

TOHO
DRILLING EQUIPMENT

GENERAL CATALOG

TOHO DRILLING MACHINE AND GROUTING PUMP





First established in 1933, TOHO CHIKAKOKI Co., Ltd. was reorganized to its present corporate form in 1946. Since its foundation, the company has played a major role in Japan's civil engineering field as a manufacturer of drilling machines, micro-tunneling machines, grout pumps, mortar pumps and drilling equipment, and as a contractor for important drilling and grouting projects.

The machines introduced in this brochure were designed and developed using our vast experience in the Drilling Technology and Manufacturing fields, and are continuously improved thanks to the friendly and open opinions and suggestions of our discerning clients. We are confident that they offer unsurpassed excellence in terms of performance, safety and economy.

Our ultimate goal as a drilling machinery manufacturer is to develop machinery which satisfies every single need of our clients. To achieve this goal, we are determined to make whatever effort it takes-just as we have done for more than half a century.

If you would like to obtain more detailed information on our individual products, please feel free to contact our Web Site.

Koki Okamoto
President
TOHO CHIKAKOKI Co., Ltd.



Company Profile 3 - 5

History 3

Office Information 4

Our Business 5

Products Catalog 6 - 26

Drilling Machine 7 - 18

Pump / Mortar Plant 19 - 21

Mud Screen 22

Grout Mixer 23 - 24

Others 25 - 26

Construction 27 - 29

Environmental Engineering 27 - 28

Promoting / Training 29



August 1933

Founded as YAMATO KOHSAKUSHO.

May 1946

After World War II, the operation stopped in August of 1945. The west branch (located in Shimonoseki city) was reorganized and designated as the head office. The new organization started life as YAMATO KOHSAKUSHO Co., Ltd. under president, Kozaburo Okamoto.



January 1948

The company was renamed as TOHO CHIKAKOKI Co., Ltd., headquartered in Oaza Nishinabe-cho, Shimonoseki city.

March 1955

Completed was the drilling /grout engineering for Kamishiiba arch dam, which was the first large-scale construction in the boring industry after the war.

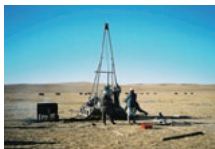


September 1961

As the first overseas mission after World War II, our engineers were sent to Borneo for the coal seam research.

October 1965

Anti-disaster engineering was completed along the Hijikawa River in Shikoku, in which construction had been started in 1961 as the first, large-diameter landslide countermeasure in the boring industry.



September 1981

Micro-tunneling method with "Type-TH" horizontal drilling machines was collectively referred to as the OK Mole construction method. We started selling the Type-TH as the base machine of micro-tunneling machine for sewer construction.

April 1986

President Masayuki Joshima

July 1989

President Yukinori Okamoto



November 2004

Development and validation of research equipment resistant to the extreme cold environment in Mongolia.

November 2007

Exhibitor in "CONSTECH 2007" in Bangkok.



September 2011

Exhibitor in "MINING INDONESIA 2011" in Jakarta.

October 2014

Exhibitor in "MINING MYANMAR 2014" in Yangon.

April 2018

Tokyo sales office was renamed as "Tokyo branch office" and moved the office to a new office.

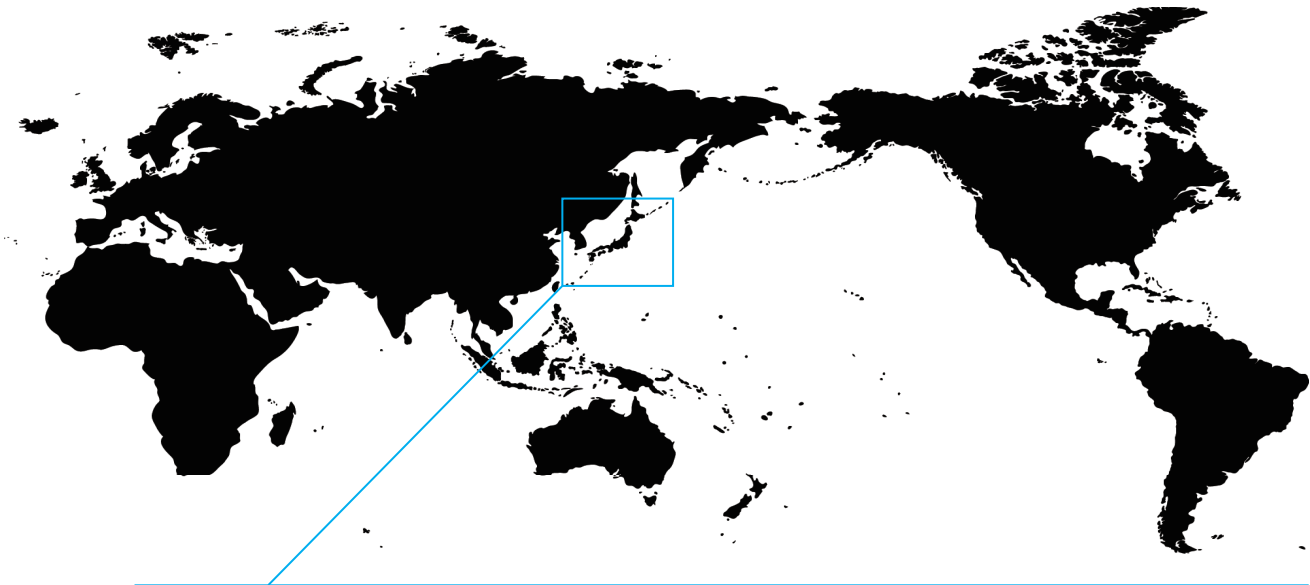
April 2020

Obtained ISO 9001 certification, an international quality management systems.

August 2025

New President Koki Okamoto

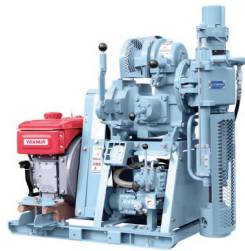
WORLD MAP



JAPAN



MANUFACTURING AND SALES DEPARTMENT



With Quality, Service, and Safety as the three tenets of our basic philosophy, manufacturing and sales department of TOHO CHIKAKOKI Co., Ltd. offers various machines which feature excellent performance, cost efficiency, and safety. Our offer is based on the precious feedback from our customers, and our long-term experience.

Product Line-up



Drilling Machine



Pump



Grout Mixer



Mud Screen



Mortar Plant

Quality Management



Manufacturing department of TOHO CHIKAKOKI CO., LTD is certified to international quality management systems "ISO9001".

We make efforts provide our customers with reliable products.



ENGINEERING DEPARTMENT



Engineering department of TOHO CHIKAKOKI Co., Ltd. continues to strive for better quality in the fields of survey, project, and engineering regarding the ground. We offer reliable information and stable engineering technology to our customers.

PRODUCTS CATALOG

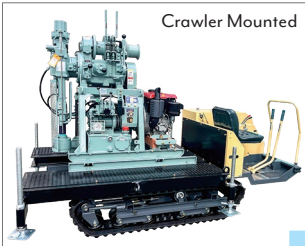
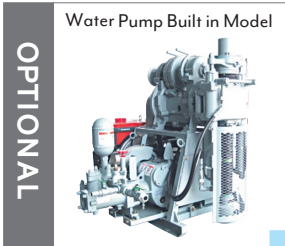
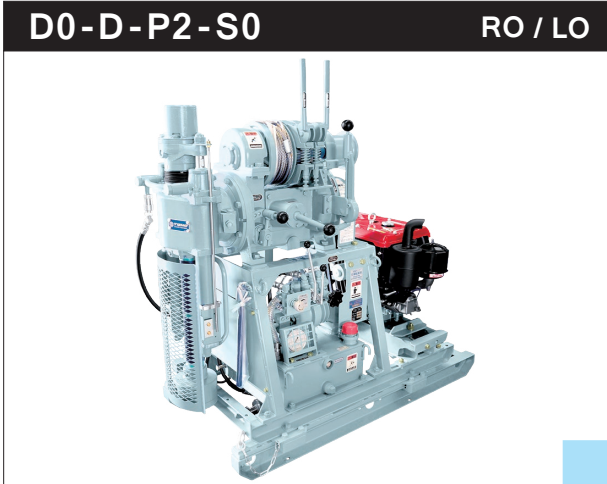
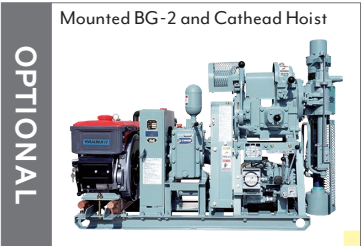
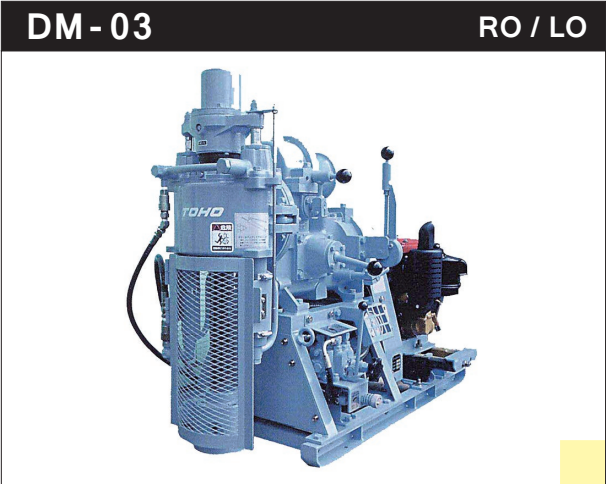
Drilling Machine

Pump / Mortar Plant

Mud Screen

Grout Mixer

Others



DM-03 / D0-D

- Small size / Lightweight
- Easy to disassemble, transport, and reassemble
- Designed for safety
- Right and left side operation available

MODEL	DM-03 (RO/LO)		D0-D-P2-S0 (RO/LO)	Water Pump Built in Model (BG-3C)
	Wire Drum Hoist	Cathead Hoist		
I.D. of Spindle	47 mm		43 mm	
Spindle Speeds	65:125 : 370 r.p.m.		(A) 60 :170 : 330 r.p.m. (B) 110 : 320 : 625 r.p.m.	
Torque (Max.)	0.54 kN·m{55 kgf·m}		(A) 0.59 kN·m{60 kgf·m} (B) 0.32 kN·m{33 kgf·m}	
Stroke of Spindle	400 (300) mm		500 (400) mm	
Thrust Force	8.4 kN {860 kgf}		17.6 kN {1800 kgf}	
Balance Force	13.8 kN {1410 kgf}		23.5 kN {2400 kgf}	
Power	3.7kW/4P or 5PS/1800 r.p.m.		3.7kW/4P or 5PS/1800 r.p.m. 5.5kW/4P or 7.5PS/1800 r.p.m.	
Dimensions (L x W x H)	1115 x 570 x 1060 mm (1115 x 570 x 960 mm)		1225 x 655 x 1285 mm (1225 x 655 x 1255) mm	1225 x 1110 x 1285 mm
Net Weight	240 (200) kg	220 (180) kg	350 (345) kg	435 kg

Spindle speed (A) is standard.

I.D. of spindle: 43mm is standard, 47mm is optional.

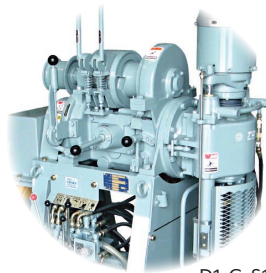
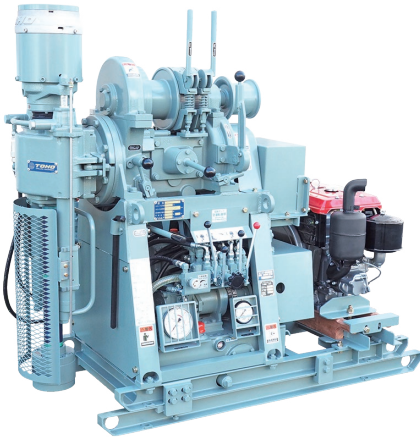
Drilling pump can be built in this machine.

Oil hydraulic chuck is standard equipment.

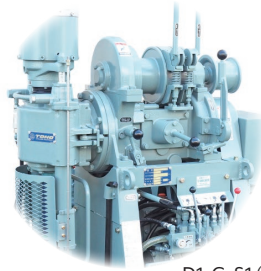
Oil hydraulic slide base is optional equipment.

USED FOR

- Geologic Survey
- Chemical Grouting
- Grouting
- Well Drilling
- Bore Piling
- Anchor Hole

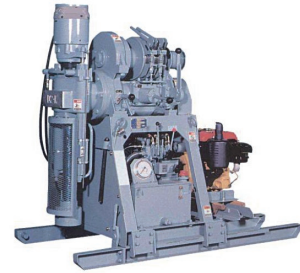
D1-C-S1
RO / LO


D1-C-S1 (LO)



D1-C-S1 (RO)

Both right and left side operation available

D2-KS58
RO / LO


MODEL	D1-C-S1 (RO/LO)		D2-KS58 (RO/LO)
I.D. of Spindle	48 mm	58 mm	58 mm
Spindle Speeds	(A)65:130:240:370 r.p.m. (B)85:170:320:500 r.p.m. (C)160:310:590:900 r.p.m.	(A)50:100:185:285 r.p.m. (B)65:130:245:380 r.p.m.	(A)60:120:230:360 r.p.m. (B)100:190:360:560 r.p.m. (C)130:260:500:770 r.p.m.
Torque	(A)0.81 kN·m {83 kgf·m} (B)0.62 kN·m {63 kgf·m} (C)0.33 kN·m {34 kgf·m}	(A)1.05 kN·m {107 kgf·m} (B)0.81 kN·m {83 kgf·m}	(A)0.88 kN·m {90 kgf·m} (B)0.53 kN·m {54 kgf·m} (C)0.40 kN·m {41 kgf·m}
Stroke of Spindle	500 mm		500 mm
Thrust Force	22.1 kN {2250 kgf}		22.1 kN {2250 kgf}
Balance Force	29.5 kN {3010 kgf}		29.5 kN {3010 kgf}
Slide System	Oil Hydraulic: Stroke 300 mm		Oil Hydraulic: Stroke 400 mm
Power	5.5kW/4P or 7.5PS/1800 r.p.m.		5.5kW/4P or 7.5PS/1800 r.p.m.
Dimensions (L×W×H)	1580×735×1390 mm	1580×735×1430 mm	1780×870×1620 mm
Net Weight	550 kg	565 kg	680 kg

Spindle speed (A) is standard. (B)(C) is optional.

Manual chuck is standard equipment.

Spindle speed (A) is standard. (B)(C) is optional.

Manual chuck is standard equipment.

D1-C-S1

- Standard equipment
 - └ Oil hydraulic chuck
 - └ Oil hydraulic slide base

- Right and left side operation available

D2-KS-58

- Standard equipment
 - └ Oil hydraulic chuck
 - └ Oil hydraulic slide base

- Low speed and high torque rotary spindle

- Right and left side operation available

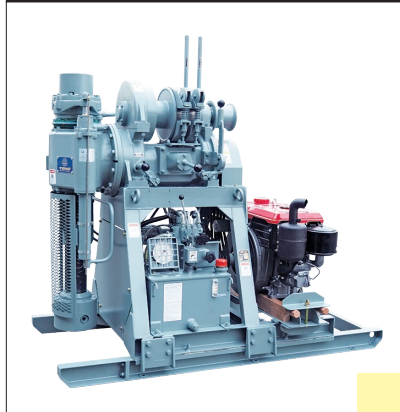

USED FOR

- Geologic Survey
- Chemical Grouting
- Grouting
- Well Drilling
- Bore Piling
- Anchor Hole

Spindle Type: **D** SERIES

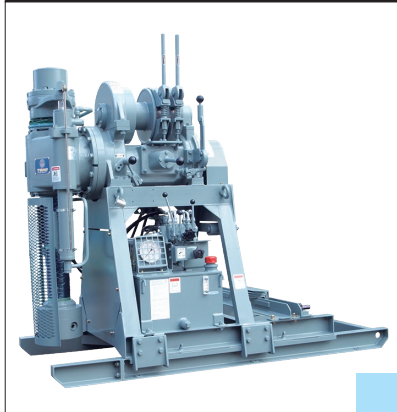
D2-K92

RO / LO



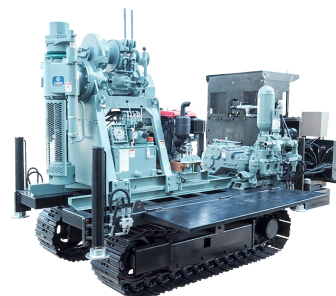
D3-92C

RO / LO



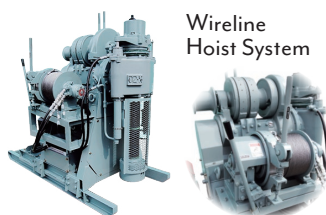
OPTIONAL

Crawler Mounted

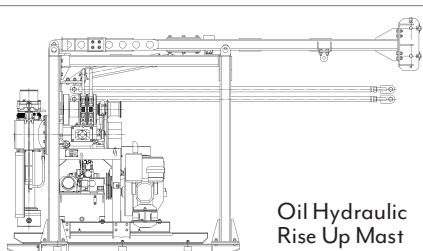


D3-92C (RO) x BG-10C (Oil Hydraulic Driven)

OPTIONAL



Wireline
Hoist System



Oil Hydraulic
Rise Up Mast

D2-K92

- Standard equipment
 - └ Oil hydraulic slide base
- Maximum 90mm (HQ size) rod available
- Low speed and high torque rotary spindle
- Right and left side operation available

D3-92C

- Standard equipment
 - └ Oil hydraulic slide base
- Long brake and hoist lever
- └ Easy hoisting operation
- Right and left side operation available

MODEL	D2-K92-P2 (RO/LO)	D2-K92-P3 (RO/LO)	D3-92C (RO/LO)
I.D. of Spindle	92 mm		92 mm
Spindle Speeds	(A) 60:180:355:65 (R) r.p.m. (B) 100:293:577:109 (R) r.p.m.	17:50:95:18 (R) r.p.m.	113:236:452:90 (R) r.p.m.
Torque	(A) 1.18 kN-m {120 kgf-m} (B) 0.7 kN-m {73 kgf-m}	3.09 kN-m {315 kgf-m}	0.93 kN-m {95 kgf-m}
Stroke of Spindle	500 mm		500 mm
Thrust Force	21.5 kN {2200 kgf}		41.6 kN {4240 kgf}
Balance Force	28.8 kN {2900 kgf}		55.5 kN {5660 kgf}
Slide System	Oil Hydraulic: Stroke 400 mm		Oil Hydraulic: Stroke 400 mm
Power	7.5kW/4P, 10PS/1800 r.p.m.	5.5kW/4P, 7.5PS/1800 r.p.m.	11kW/4P or 15PS/1800 r.p.m.
Dimensions (L x W x H)	1800 x 870 x 1620 mm	1835 x 870 x 1620 mm	1788 x 873 x 1753 mm
Net Weight	700 kg	820 kg	780 kg

Spindle speed (A) is standard.

Oil hydraulic chuck is optional equipment.

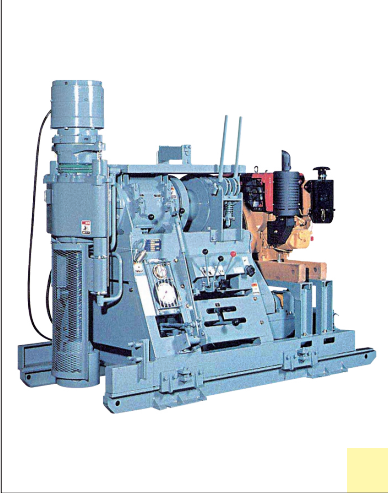
Oil hydraulic slide base is standard equipment.

USED FOR

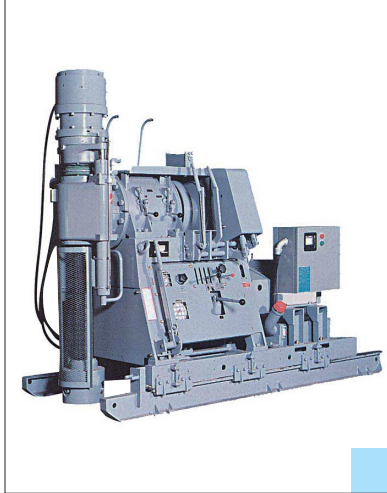
- Geologic Survey
- Chemical Grouting
- Grouting
- Well Drilling
- Bore Piling
- Anchor Hole



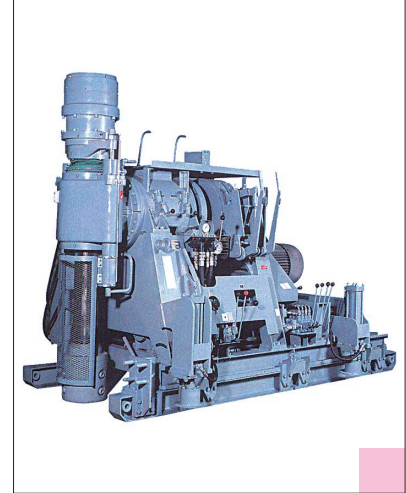
DH-2D



DH-3D (92) (150)

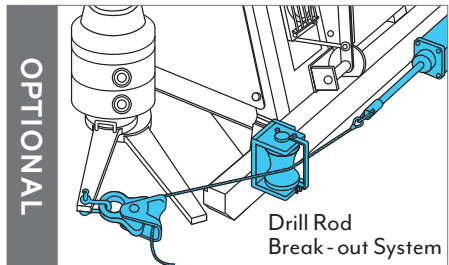


DH-4C (125) (150)



DH-2D / DH-3D / DH-4C

- Mid- to large-sized machine with ample thrust force, balance and torque
- Used for foundation pilings, landslide prevention pilings, and water well drilling
- Standard equipment
 - └ Oil hydraulic chuck



MODEL	DH-2D	DH-3D		DH-4C	
I.D. of Spindle	79 mm	92 mm	150 mm	125 mm	150 mm
Spindle Speeds	30:105:220:26 (R) r.p.m.	30:70:200:27(R) r.p.m.	20:47:130:18(R) r.p.m.	22:50:152:18(R) r.p.m.	28:66:185:22 (R) r.p.m.
Torque	3.43 kN·m {350 kgf·m}	4.77 kN·m {490 kgf·m}	7.16 kN·m {730 kgf·m}	8.03 kN·m {820 kgf·m}	8.73 kN·m {890 kgf·m}
Stroke of Spindle	500 mm	600 mm		600 mm	
Thrust Force	29.7 kN {3030 kgf}	51.8 kN {5290 kgf}	75.4 kN {7690 kgf}	90.5 kN {9230 kgf}	
Balance Force	39.6 kN {4040 kgf}	77.0 kN {7850 kgf}	100.5 kN {10260 kgf}	120.6 kN {12310 kgf}	
Slide System	Oil Hydraulic: Stroke 500 mm	Oil Hydraulic: Stroke 500 mm		Oil Hydraulic: Stroke 600 mm	
Power	11kW/4P or 15PS/1800 r.p.m.	15kW/4P or 20PS/1800 r.p.m.		18.5kW/4P or 25PS/1800 r.p.m.	
Dimensions (L × W × H)	2075 × 1055 × 1680 mm	2530 × 1250 × 2060 mm	2670 × 1500 × 2100 mm	2920 × 1390 × 2140 mm	2985 × 1390 × 2190 mm
Net Weight	1360 kg	2140 kg	2360 kg	3170 kg	3800 kg

Jack-up system and drill rod break-out system are optional equipment.

I.D. of spindle: 125mm is standard.

Outtrigger is optional equipment.



USED FOR

Geologic Survey

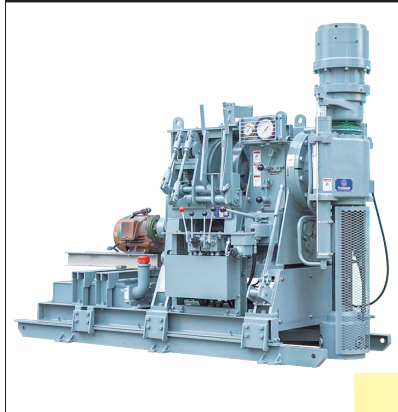
Bore Piling

Anchor Hole

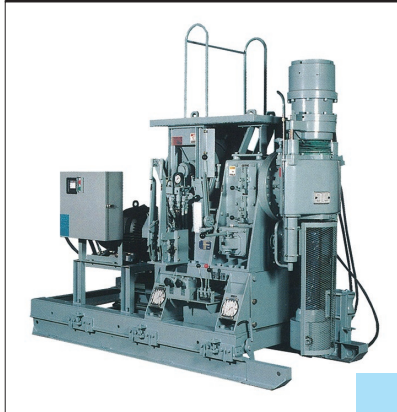
Well Drilling

Spindle Type: **DU** SERIES

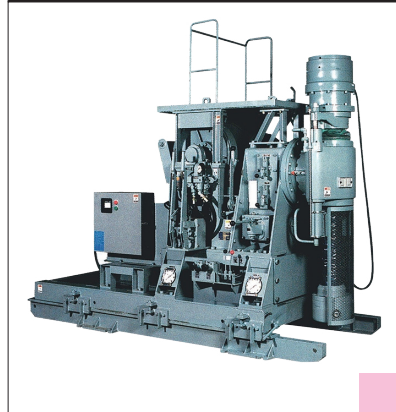
DU-4C



DU-6



DU-10



DU-4C / DU-6 / DU-10

- Twin cylinder oil hydraulic feed type
- The hexagonal drive spindle
 - └ Suitable for large diameter drilling (Exc. DU-4C)
- 6 stages of forward movement and 2 stages of reverse movement
- Oil hydraulic brakes
 - └ Easy operation and large hoisting power (Exc. DU-4C)

Most available as an optional extra.

OPTIONAL



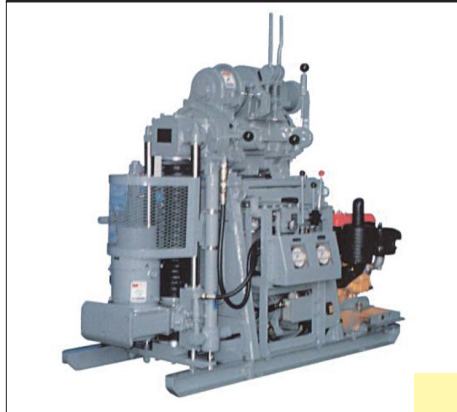
MODEL	DU-4C	DU-6	DU-10
I.D. of Spindle	92 mm	105 mm	125 mm
Spindle Speeds	Low: 37:77:132:33(R) r.p.m. High: 220:462:792:195(R) r.p.m.	Low: 30:63:108:27(R) r.p.m. High: 180:376:646:159(R) r.p.m.	Low: 30:63:108:27(R) r.p.m. High: 180:376:646:159(R) r.p.m.
Torque	3.90 kN-m {398 kgf-m}	5.89 kN-m {601 kgf-m}	7.00 kN-m {714 kgf-m}
Stroke of Spindle	600 mm	600 mm	600 mm
Thrust Force	51.8 kN {5290 kgf}	75.4 {7690 kgf}	90.5 {9230 kgf}
Balance Force	77.0 kN {7850 kgf}	100.5 {10260 kgf}	120.6 {12310 kgf}
Slide System	Oil Hydraulic: Stroke 500 mm	Oil Hydraulic: Stroke 500 mm	Oil Hydraulic: Stroke 600 mm
Power	15kW/4P or 20PS/1800 r.p.m.	18.5 kW/4P or 25PS/1800 r.p.m.	22kW/4P or 30PS/1800 r.p.m.
Dimensions (L × W × H)	2490 × 1105 × 1942 mm	2650 × 1170 × 2085 mm	3025 × 1330 × 2325 mm
Net Weight	1850 kg	2470 kg	3500 kg

Oil hydraulic chuck is standard equipment.

USED FOR

- Geologic Survey
- Well Drilling
- Deep Drilling



D0-D LH-S0 RO / LO

D2-K-P3-LH92


MODEL	D0-D LH-S0 (RO/LO)	D2-K-P3-LH92
I.D. of Spindle	43 mm	92 mm
Spindle Speeds	(A) 60:170:330 r.p.m. (B) 110:320:625 r.p.m.	14:40:80:15(R) r.p.m.
Torque	(A) 0.59 kN-m {60 kgf-m} (B) 0.32 kN-m {33 kgf-m}	3.90 kN-m {398 kgf-m}
Stroke of Spindle	500 mm	500 mm
Thrust Force	10.7 kN {1090 kgf}	22.1 kN {2250 kgf}
Balance Force	17.6 kN {1800 kgf}	29.5 kN {3010 kgf}
Power	3.7kW/4P or 5~7.5PS/1800 r.p.m. (5.5kW/4P, Including Pump)	5.5kW/4P or 7.5PS/1800 r.p.m.
Dimensions (L x W x H)	1420 x 675 x 1415 mm (1420 x 895 x 1415 mm)	2075 x 870 x 1685 mm
Net Weight	460 kg	950 kg

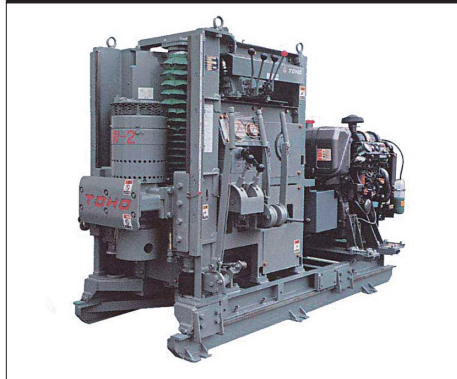
Spindle speed (A) is standard.

Oil hydraulic chuck is optional equipment.

Oil hydraulic slide base is standard equipment.

LH Series

- Drilling machine with the swivel head set up in a low position
- Quick and safe attachment/detachment of rods
- Suitable for chemical grouting
- Standard equipment
 - └ Oil hydraulic chuck

DW-2


MODEL	DW-2
I.D. of Spindle	92 mm
Spindle Speeds	30:70:220:26(R) r.p.m.
Torque	3.50 kN-m {357 kgf-m}
Stroke of Spindle	600 mm
Thrust Force	36.3 kN {3700 kgf}
Balance Force	53.9 kN {5500 kgf}
Slide System	Oil Hydraulic: Stroke 500 mm
Power	11kW/4P or 15PS/1800 r.p.m.
Dimensions (L x W x H)	2210 x 1020 x 1525 mm
Net Weight	1850 kg

DW-2

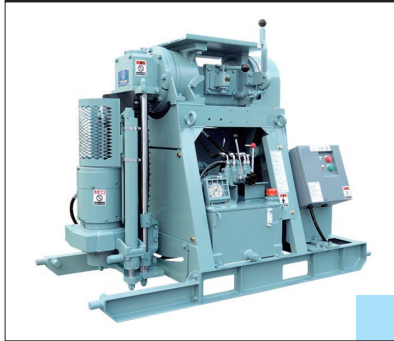
- Centralized operation levers
 - └ Easy operation
- Box-shape framework
- Parallel-winding drum
- Standard equipment
 - └ Oil hydraulic chuck

For Chemical Grouting METHOD

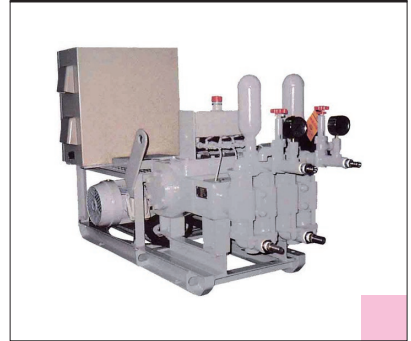
D2-JS-P3



D2-JS-P3-LH



CPW-5D



MODEL	D2-JS-P3	D2-JS-P3-LH
I.D. of Spindle	48 mm	48 mm
Spindle Speeds	55 : 155 : 310 r.p.m.	40 : 115 : 230 r.p.m.
Torque	0.95 kN·m {97 kgf·m}	1.31 kN·m {134 kgf·m}
Stroke of Spindle	500 mm	500 mm
Thrust Force	22.1 kN {2250 kgf}	22.1 kN {2250 kgf}
Balance Force	29.5 kN {3010 kgf}	29.5 kN {3010 kgf}
Power	5.5kW/4P or 7.5PS/1800 r.p.m.	5.5kW/4P or 7.5PS/1800 r.p.m.
Dimensions (L×W×H)	1430×800×1390 mm	1660×800×1320 mm
Net Weight	470 kg	600 kg

Manual chuck is optional equipment.

MODEL	CPW-5D
Type	Two Separately Ports, Four Ceramic Plungers, Single Acting
No. of Plunger	4
Discharge Volume	2~20 × 2 L/min
Discharge Pressure	3.4 MPa {35 kgf·cm ² }
Plunger Diameter	40 mm
Plunger Stroke	45 mm
Power	3.7kW/6P
Dimensions (L×W×H)	1225×575×800 mm
Net Weight	300 kg

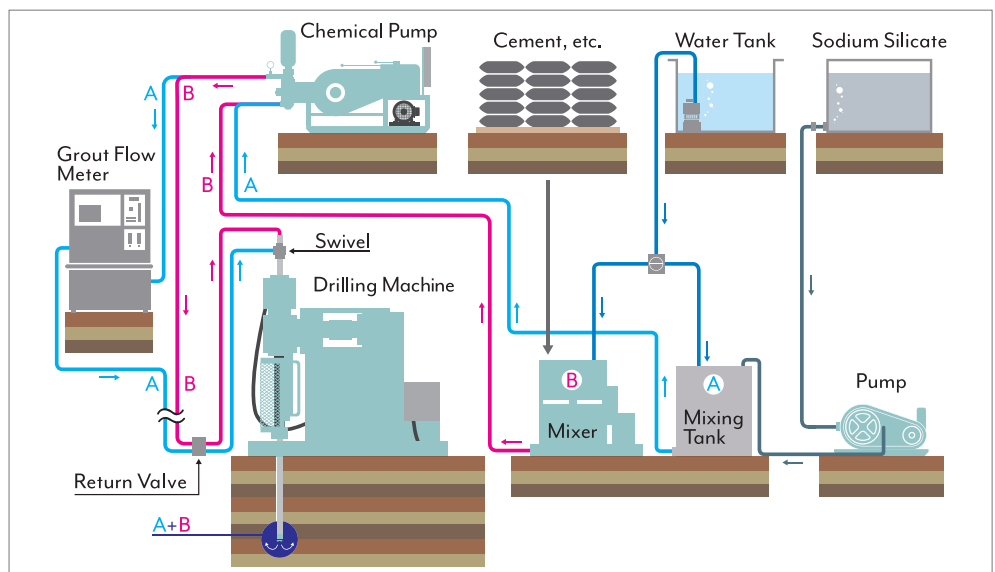
Net Weight: Setting with electric motor and control box.

D2-JS-P3

- Standard equipment
 - └ Oil hydraulic chuck
- Low speed and high torque rotary spindle

D2-JS-P3-LH

- Drilling machine with the swivel head set up in a low position
- Quick and safe attachment / detachment of rods
- Standard equipment
 - └ Oil hydraulic chuck

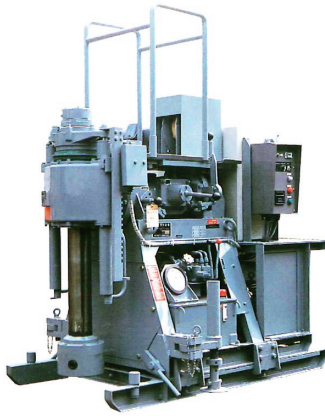


USED FOR

Chemical Grouting

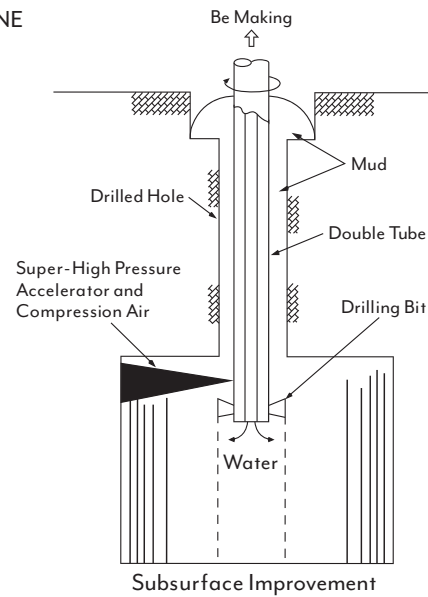


D2-K92-P2-JSG



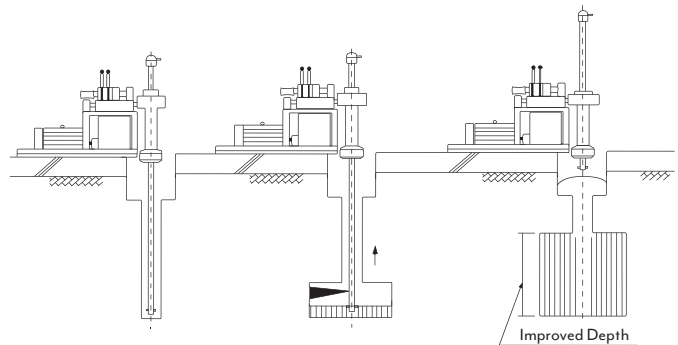
MODEL	D2-K92-P2-JSG
I.D. of Spindle	92 mm
Spindle Speeds	1st : 6~60 r.p.m. 2nd: 22~224 r.p.m. 3rd: 34~346 r.p.m. (R): 5~50 r.p.m.
Torque	1.20 kN-m {122 kgf-m}
Stroke of Spindle	500 mm
Auto Step Up	Step interval (Min): 25 mm
System	Wait Time: 0.1~999 sec
Thrust Force	20.2 kN {2060 kgf}
Balance Force	27.0 kN {2750 kgf}
Type of Hoist	Electric Hoist
Hoisting Force	1.0 kN {100 kgf}
Rope Speed	14 m/min
Slide System	Oil Hydraulic: stroke 400 mm
Power	For Spindle: 7.5kW/4P Inverted Motor For Oil Pump: 2.2 kW/4P For Hoist: 0.4 kW/4P, 1/45 Gear Motor
Dimensions (L×W×H)	1900×1200×1650 mm
Net Weight	1000 kg

OUT LINE



Soil improvement with JSG (Jumbo Jet Special Grout) METHOD

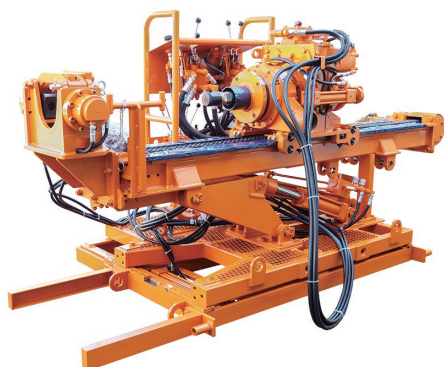
(1) Drilling (2) Improvement (3) Performed Figure



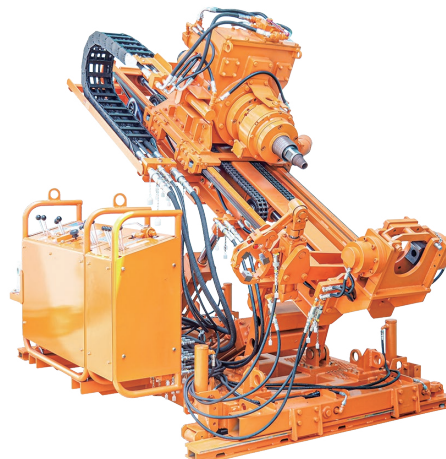
Oil hydraulic chuck and Jack-up system are standard equipment.

	Small					Mid		Large		
Machine	DM-03	D0-D	D1-C	D2-K92	D3-92	DH-3D	DU-4C	DU-6	DU-10	
Drilling Capacity	80M	100M	200M	250M	300M	400M	500M	600M	1000M	

K0-C



K1-C



MODEL	K0-C	K1-C
Drilling Angle	0~90°	5~50°
Diameter of Usable Pipe	Inner Pipe : 76.3 mm(Max) Outer Pipe : 139.8 mm(Max)	Inner Pipe : 76.3 mm(Max) Outer Pipe : 139.8 mm(Max)
Spindle Speeds	High Speed: 50Hz: 0~34 r.p.m. 60Hz: 0~40 r.p.m. Low Speed : 50Hz: 0~17 r.p.m. 60Hz: 0~20 r.p.m.	High Speed: 50Hz: 0~40 r.p.m. 60Hz: 0~48 r.p.m. Low Speed : 50Hz: 0~20 r.p.m. 60Hz: 0~24 r.p.m.
Torque (Max.)	High Speed: 2.15 kN·m {219 kgf·m} Low Speed : 4.3 kN·m {438 kgf·m}	High Speed: 3 kN·m {306 kgf·m} Low Speed : 6 kN·m {612 kgf·m}
Feed Speeds (Max.)	50Hz : 12 m/min 60Hz : 14 m/min	50Hz : 13.2 m/min 60Hz : 16 m/min
Feed Length	1400 mm	1400 mm
Spindle Stroke	150 mm	250 mm
Thrust Force	Inner Pipe : 12 kN {1224 kgf} Outer Pipe: 25 kN {2550 kgf}	Inner Pipe : 35 kN {3570 kgf} Outer Pipe: 65 kN {6630 kgf}
Balance Force	Inner Pipe : 17.5 kN {1785 kgf} Outer Pipe: 25 kN {2550 kgf}	Inner Pipe : 55 kN {5610 kgf} Outer Pipe: 65 kN {6630 kgf}
Power Unit	Unit: 15kW/4PS Oil Heater: 3kW Oil Cooler: 0.1kW	Unit: 30kW/4PS Oil Heater: 3kW Oil Cooler: 0.2kW
Dimensions (L x W x H)	Machine: 2620 x 870 x 1130 mm Oil Hydraulic Unit: 1300 x 610 x 1250 mm	Machine: 2887 x 1734 x 1636 mm Oil Hydraulic Unit: 1400 x 800 x 1295 mm
Net Weight	Machine: 1020 kg Oil Hyd.Unit: 620 kg	Machine: 2400 kg Oil Hyd.Unit: 930 kg

Other Type: Stroke of thrust head is 1900mm and 2400mm.

Oil hydraulic chuck is optional equipment.

K-0C / K1-B

- Suitable for water drainage against landslide / Anchor hole for retaining wall
- All oil hydraulic operation
- Double tube drilling
- Low speed and high torque rotary spindle

FEATURES

1

Double Tube Drilling Method

Makes it easy to drill into unstable stratum.

2

Original Drilling Method

Can increase drilling speed by using Double Tube Drilling System and Power Ring Bit System.

3

Speed Switching Valve

Makes it increase excavation efficiency.

4

Base For Incline Drilling Style

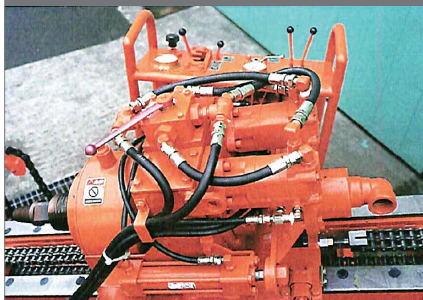
Smooth to adjust drilling angle.

Power Ring Bit System (Japanese Patent)



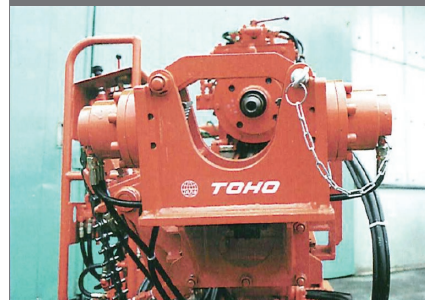
Rotary percussion drilling
Excellent in excavation efficiency

Speed Switching Valve K0-C



Easy to switch speed

Oil Hydraulic Holder K0-C



Chucking firmly

High Speed Inner Head



Diamond bit available

Base for Vertical Drilling Style K0-C



Wide range of drilling angle

Core Sampling



Core sampled by K1-B with high speed inner head

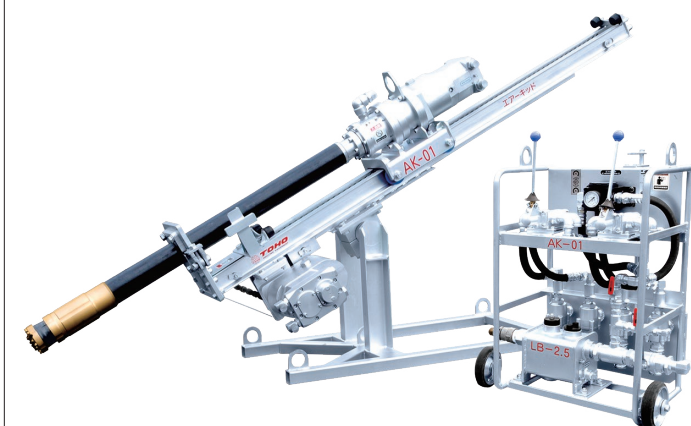
USED FOR

Water Drainage

Anchor Hole



AK-01



MODEL	AK-01
Drilling Angle	Free
Down The Hole Drill	φ 65 mm
Down The Hole Drill with Outer Casing	Drilling Diameter φ106 mm (Inside Diameter φ67 mm) Drill Rod φ50 mm, Outer Casing φ89.1 mm (φ106 mm Bit Dia.)
Spindle Speeds	0 ~ 30 r.p.m.
Torque (Max)	1.23 kN·m {125 kgf·m}
Drill Frame	Air Motor + Chain Drive
Thrust Force (Max)	7.84 kN {800 kgf}
Balance Force (Max)	7.84 kN {800 kgf}
Feed Length	1400 mm
Air Consumption	10 ~ 15 m³/min × 1 ~ 1.5 MPa
Dimensions (L × W × H)	2190 × 660 × 980 mm
Net Weight	Drive Unit: 230 kg
Disassembly	Drill Head: 65 kg Drill Frame: 125 kg Base: 40 kg
Operation Stand	65 kg

Feed length is 3500mm.

FEATURES

Air Drilling

Able to reduce running cost and time using air driving method.

Drill Head with Strong Air Motor

Drill head with reduction gear exerts great drilling torque.

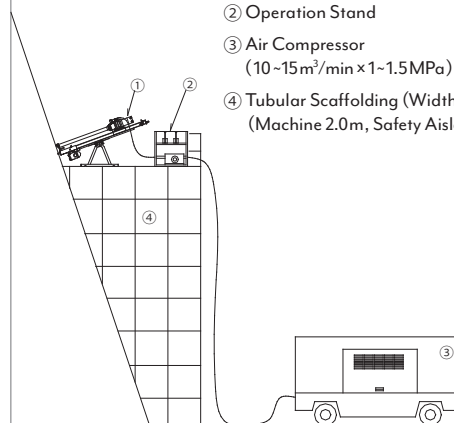
Double Tube Drilling

Makes it easy to drill into unstable stratum.

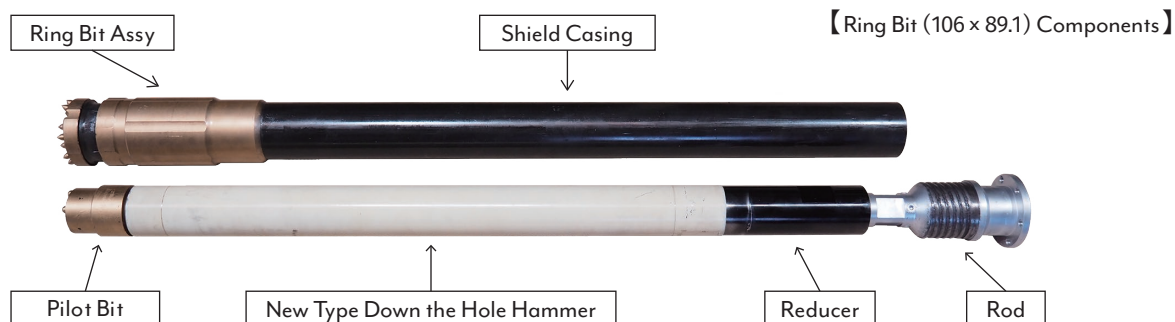
Air Kid (AK-01) LAYOUT

Machine and Tubular Scaffolding

- ① AK-01 Body
- ② Operation Stand
- ③ Air Compressor (10 ~ 15 m³/min × 1 ~ 1.5 MPa)
- ④ Tubular Scaffolding (Width 2.5m) (Machine 2.0m, Safety Aisle 0.5m)



Double Tube Type System



SETTING



Single Tube Type Method (Steep Slope Failure Prevention)



Double Tube Type Method (Rock Bolt)



USED FOR

Rock Bolt

BG-2

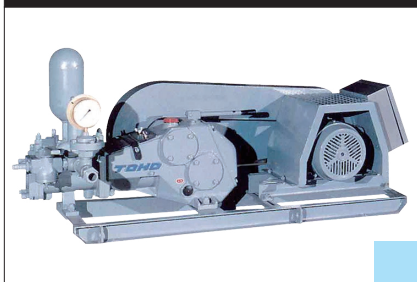
RO / LO


BG-3C

RO / LO


BG-4

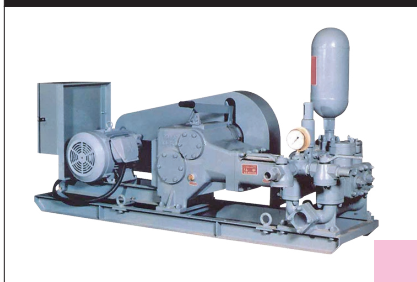
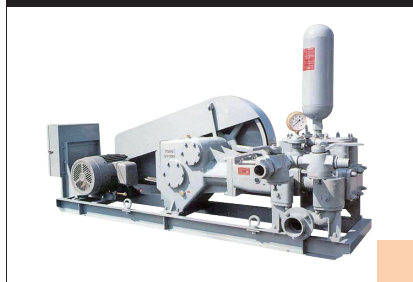
RO / LO


BG-5C

BG-10C


MODEL	BG-2 (RO/LO)	BG-3C (RO/LO)	BG-4 (RO/LO)	BG-5C		BG-10C	
Type	Double Acting, Piston Type						
No. of Cylinder	1			1		2	
Discharge Volume	30 L/min	54 L/min	70 L/min	70 L/min	53 L/min	120 L/min	91 L/min
Discharge Pressure	1.0 MPa{10kgf·cm ² }	1.5 MPa{15kgf·cm ² }	1.5 MPa{15kgf·cm ² }	2.4 MPa{24kgf·cm ² }	3.1 MPa{32kgf·cm ² }	2.8 MPa{29kgf·cm ² }	3.7 MPa{38kgf·cm ² }
Piston Diameter	80 mm	70 mm	90 mm	*80 mm	70 mm	*80 mm	70 mm
Piston Stroke	20 mm	45 mm	45 mm	60 mm		60 mm	
Power	0.75kW/4P, 1PS	2.2kW/4P, 3PS	2.2kW/4P, 3PS	3.7kW/4P, 5PS		7.5kW/4P, 10PS	
Dimensions (L × W × H)	555 × 440 × 545 mm	678 × 450 × 569 mm	670 × 530 × 600 mm	1610 × 600 × 715 mm		1900 × 565 × 1015 mm	
Net Weight	48 kg	67 kg	85 kg	205 kg		370 kg	

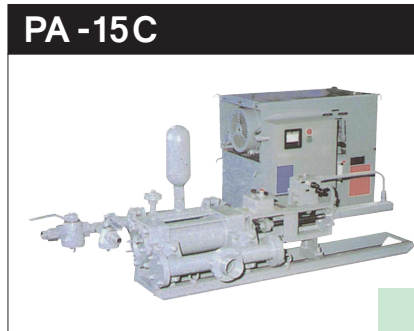
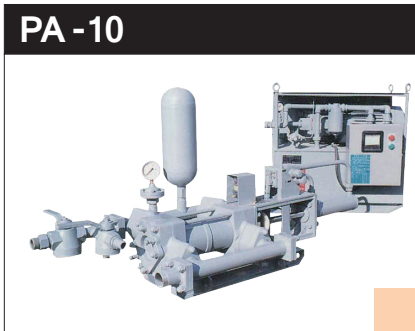
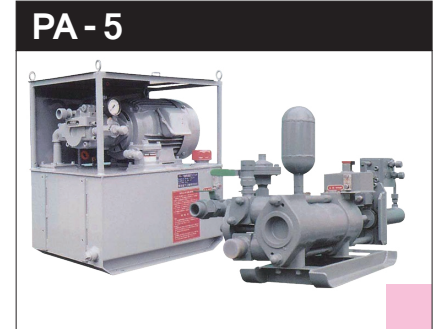
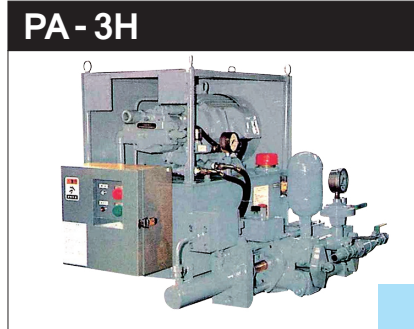
Specifications: at 50Hz

* Standard Specifications: at 50Hz

BG-15B

BG-30B

BG-40D


MODEL	BG-15B		BG-20B		BG-30B		BG-40D	
Type	Double Acting, Piston Type							
No. of Cylinder	2		2					
Discharge Volume	200 L/min	157 L/min	300 L/min	217 L/min	450 L/min	350 L/min	550 L/min	410 L/min
Discharge Pressure	2.5MPa{25kgf-cm ² }	3.1MPa{32kgf-cm ² }	2.3MPa{23kgf-cm ² }	3.1MPa{32kgf-cm ² }	2.3MPa{23kgf-cm ² }	2.8MPa{29kgf-cm ² }	2.4MPa{24kgf-cm ² }	3.2MPa{33kgf-cm ² }
Piston Diameter	*90 mm	80 mm	*105 mm	90 mm	*130 mm	115 mm	*150 mm	130 mm
Piston Stroke	85 mm		105 mm		130 mm		130 mm	
Power	11kW/4P, 15PS		15kW/4P, 20PS		22kW/4P, 30PS		30kW/4P, 40PS	
Dimensions (L×W×H)	2130×1020×1155 mm		2400×700×1215 mm		2800×970×1470 mm		3300×1000×1600 mm	
Net Weight	685 kg		860 kg		1240 kg		2050 kg	

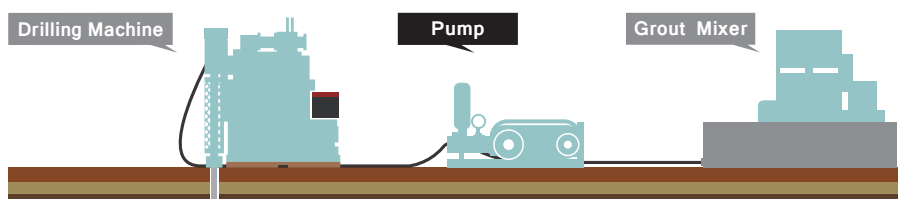
* Standard Specifications: at 50Hz



MODEL	PA-3	PA-3H	PA-5	PA-10	PA-15C
Type	Double Acting, Piston Type				
No. of Cylinder	1				
Discharge Volume	58 L/min	65 L/min	100 L/min	211 L/min	353 L/min
Discharge Pressure	1.4 MPa{14kgf·cm ² }	3.0 MPa{30kgf·cm ² }	2.0 MPa{20kgf·cm ² }	1.7 MPa{17kgf·cm ² }	1.3 MPa{13kgf·cm ² }
Piston Diameter	Oil: 50 mm Water: 90 mm	Oil: 50 mm Water: 90 mm	Oil: 50 mm Water: 105 mm	Oil: 70 mm Water: 130 mm	Oil: 60 mm Water: 150 mm
Piston Stroke	150 mm	150 mm	150 mm	200 mm	300 mm
Power	2.2kW/4P	5.5kW/4P	5.5kW/4P	7.5kW/4P	11kW/4P
Dimensions (L × W × H)	Pump: 945 × 360 × 460 mm Oil Unit: 625 × 450 × 600 mm	Pump: 945 × 370 × 460 mm Oil Unit: 625 × 450 × 600 mm	Pump: 950 × 360 × 520 mm Oil Unit: 640 × 450 × 675 mm	Pump: 1300 × 630 × 810 mm Oil Unit: 830 × 690 × 845 mm	Pump: 1820 × 780 × 815 mm Oil Unit: 1040 × 800 × 845 mm
Net Weight	Pump: 80 kg Oil Unit: 170 kg	Pump: 80 kg Oil Unit: 200 kg	Pump: 95 kg Oil Unit: 210 kg	Pump: 215 kg Oil Unit: 300 kg	Pump: 310 kg Oil Unit: 490 kg

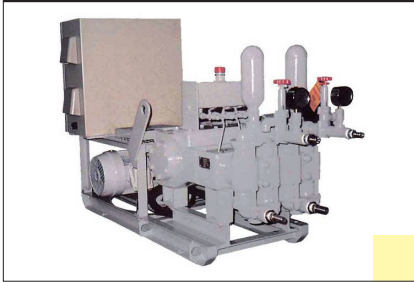


MODEL	PA-30C	PA-30C : 3 Speed Oil Unit		
	Standard Oil Unit	Low	Middle	High
Type	Double Acting, Piston Type			
No. of Cylinder	1			
Discharge Volume	540 L/min	90 L/min	220 L/min	320 L/min
Discharge Pressure	1.5 MPa{15kgf·cm ² }	5.4 MPa{55kgf·cm ² }	3.5 MPa{36kgf·cm ² }	2.5 MPa{26kgf·cm ² }
Piston Diameter	Oil: 75 mm Water: 180 mm	Oil: 105 mm Water: 180 mm		
Piston Stroke	400 mm	400 mm		
Power	22 kW/4P	22 kW/4P		
Dimensions (L × W × H)	Pump: 2230 × 1140 × 1040 mm Oil Unit: 1220 × 785 × 1160 mm	Pump: 2230 × 1140 × 1040 mm Oil Unit: 1420 × 1000 × 1400 mm		
Net Weight	Pump: 600 kg Oil Unit: 945 kg	Pump: 600 kg Oil Unit: 1140 kg		



Plunger Type: **CPW / CP** SERIES
Mortar Plant: **TMP** SERIES

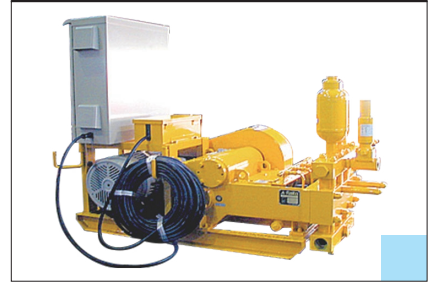
CPW - 5D



CP-10D



CP - 20



MODEL	CPW-5D	CP-10D	CP-20
Type	Two Separately Ports, Four Ceramic Plungers, Single Acting	Triplex Plungers, Single Acting	
No. of Plunger	4	3	
Discharge Volume	2~20 × 2 L/min	120 L/min	211 L/min
Discharge Pressure	3.4 MPa{35kgf·cm ² }	8 MPa{80kgf·cm ² }	3.8 MPa{39kgf·cm ² }
Plunger Diameter	40 mm	60 mm	75 mm
Plunger Stroke	45 mm	60 mm	60 mm
Power	3.7kW/6P	11kW/4P	15kW/4P
Dimensions (L × W × H)	1225 × 575 × 800 mm	1545 × 625 × 1175 mm	1580 × 660 × 1290 mm
Net Weight	300 kg	320 kg	680 kg (Setting with Electric Motor)

Net Weight: Setting with electric motor and control box.

TMP - 1



MODEL	TMP-1	TMP-2
Usable Fluid	Cement Milk, Air Milk, Other	
Discharge Volume	50Hz: 47 L/min	60Hz: 58 L/min
Discharge Pressure	1.4 MPa{14kgf·cm ² }	
Pump	PA-3	
Mixer	MVM-5B	MVM-5DS
Power	2.2kW/4P + 2.2kW/6P	
Dimensions (L × W × H)	1800 × 1270 × 1570 mm	1500 × 1275 × 1765 mm
Net Weight	660 kg	

TMP - 2

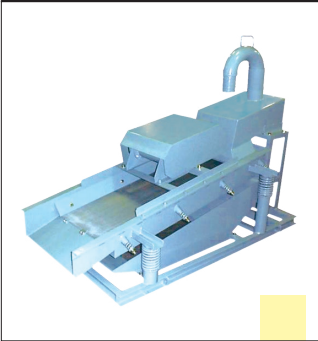


MODEL	TMP-3	TMP-4
Usable Fluid	Cement milk, Air milk, Other	
Discharge Volume	50Hz: 54 L/min	60Hz: 65 L/min
Discharge Pressure	3.0 MPa{30kgf·cm ² }	
Pump	PA-3H	
Mixer	MVM-5B	MVM-5DS
Power	5.5kW/4P + 2.2kW/6P	
Dimensions (L × W × H)	1800 × 1270 × 1570 mm	1500 × 1275 × 1765 mm
Net Weight	660 kg	

Setting with electric motor and control box.

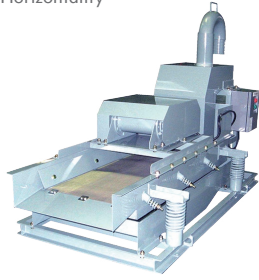
MODEL	TMP-5	TMP-6
Usable Fluid	Cement Milk, Air Milk, Other	
Discharge Volume	50Hz: 175 L/min	60Hz: 211 L/min
Discharge Pressure	2.0 MPa{20kgf·cm ² }	
Pump	PA-10 (70)	
Mixer	MVM-5B	MVM-10B
Power	7.5kW/4P + 2.2kW/6P	7.5kW/4P + 3.7kW/6P
Dimensions (L × W × H)	2300 × 1590 × 1580 mm	2570 × 1780 × 1580 mm
Net Weight	1200 kg	1300 kg

TM-1000



OPTIONAL

Horizontality

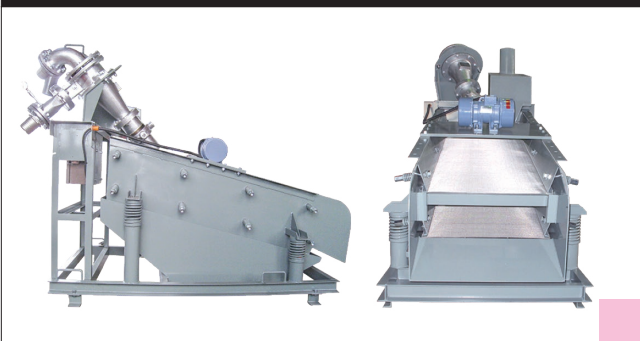


MODEL	TM-1000	TM-1000 (Horizontality)
Type	Single Screen Type	Single Screen Type
Disposable Capacity	1000 L/min	1000 L/min
Inlet Diameter	100 mm	100 mm
Amplitude of Vibration	3 mm	3 mm
Screen Area	0.8 m ²	0.8 m ²
Power	0.75kW/4P	0.75kW/4P
Dimensions (L × W × H)	2175 × 980 × 1455 mm	2182 × 980 × 1455 mm
Net Weight	310 kg	310 kg

Setting with electric motor and control box.

TM-1000W

LIQUID CYCLONE



MODEL	TM-1000W
Type	Double Screen Type
Disposable Capacity	1000 L/min
Inlet Diameter	100 mm
Screen Area	0.75 m ²
Power	0.25 kW/200V
Dimensions (L × W × H)	2160 × 970 × 1680 mm
Net Weight	550 kg

Setting with electric motor and control box.

Liquid cyclone is optional equipment.

TM Series

- Suitable at the site used large amount of circulating mud water
- Small amount of screenings and waste mud
- Less disposal cost

MVM - 5DS**MVM - 5B**

- Two vertically aligned tanks
- Only limited space required for installation
- Ideal for use in limited spaces, such as tunnel work
- Cement and bentonite available

MODEL	MVM-5DS	MVM-5B	MVM-10B
Tank Capacity	250 × 2 L	250 × 2 L	350 × 2 L
Mixing Capacity	200 L	200 L	290 L
Speed of Blade	50Hz: 200 r.p.m. 60Hz: 240 r.p.m.	50Hz: 100 r.p.m. 60Hz: 120 r.p.m.	50Hz: 100 r.p.m. 60Hz: 120 r.p.m.
Power	2.2kW/6P	2.2kW/6P	3.7kW/6P
Dimensions (L × W × H)	1200 × 700 × 1500 mm	1640 × 930 × 1480 mm	1880 × 1050 × 1480 mm
Net Weight	305 kg	360 kg	470 kg

Setting with electric motor and control box.

MPM - 5B Single Tank**MPM - 5B**

- Single or dual-tank design
- Minimized waiting time by simultaneously and independently mixing and agitating in two separate tanks (Dual-tank)
- Ideal for applications requiring high-speed, large capacity injection of prepacked concrete
- Agitator must be used when it is used in conjunction with a grout pump
- Cement and bentonite available

MODEL	MPM-5B Single Tank	MPM-5B	MPM-10B Single Tank	MPM-10B
Tank Capacity	250 L	250 × 2 L	350 L	350 × 2 L
Mixing Capacity	200 L	200 × 2 L	300 L	300 × 2 L
Speed of Blade	50Hz: 170 r.p.m. 60Hz: 210 r.p.m.	50Hz: 170 r.p.m. 60Hz: 210 r.p.m.	50Hz: 170 r.p.m. 60Hz: 210 r.p.m.	50Hz: 170 r.p.m. 60Hz: 210 r.p.m.
Power	2.2kW/4P	2.2kW/4P	2.2kW/4P	3.7kW/4P
Dimensions (L × W × H)	1000 × 1080 × 1120 mm	1980 × 1000 × 1120 mm	1000 × 1080 × 1320 mm	1990 × 1000 × 1320 mm
Net Weight	220 kg	380 kg	240 kg	420 kg

Setting with electric motor and control box.

MS - 400B



MS - 750B

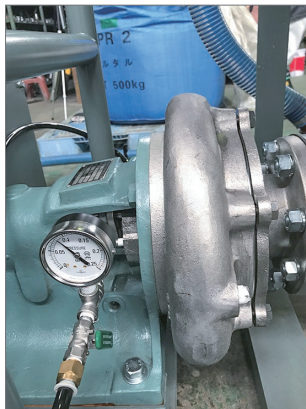


- Single or dual-tank design
- Agitator must be used when it is used in conjunction with a grout pump
- High-speed mixing
- Cement, bentonite, mortar and air mortar available

MODEL	MS-400B Single Tank	MS-400B	MS-600B	MS-750B	MS-1000B
Tank Capacity	420 L	420 × 2 L	600 × 2 L	750 × 2 L	1050 × 2 L
Mixing Capacity	330 L	330 × 2 L	480 × 2 L	600 × 2 L	850 × 2 L
Speed of Blade	50Hz: 410 r.p.m. 60Hz: 500 r.p.m.	50Hz: 410 r.p.m. 60Hz: 500 r.p.m.	50Hz: 410 r.p.m. 60Hz: 500 r.p.m.	50Hz: 410 r.p.m. 60Hz: 500 r.p.m.	50Hz: 255 r.p.m. 60Hz: 300 r.p.m.
Power	5.5kW/4P	7.5kW/4P	7.5kW/4P × 2	11kW/4P × 2	18.5kW/4P × 2
Dimensions (L × W × H)	1370 × 1015 × 1530 mm	1700 × 1210 × 1530 mm	2700 × 1700 × 1525 mm	2700 × 1700 × 1775 mm	3100 × 1800 × 2005 mm
Net Weight	320 kg	610 kg	1100 kg	1260 kg	1600 kg

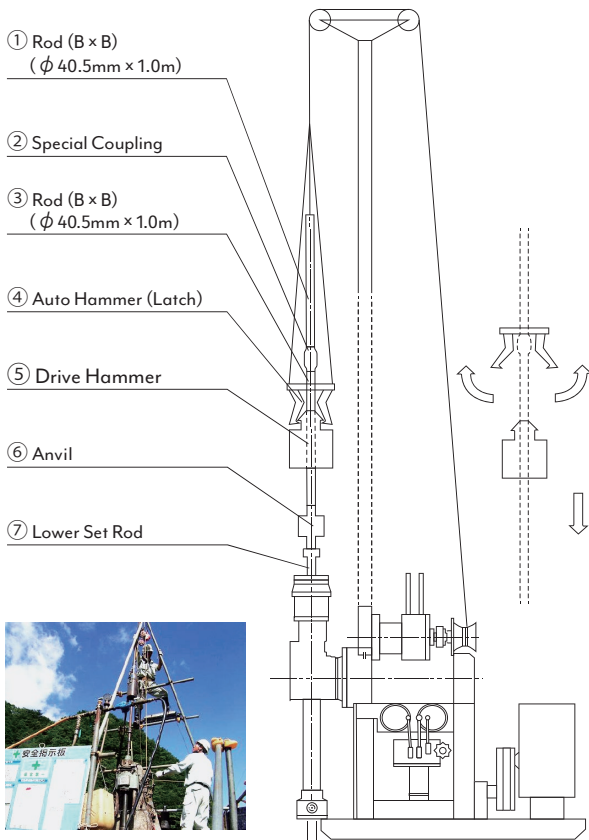
Setting with electric motor and control box.

Colloidal Mixer



MODEL	MC - 200
Type	Single Tank Type
Tank Capacity	250 L
Mixing Capacity	200 L
Revolving Speed	50Hz: 1430 r.p.m. 60Hz: 1740 r.p.m.
Discharge Port Diameter	50A
Power	11 kW/4P
Dimensions (L × W × H)	1740 × 1074 × 1370 mm
Net Weight	445 kg

EQUIPMENT for SEMI-AUTO STANDARD PENETRATION TEST (SPT)



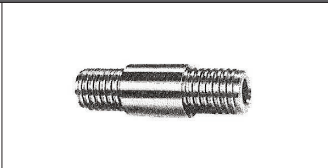
- Safety Bar
- Special Coupling
- Catcher
- Anvil (Knocking Block)
- Drive Hammer 63.5kg
- SPT Sampler
- Lower Set Rod 40.5mm × 0.5m
- Rod 40.5mm × 1.0m



- Rod 40.5mm × 1.0m
- Catcher
- Drive Hammer 63.5kg
- Anvil (Knocking Block)
- Lower Set Rod 40.5mm



DRILLING TOOLS

				
Diamond Bit	Diamond Reamer	Metal Crown	Reducer	
				
Rod Metal Crown	Wing Metal Crown	Rock Bit	Drill Collar	Drill Rod Coupling
				
Casing Crown	Shield High Crown	Casing Pipe	Shield Casing	
				
Non Core Bit	Hydraulic Piston Sampler	Down The Hole Hammer		

DRILLING TOOLS



Drill Rod (F.W)



Drill Rod Clamp



Chain Wrench



Pipe Wrench



Head Pulley



Snatch Block



Lowering Iron



Bentonite

Rod Wrench



Lightweight Rod Holder



Hoisting Swivel



Hoisting Water Swivel



Water Swivel



Water Shielding Material



Rope Type Water Gauge



Rod Recovery Tap / Core Tube Recovery Tap



We have parts stock available at all times.

Geothermal Heat Pump System

Geothermal Heat Pump System is a heating and cooling system that transfers heat to or from the ground through a boring hole.

It can reduce the use of fossil fuels and the emission of CO₂. This system is not influenced by a climate or an outside temperature. It is economical because of less electricity use for heating and cooling system.

Features of Geothermal Heat Pump System

No hot air emission when cooling

Closed type pipe doesn't influence the ground water environment

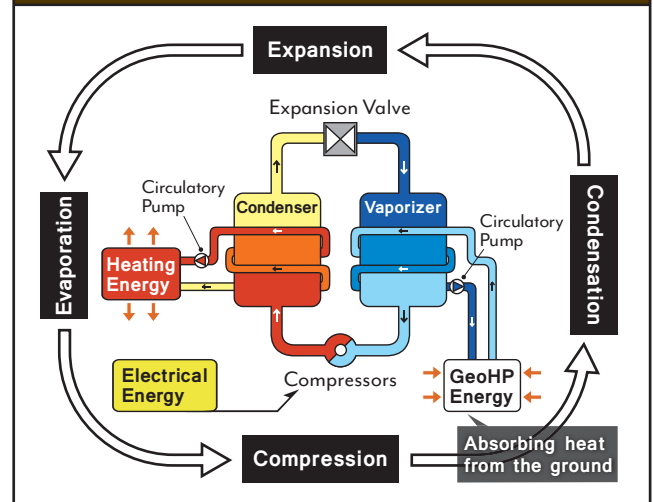
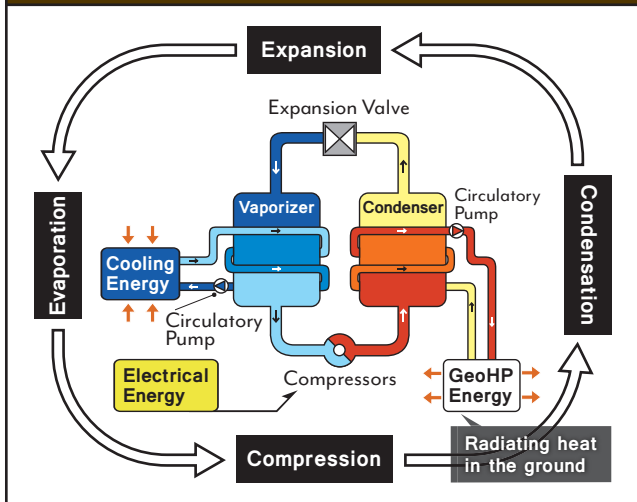
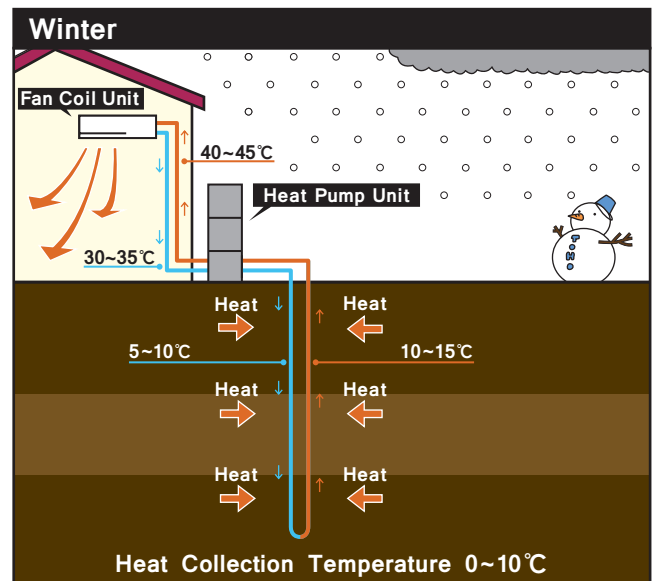
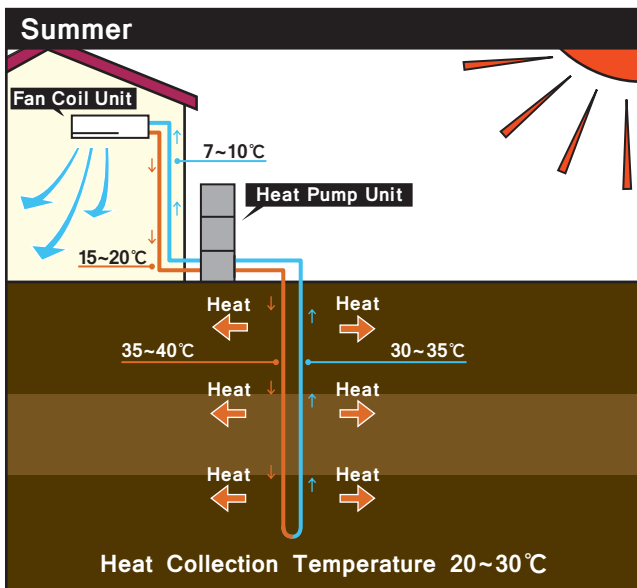
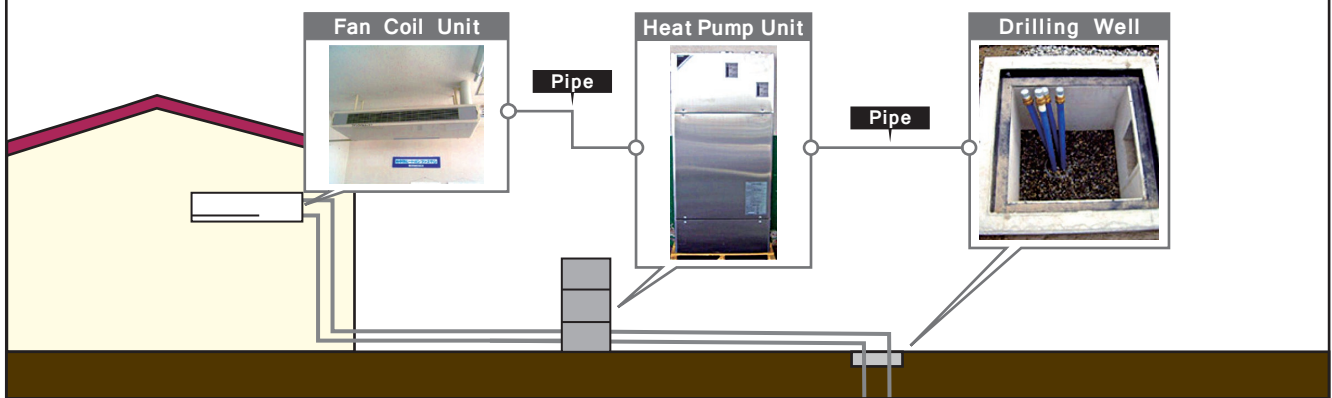
Subsidy system may apply

The prevention of heat island phenomenon

The preservation of the ground water environment

The reduction of construction cost

A / C System



System Installation



Drilling



U Pipe Installation



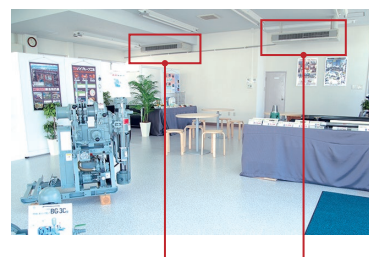
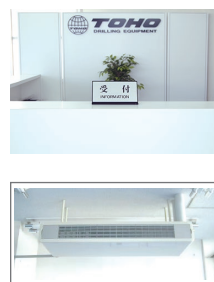
Pipe Connection



Heat Pump Unit Installation



Fan Coil Unit



* Demonstrated operation at our Fukuoka office

CONSTRUCTION

Machines Used For System Installation



GT-15



F2-E



GT-13



DH Type

Exhibition at ASIA



Safety and Operation Training

Safety Lecture



Machine Training





TOHO
DRILLING EQUIPMENT

**PURSuing THE INFINITE POTENTIAL OF
RESOURCES HIDDEN UNDERGROUND**



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Note: All data subject to alteration without notice.

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