulic system
- 6 Newly designed operation panel
- 7 Vibratory force adjustable system (optional)
- 8 Improvement of maneuverability
- 9 Wider casing size to be handled
- 10 Improved cooling system
- 11 Recovery of high quality sample

WORKABILITY FOR RECOVERY OF HIGH QUALITY SAMPLE AND SPEEDY OPERATION





1 Standard Equipment of Hoist Mast
Can lift or lower 2 pcs. of 1 m length drill rod at a time

2 Cast Steel made Vibro-Case
Improves rigidity and durability for long time operation

3 Pneumatic Damper
Allows effective transfer of vibratory force to drill strings and makes sampling procedure faster and more accurate



4 Swing Open Type Drill Head
Enables effective hosing job keeping alignment of drilling line



5 Improved Hydraulic System
Decreased no. of hydraulic hoses to eliminate obstacle by complicated hose arrangement



6 Newly Designed Operation Panel
Makes its size larger and ensures high operatability and tight water-proof



7 Vibratory Force Adjustable System (optional)
Demonstrates high sampling performance by adjusting its frequency for 0 - 2000 cpm infinitely

8 Improvement of Maneuverability
Levers for leveling jacks, mast raising/lowering and mast slide are located at isolated position to avoid accidental operation



9 Wider Casing Size to Be Handled
Mast holder plate opening can pass up to 255 mm O.D. pipe



10 Improved Cooling System
Increases cooling capability of hydraulic oil by improving ventilation of base machine



11 Recovery of High Quality Sample
Through soft to sand/gravel layer without sample shrinkage

Point in Check

EP-10

1 Applicable to indoor operation

2 Mobility in limited space

3 Optional hoist mast

4 Compact vibration head

5 High operatability

6 Operation

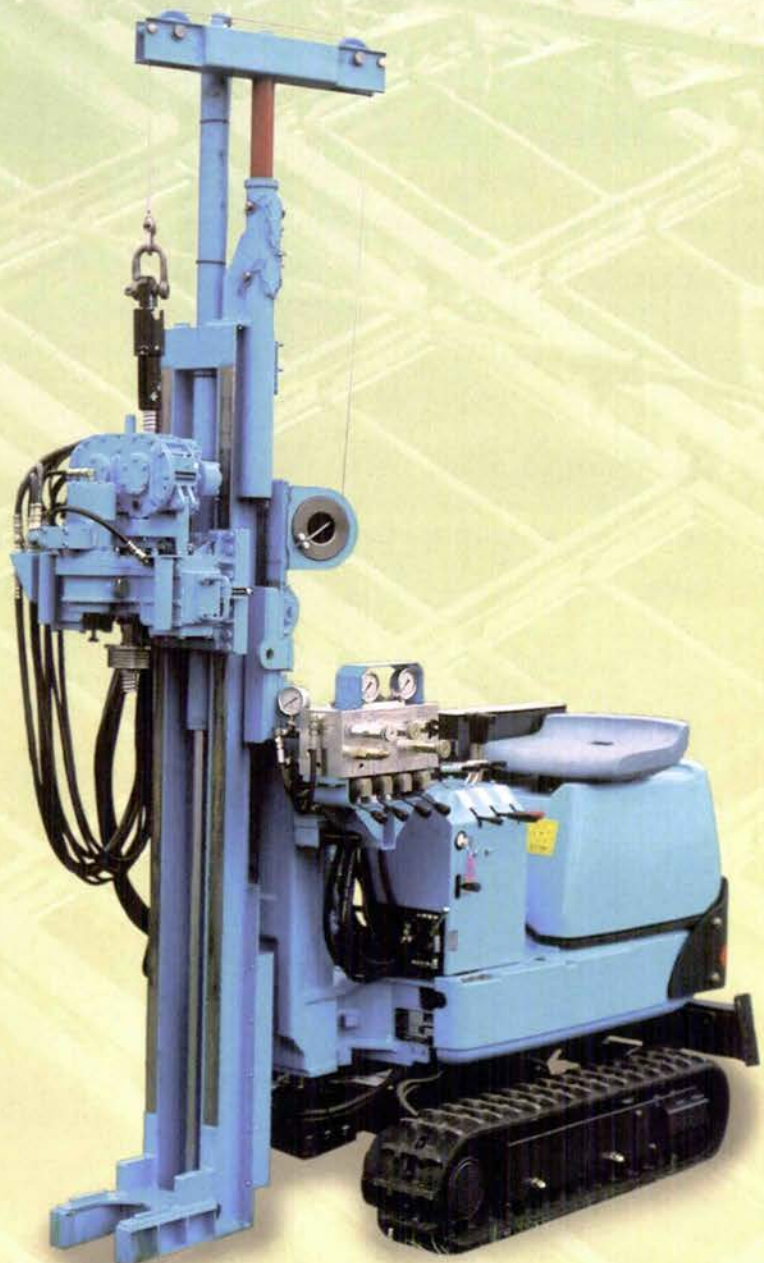
7 Control leveling of drill

8 Enough feed stroke

9 Compact and light weight

10 Secure stability of drill

**HIGH MOBILITY TO PASS THE
DOOR OF BUILDING AND
COMPACT DESIGN TO LOAD
ON 2 TON TRUCK**





1

Applicable to Indoor Operation

Mast height of 3.06m and base machine width of 700mm allow to operate the drill indoors

2

Mobility in Limited Space

By tilting the mast to 90 degree, the height of drill(1.84m) can pass the door of house or building



3

Optional Hoist Mast

Can be applied for SPT job



4

Compact Vibration Head

Has downsized structure of EP-26 drill and sufficient vibration force



5

High Operatability

Pneumatic damper and swing open type rotary head improve working efficiency



6

Operation

Controls by manual valves can detect geological variation directly and ensure high recovery of sample



7

Control Leveling of Drill

Can be done by levers of isolated location to avoid any accidental operation



8

Enough Feed Stroke

1.35 m feed stroke can give operator leeway in operation



9

Compact and Light Weight

Has a weight of only 1,100 kg and good fuel consumption



10

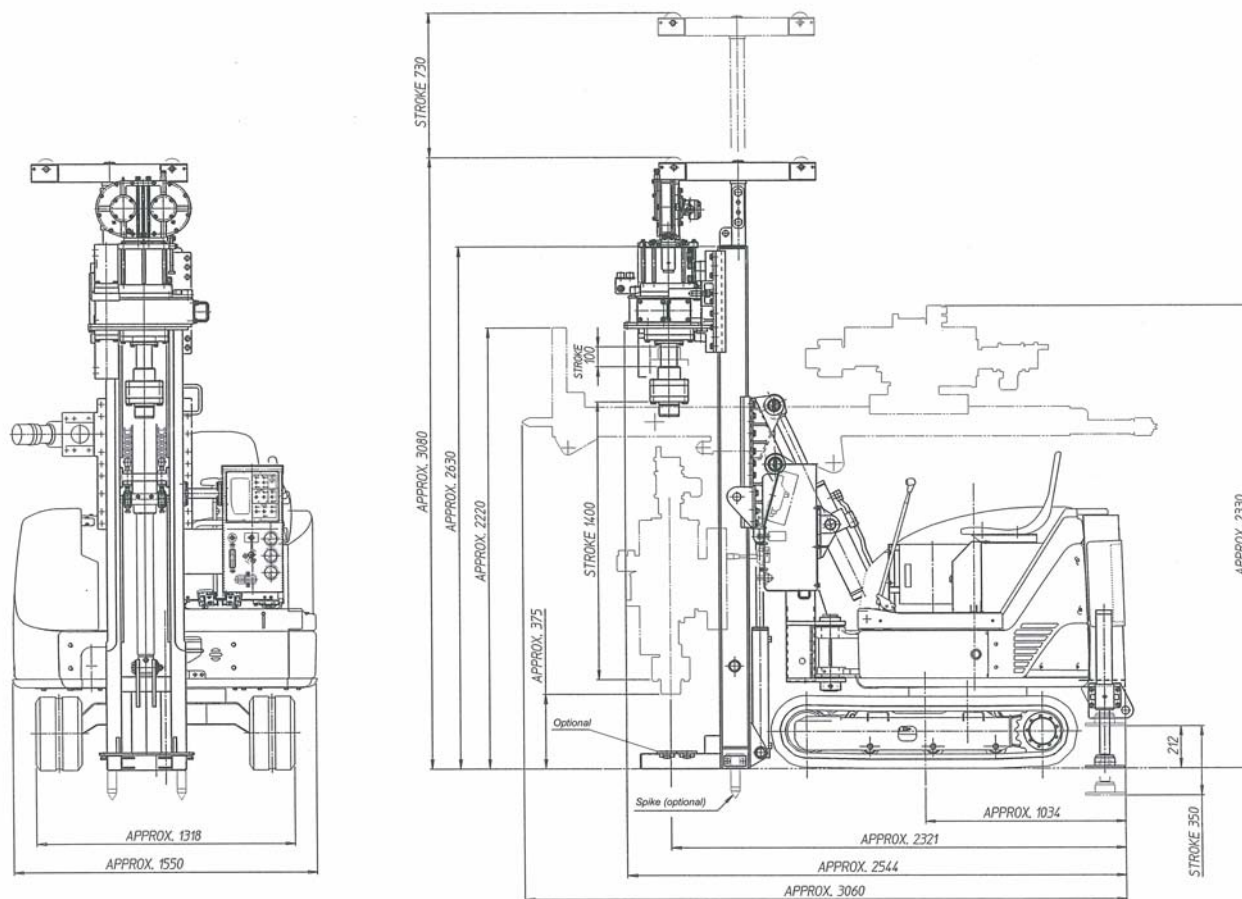
Secure Stability of Drill

Rear blade can stabilize the drill while drilling



DIMENSIONS & SPECIFICATIONS

EP-26N



ROTARY HEAD

Type	Hydraulic motor driven
Rotation speed	LOW 30 min ⁻¹
	HIGH 60 min ⁻¹
Rotation torque	LOW 3.2 kNm (330 kg-m)
	HIGH 1.6 kNm (165 kg-m)

FEED SYSTEM

Type	Hydraulic cylinder with chain
Max. feed force	20.0 kN (2000 kgf)
Max. balance force	93.2 kN (9500 kgf)
Feed speed	0 - 11.1 m/min.
Feed stroke	1.4 m (Optional: 1.9 m)

VIBRATION HEAD

Max. frequency	4000 cpm
Max. vibration force	38 kN (3900 kgf)

MAST

Type	Hydraulic cylinder for raise & lower
Slide stroke	500 mm
Head sheave	Manual extension with 730mm stroke

HOIST

Hoisting capacity	3.9 kN (400 kgf)
Line speed	0 - 50 m/min.
Wire rope	5 mm x 23 meters

WEIGHT

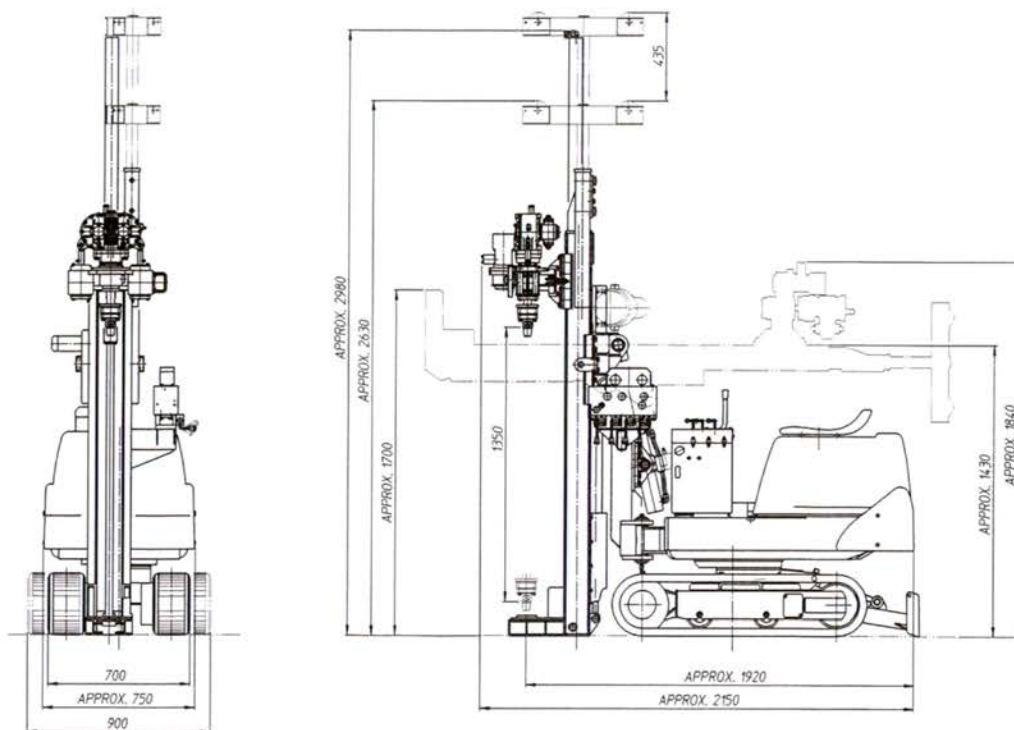
Total weight	2690 kg
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BASE MACHINE

Type	Hydraulically driven
Model	ZX27U2/17 (Hitachi Construction Machinery)
Engine output	26.8 PS/2200 rpm

DIMENSIONS & SPECIFICATIONS

EP-10



ROTARY HEAD

Type	Hydraulic motor driven
Rotation speed	0 - 20 min ⁻¹ Infinitely variable
Rotation torque	Max. 0.882 kNm (90 kg-m)) Infinitely variable

FEED SYSTEM

Type	Hydraulic cylinder
Max. feed force	17.1 kN (1750 kgf)
Max. balance force	34.3 kN (3500 kgf)
Feed speed	0 - 6 m/min.
Feed stroke	1.35 m

VIBRATION HEAD

Max. frequency	4000 cpm
Max. vibration force	14.7 kN (1500 kgf)

MAST

Type	Hydraulic cylinder for raise and lower
Slide stroke	450 mm
Head sheave	Manual extension with 435mm stroke

HOIST

Hoisting capacity	3.4 kN (350 kgf)
Line speed	0 - 22 m/min.
Wire rope	5 mm x 23 meters

WEIGHT

Total weight	1100 kg
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BASE MACHINE

Type	Hydraulically driven
Model	NS08-2 (Nagano Industry Co., Ltd.)
Engine output	10 PS/2000 rpm

LIST OF TOOLING

[Drill Rod & Casing]

Name	Dia(mm)	Length(m)	Part No.	Remarks
Drill rod	60	1.0	4701-073	MT60
		0.5	4701-074	
	50	3.0	4688-952	MT50
		1.5	4688-953	
		1.0	4688-954	
		0.5	4688-955	
		0.3	2884-144	
		0.2	2884-113	
		1.0	4688-569	T50(JIS)
		0.5	4688-342	
		0.3	4688-343	
	40.5	1.0	4688-491	
		0.5	4688-492	
	Casing	101.6	1.0	1919-174
0.5			1919-182	
0.3			1919-183	
127		0.5	1916-358	For coring (RH)
138		0.5	0439-156	
		0.8	0439-160	

[Drill Bits]

Name	Dia(mm)	Part No.	Remarks
Bit for percussion sampling	66	4085-038	
	86	4085-032	
Core bit (104.6x88.6)	101.6	4026-156	For coring(LH)
Bit for percussion sampling (114x91)		4085-026	For sands & gravel (LH)
Core bit (129x116)	127	4026-160	For coring
Core bit(140x128)	138	4038-101	

[Water Swivel]

Name	Part No.	Remarks
Water swivel for EP-26	5813-027	Connecting hose size, 1"
Select coupling below		
Coupling for 50(JIS) rod	1785-153	
Coupling for MT50 rod	1785-167	
Water swivel for EP-10	5813-042	Connecting hose size, 3/4"
Select size of drill rod		

[Accessories]

Name	Dia(mm)	Part No.	Remarks
Parmalee wrench	50	5678-187	For drill rod
	86		For core barrel
	101.6		For casing
Rod clamp	50	5680-072	For drill rod
	101.6	5680-503	For casing
Hoisting swivel	-	5321-510	Select coupling size of drill rod
Sub (T50pin - T40.5pin)	-	2881-839	
Sub (T50box - T40.5pin)	-	2881-804	
Sub (T50box - MT50pin)	-	2884-112	
Sub (101.6LHpin - T50box)	-	4753-519	
Sub (MT50box - T50pin)	-	2884-148	
Coupling (MT50pin - 50pin)	-	1785-168	Length=155mm
Sling wire	-	5855-513	For EP-26
	-	5855-520	For EP-10
Hoist wire	-	4870-102	5mmx24m
Double wrench			For MT50 rod

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