



# Company Profile

Metro Driltech International Inc.

MANUFACTURER, EXPORTER & IMPORTER

124-36 wolha-ro 519beon-gil, Tongjin-eup, Gimpo-si

Gyeonggi-do, Republic of Korea

## About Us

Metro Driltech International Inc. was founded in 2007 by Richard (Yoon Won), Lee at the age of 44. Richard worked for a korean hammer manufacturing company as the company's general manager in charge of the domestic & overseas sales, purchasing, production and quality control department from 1997 to 2007.

After 10 years of working for the company, he felt it was the right time in his career to venture out on his own, searching for ways to improve the existing products with a staff named Young Ha, Park as a team manager for the design and R&D of air DTH hammers and DTH button bits, experienced engineer for over 15 years.

Since 2007, Young Ha, Park has been working for Metro Driltech for developing and producing state-of-the-art engineered rock drills and associated part as a key person at the company. This entrepreneur recognized the need for a manufacturing company that was reactive to customer needs, with innovative products and round-the-clock customer service and support





Manufacturing the finest quality products to drill faster is our motto here at Metro Driltech International Inc.

Metro Driltech manufactures and distributes a complete line of down-the-hole (DTH) tools and concerned products.

At our state-of-the-art manufacturing facility in Gyeonggi province, we build stock and made-to-order products that are used by leading waterwell, geothermal, geotechnical, environmental drilling, foundation and construction, roadway and mining & exploration industries across North America, Central and South America, Europe, Asia, Middle East, Russia and Australia, etc.



Metro Driltech products are manufactured by experienced machinists with CAD (computer Aided Design), state-of-the-art equipment and the highest quality materials (steel & forging) available on the 21st century market to produce percussion drilling products.

Whether you are in the construction, waterwell, mining, quarry, hard rock drilling, blasting, boring and geothermal drilling, Metro Driltech always do our best to meet our customer's wish for standard or custom-made DTH tools.

Our corporate strategy is to offer our customers the peace of mind that we will always be there with the industry's best performing, most reliable products and the industries best service and support.

# Products

## ■ Bulldog Hammers

Metro driltech offers a complete line of "BULLDOG" Down Hole Hammers ranging in hole sizes of 89 mm (3-1/2") through to 1200 mm (47-1/2") by using the right combination of machining excellence, and the highest quality raw materials.

The bulldog hammer can virtually guarantee longer service life.

Bulldog has proven superior performance in availability, quality and reliability.

When you combine this king of excellence with Metro Driltech Bulldog hammer bits you have a winning combination!



The Bulldog hammers are widely used in mining, blast hole, soil nailing, rock anchor, water well, civil engineering, ground consolidation, seismic, geothermal, mineral exploration, directional and dimensional stone drilling.

Just some of the features of the Bulldog hammers include;

- Constant energy directly behind the bit, which provides more speed and accuracy
- Longer working life
- Low air consumption
- Heavy duty options for tougher conditions
- Additional Flushing capability for cleaner holes, particularly at depth
- Effective check valve for drilling in wet holes
- Easy to assemble/disassemble, service and maintain
- Portable and easy to operate
- Designed for use with drill bits including Ingersoll Rand, Atlas Copco/Secoroc, Sandvik, Numa and Bulroc, etc.

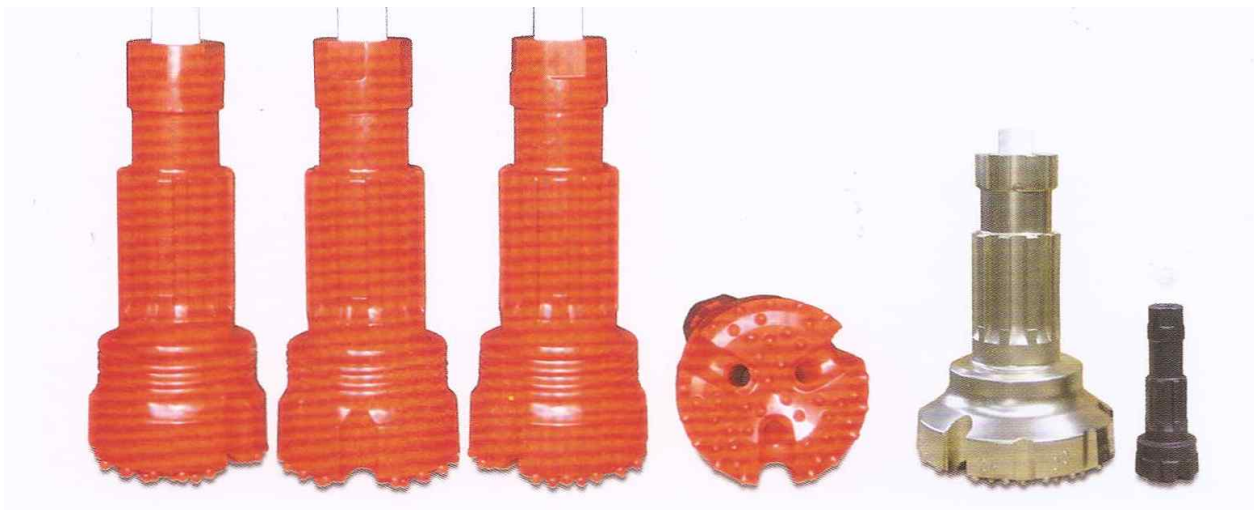
Drilling in rocks and ground conditions including granite, basalt, limestone, chalk, sandstone, shale and other deposit.

## ■ Bulldog DTH Button Bits

Metro driltech manufactures each bit using the highest quality raw materials available in the industry today.

Each individual bit is tested before it leaves our manufacturing facility to assure every machined dimension is accordance with its design.

All heat treating testing for hardness is thoroughly scrutinized to assure our customers of quality products for their drilling operations.



DTH Button Bits are available with different head configurations to suit changing drilling conditions and rock characteristics, and in sizes 89 mm (3-1/2") through to 1200 mm (47-1/2") in diameter.

Metro Driltech DTH button bits are generally fitted with hemispherical or round tungsten carbide button inserts but parabolic or semi ballistic inserts are available on many sizes.

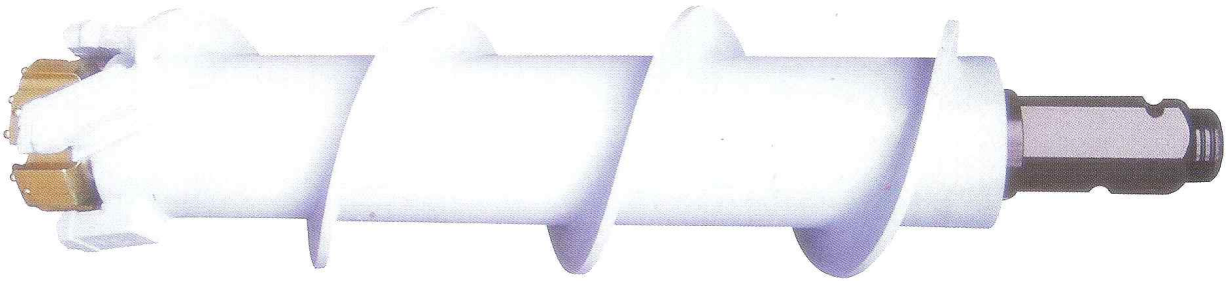
Metro Driltech supply premium quality, economically priced DTH hammer bits.

All shanks like IR type (Ingersoll-Rand DHD340/350/360/380/112 and QL40/50/60/80/120/200), Sandvik type (SD4/5/6/8/10/12/15/18), Atlas Copco type (Cop44/54/64/84) and Numa type (N80/100/120/180/200) and so on..

All sizes and all face configurations and bits options available.

Our customers rely on our quality for consistent drilling performance and the lowest drilling "cost per meter" possible.

## ■ Auger Hammers



### Specifications

Model	Recommended Bit Dia. (mm)	Outside Dia. (mm)	Shank Type	Length (mm)	Weight (Kg)	Joint Type
MD 180	380 ~ 445	181	DHD380	1,413	205	API 4-1/2 Reg. Pin
MD 220	445 ~ 575	226	N100	1,567	345	API 4-1/2 Reg. Pin / Hex. Joint

### Air Consumption

Model	Air Consumption	
	150 PSI (10.5 Kg/Cm <sup>2</sup> )	200 PSI (14.0 Kg/Cm <sup>2</sup> )
MD 180	610 CFM (17.3m <sup>3</sup> /min)	810 CFM (22.9m <sup>3</sup> /min)
MD 220	660 CFM (18.7m <sup>3</sup> /min)	980 CFM (27.8m <sup>3</sup> /min)

\* 1 CFM=0.028317m<sup>3</sup>/min



## ■ Missile Hammers & bits

The Metro Driltech "Missile" DTH hammers incorporate the latest, unique works by valveless pneumatic pressure.

This new technology strongly increases airflow efficiency within the Missile hammer and ensures that the high pressure air paths are optimized to deliver the greatest amount of energy to the piston.



Our hybrid valved/valveless design maximizes the productivity of your air compressor.

An enlarged piston bore coupled with accurate matching of piston-to-bit weight deliver the industry's highest power output.

The Missile DTH hammers are able to drill holes from 89 mm (3-1/2") through to 1200 mm (47-1/2") in diameter.

The missile hammer is similar to Numa DTH hammer brand like challenger model and patriot model in USA.



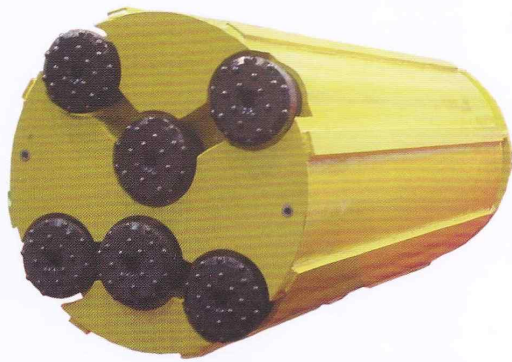
## ■ “Marathon” Cluster Drill (CD Hammer)

The CD hammer is used when the drillers use it at downtown construction site to avoid from civil complaint about noise and vibration.

Metro Driltech offers a hard rock drilling system capable of drilling hole size ranging from 381 mm (15") through to 2000 mm (78-7/8") in diameter by combining multiple down-hole drills into a single canister.

These drills are custom engineered and manufactured to meet each customer's unique hole size requirements. The drills are short, light weight and compact, featuring exclusive technology for quick-release bits and low noise and vibration when drillers use them at downtown job sites.

Metro Driltech Cluster Drill is designed for largest building, roadway and mining contractors to quickly drill holes to the exact size required by their specifications.



### Specifications

Model	Bit Outside Dia. (mm)	Combined Bit (pc)	Length (mm)	Weight (Kg)	Joint Type
Marathon 381	381	5	1,950	970	API 8-5/8 Reg. Pin / Hex. Joint
Marathon 445	445~460	5	1,950	1,350	API 8-5/8 Reg. Pin / Hex. Joint
Marathon 515	510~530	5	2,300	3,150	Hexagonal Joint
Marathon 610	600~620	5	2,300	3,500	Hexagonal Joint
Marathon 800	775~810	5	2,600	5,700	Hexagonal Joint
Marathon 1000	915~1020	5	2,600	6,100	Hexagonal Joint
Marathon 1800	1650~1820	6	3,200	17,000	Hexagonal Joint
Marathon 2000	1910~2030	6	3,200	20,000	User's Choice

### Air Consumption

Model	Air Consumption	
	150 PSI (10.5 Kg/Cm2)	200 PSI (14.0 Kg/Cm2)
Marathon 381	1,200 CFM (34.0m3/min)	1,680 CFM (47.6m3/min)
Marathon 445	1,270 CFM (36.0m3/min)	1,750 CFM (49.6m3/min)
Marathon 515	1,430 CFM (40.5m3/min)	1,950 CFM (55.2m3/min)
Marathon 610	1,550 CFM (43.9m3/min)	2,050 CFM (58.0m3/min)
Marathon 800	3,850 CFM (109.0m3/min)	4,600 CFM (130.3m3/min)
Marathon 1000	3,970 CFM (112.4m3/min)	5,200 CFM (147.2m3/min)
Marathon 1800	5,800 CFM (164.2m3/min)	7,300 CFM (206.7m3/min)
Marathon 2000	6,900 CFM (195.4m3/min)	8,100 CFM (229.4m3/min)

\* 1 CFM=0.028317m3/min

## ■ Reverse Circulation (RC) Hammer & Bit

The RC hammer is used where the ground is not firm and collapse easily. The RC Hammers and Bits from Metro Driltech have the unique ability to bring all cuttings up the center pipe of the hammer and drill string to be safely collected at the surface, which is essential in today's environmentally conscious society.

The Reverse Circulation Hammers exhaust the air down the outside splines of the percussion bit and then up the holes of the percussion bit and the internal diameter of the hammer and the drill string to the surface.

These RC products were specifically designed to provide maximum performance on the drill rigs that are most commonly used in rock sampling, soil sampling and large diameter drilling applications.

These RC products are custom engineered and manufactured to meet each customer's unique hole size requirements.

Metro Driltech will continue to invest in development to upgrade their range of Reverse Circulation Equipment.

Our RC system includes Swivel Heads, Dual Wall Drill Rods and many other associated accessories.

RC drill rods are essentially two drill rods of different diameter with the smaller drill rod contained inside the large one. The high pressure air is passed down the ID of the larger Rod past the OD of the smaller rod with the sample and exhaust air going up the ID of the smaller Rod. Drilling with incorrect drill Rod sizes will restrict the exhaust air and thus reduce the power output of the hammer.



## ■ Hole Openers

Metro Driltech Hole Openers provide hole enlargement for hammer drilling. Custom pilot and head diameters are available in most all shank designs like Ingersoll-Rand, Atlas Copco, Sandvik, Numa and Bulroc, etc.

The pilot hole was drilled followed by the first stage to enlarge the hole. The second and final stage then further enlarged the hole.

Different stages can be built per drillers specifications to maximize cutting removal and rig capabilities.

Metro Driltech offers a full line of standard and custom Hole Openers in all sizes from 152 mm (6") through 850 mm (33-1/2") in diameter for all industry hammer shanks.

Wear pads, back reamer carbide buttons, and or carbide buttons on the pilot can be added for an additional fee.

All Hole Openers are manufactured from the highest quality aircraft alloy steel.

We at Metro Driltech are proud of the quality and workmanship of our custom built Hole Openers.



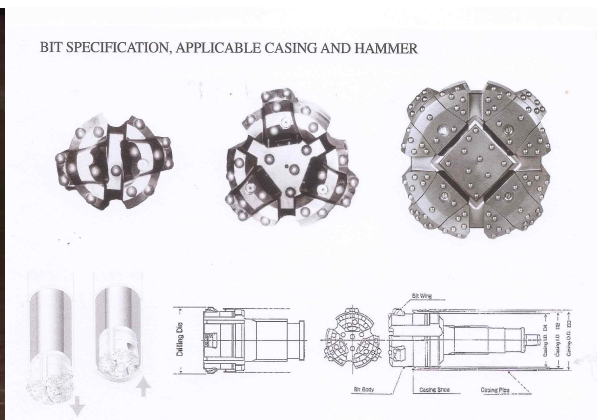
## ■ "MD Jaws" Concentric Overburden System

Metro Driltech "MD Jaws" concentric overburden system is an integral part of an under reaming (overburden) system used in applications where the drilled hole may collapse when drilling with conventional methods.

"MD Jaws" Bits allow for the advancement of a casing system through unconsolidated formations, using an air DTH hammer, and the effortless withdrawal of the bit after the casing has been set.

Applications are typically variable formations with soft layers overlying or interspersed with hard materials such as boulders or cobbles.

"MD Jaws" is designed to drill in all such formations by carrying the casing through the variable layers to target depth, after which the complete tool is retracted, leaving the casing in the hole permanently, or until the next operation is carried out.



♣ The information for casing size will be required when ordering.

Model	No. of Wings	Bit Diameter (mm)		Casing Size (mm)			Applicable Hammer
		Expanded	Retracted	I.D.	O.D.	Wall	
MD Jaws 140	2	178	141	155.2	165.2	5.0	BD60
MD Jaws 190	3	239	179	199.0	219.0	10.0	BD60, BD80, BD90
MD Jaws 240	3	292	233	253.0	273.0	10.0	BD80, BD90
MD Jaws 280	3	335	282	301.7	318.5	8.4	BD100, MS100
MD Jaws 315	3	373	315	336.6	355.6	9.5	BD120, MS120
MD Jaws 365	4	425	365	387.4	406.4	9.5	BD120, MS120
MD Jaws 410	4	478	412	435.0	457.2	11.1	BD150, MS150
MD Jaws 455	3	530	455	482.6	508.0	12.7	BD150, BD180
MD Jaws 510	4	581	506	533.4	558.8	12.7	BD180, MS180
MD Jaws 560	4	632	556	584.2	609.6	12.7	BD180, MS180
MD Jaws 600	3	682	605	635.0	660.4	12.7	BD240, MS240
MD Jaws 650	4	733	656	685.8	711.2	12.7	BD240, MS240
MD Jaws 700	4	784	707	736.6	762.0	12.7	BD240, MS240
MD Jaws 750	4	835	758	787.4	812.8	12.7	BD240, MS240
MD Jaws 810	4	886	809	838.2	863.6	12.7	BD240, BD330

\* Other sizes are available upon requested.

## ■ “MD Wings” Under Reaming System

The "MD Wings" are used to protect collapse and allow for simultaneous casing of the drilled hole. Our "MD Wings" are widely used in a variety of applications from foundation works to water well drilling.

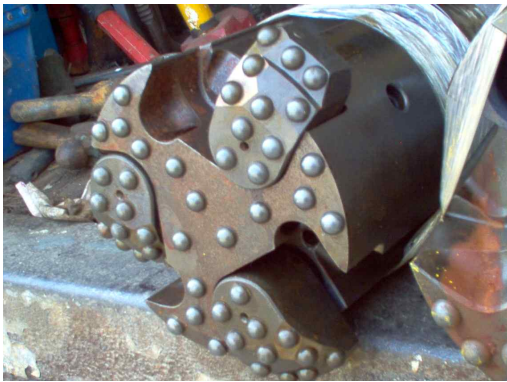
The design of the "MD Wings" enables the guide bit to perform most of the drilling directly while the expanded wings perform the reaming.

This system minimizes loss of hammer energy and maintains a high drilling efficiency. The "MD Wings" feature assures a straight, round hole, equivalent to that drilled with a conventional bit.

When the drilling starts, the wing bits are expanded by rotating clockwise when the guide bit is put down.

After drilling to the required depth, the wing bits are retracted by rotating in the reverse direction when the guide bit is lifted.

The "MD Wings" are copy of the Mitsubishi Supermax Bit.



♣ The information for casing size will be required when ordering.

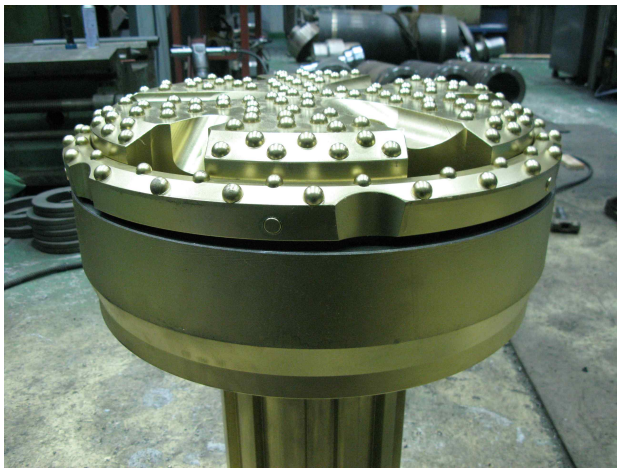
Model	No. of	Bit Diameter (mm)		Casing Size (mm)			Applicable Hammer
	Wings	Expanded	Retracted	I.D.	O.D.	Wall	
MD Wing 165	2	219	165	200	180	10.0	BD60
MD Wing 190	3	240	189	204.9	219.1	7.1	BD60, BD80, BD90
MD Wing 215	3	279	219	241.2	254	6.4	BD80, BD90
MD Wing 240	3	295	240	259.1	273.1	7.0	BD80, BD90
MD Wing 250	3	317	248	270	300	15.0	BD100, MS100
MD Wing 280	3	345	280	304.8	323.9	9.6	BD100, MS100
MD Wing 315	3	379	319	335.6	355.6	10.0	BD120, MS120
MD Wing 360	3	425	356	387.4	406.4	9.5	BD120, MS120
MD Wing 410	3	478	412	435	457.2	11.1	BD150, MS150
MD Wing 455	3	530	455	482.6	508	12.7	BD150, BD180
MD Wing 510	3	581	508	533.4	558.8	12.7	BD180, MS180
MD Wing 560	3	630	558	584.2	609.6	12.7	BD180, MS180
MD Wing 600	3	685	603	635	660.4	12.7	BD240, MS240
MD Wing 650	3	737	652	685.8	711.2	12.7	BD240, MS240
MD Wing 700	3	784	706	736.6	762	12.7	BD240, MS240
MD Wing 760	3	835	758	787.4	812.8	12.7	BD240, MS240
MD Wing 810	3	886	809	838.2	863.6	12.7	BD240, BD330
MD Wing 830	4	945	831	876.4	914.4	19.0	BD330
MD Wing 930	4	1046	931	984.2	1016	15.9	BD330

\* Other sizes are available upon requested.

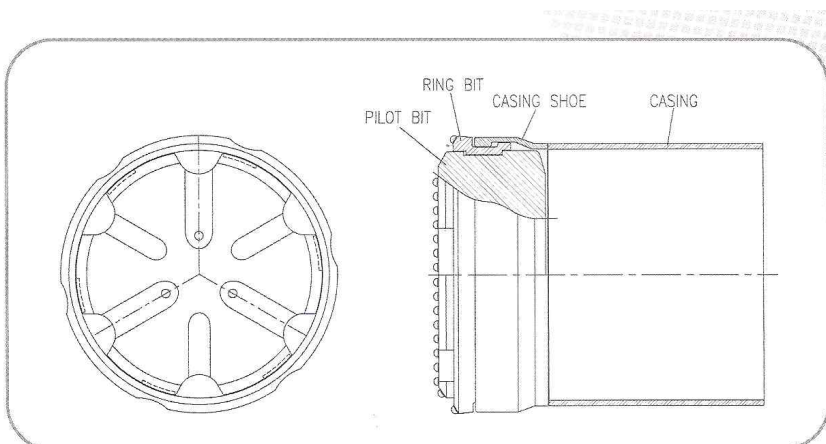
## ■ “MD Ring Bit” Overburden Drilling System

The "MD Ring Bit" is similar to the Symmetrix system of Atlas Copco. The "MD Ring Bit" range of overburden drilling systems represent the latest technology in simultaneous casing advancement.

"MD Ring Bit" is a truly revolutionary product. Not only is it an all-round multipurpose concentric drilling system, it also has opened the way for engineering consultants to utilize new construction methods that save contractors time and money, and not to mention, offer new business opportunities. For faster, cheaper and safer drilling, today these product is used in piling, micro piling, well drilling, anchoring, tunneling, marine work, and horizontal drilling.



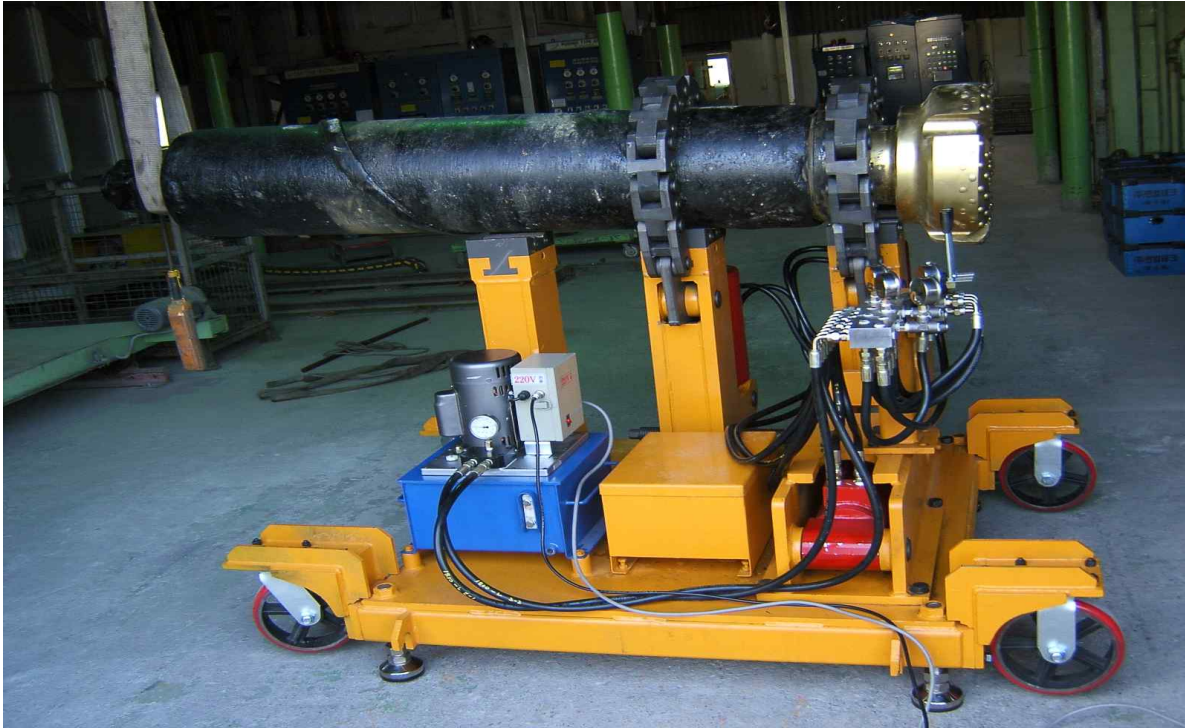
Model	Bit Diameter (mm)		Casing Outside Diameter (mm)	Suitable Hammer Type
	Ring Bit	Pilot Bit		
MD Ring Bit 273	300	242	273	BD80, BD90, MS80, MS90
MD Ring Bit 323	350	292	323.9	BD100, MS100
MD Ring Bit 406	443	370	406.4	BD120, MS120
MD Ring Bit 460	500	427	457.2	BD150, MS150
MD Ring Bit 508	550	480	508	BD150, BD180, MS150, MS180
MD Ring Bit 609	645	573	609.6	BD180, MS180
MD Ring Bit 660	725	642	660.4	BD240, MS240
MD Ring Bit 812	890	779	812.8	BD240, MS240



## ■ Breakout / Make-Up Machine for 12" to 24" DTH hammer

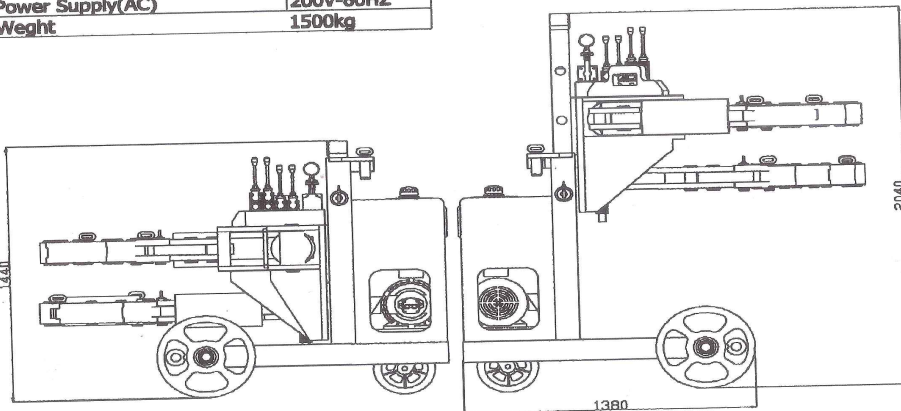
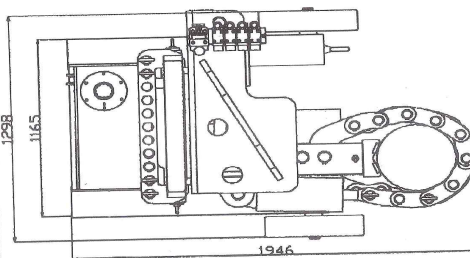
The breakout / make-up machines use a heavy-duty chainlink jaw design to quickly breakout or make-up bits, DTH hammer joints, and other API tool connections to keep your operation running smoothly.

The breakout / make-up machine is designed to safely operate in the horizontal or vertical position. A lifting eye and forklift slots make it easy to load and unload.



### Bit Breaker Beetle

Hammer Capacity	18~24"
Motor Power	5HP/1800RPM
Pump Flow Rate	15L/min
Tank Capacity	45L
Working Pressure	Max 210kg/cm <sup>2</sup>
Turn Cylinder Torque & Stroke	50 Ton-250mm
Clamp Cylinder Torque & Stroke	40 Ton-150mm
Lift Cylinder Torque	8Ton-500mm
Power Supply(AC)	200V-60HZ
Weight	1500kg



■ API Adaptor



■ Oil Tank





■ Screw Rod with 240H Hexagonal Joints

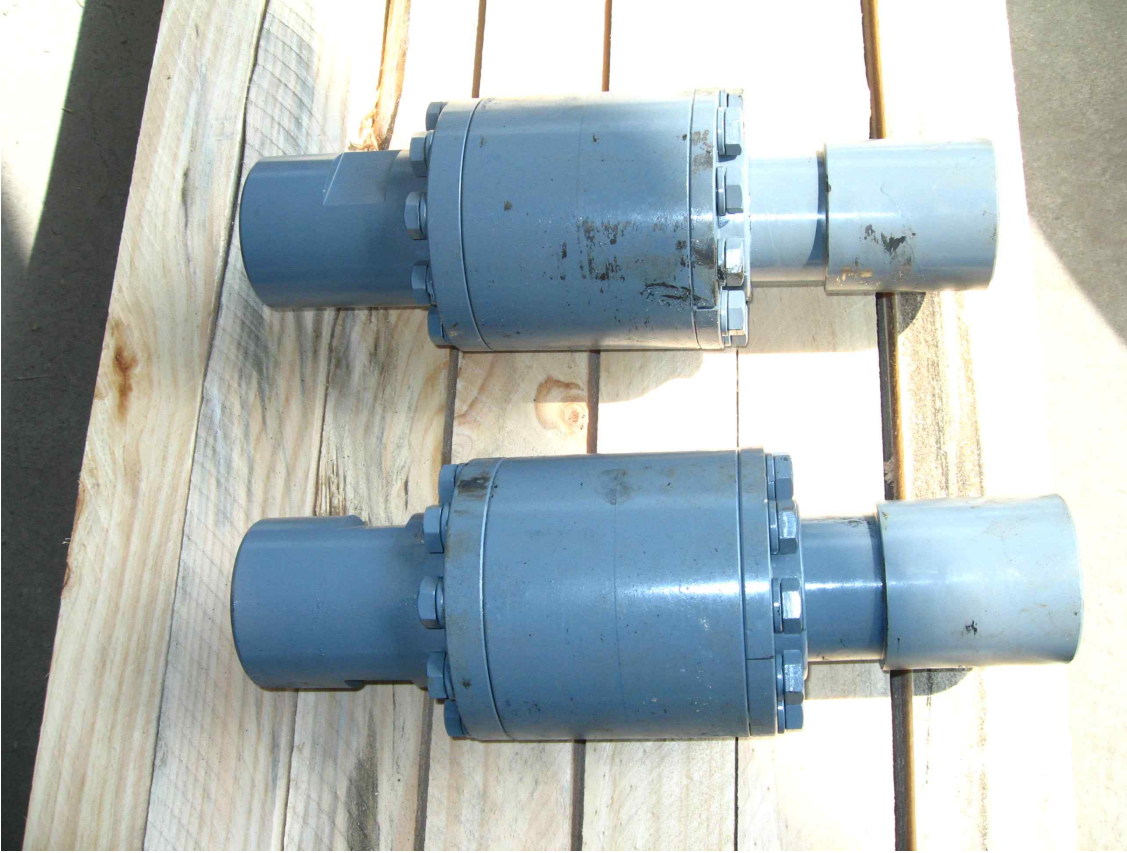
( $\varnothing$  114 mm x 11T x  $\varnothing$  324 mm x 21.4T x  $\varnothing$  540 mm x 3 meters Length)



■ PRD (HAMMER) Rod with 240H Hexagonal Joints



■ Shock Absorber for DTH hammer



■ Casing Shoe



■ Hexagonal Joint



240H Male



240H Female

■ DTH Auger Hammer Shroud(=Jacket) with Auger Flight



## Present possession of machinery in factory

No.	Description	Model	Spec.	Q't y	Electricity	HP	Production Year	Maker
1	semi NC lathe	ANC-56	∅1300* L4000	1	220V*37kw	50	1973.05	Hwacheon Machinery (made in korea)
2	semi NC lathe	MEGA95	∅950* L4000	1	380V*30kw	40	2001.07	Hwacheon Machinery (made in korea)
3	CNC lathe (Computer Numerical Control)	PUMA 5100 LB	∅650* L990	1	220V*45kw	60	2015.12	Dusan Infra Core Company (made in korea)
4	Hoist	H10DS-9	10 Ton	1	9.5 kw	13	2008.03	Hyundai Hoist Co. (made in korea)
5	Hoist	H10DS-9	20 Ton	1	14.5 kw	20	2015.03	Hyundai Hoist Co. (made in korea)
6	Hoist	H2.8L-6	2.8 Ton	2	3.3 kw	5	2008.03	Hyundai Hoist Co. (made in korea)
7	Universal lathe	HL950	∅950*L 4000	1	380V*15.75 kw	21	1997.05	Hwacheon Machinery (made in korea)
8	Boring Machine	BTD11 (R16)	∅110	1	220V		1998.11	Toshiba (Sibaura) (made in japan)
9	Radial Machine	S72453	∅2000	1	220V*7.5 kw	10	1967.09	Shin-Nippon Koki Co. (made in japan)
10	Air Compressor	RCH-20	working pressure 9.9KGF/ cm <sup>2</sup>	1	380V*15kw	20	2008.01	Hanshin Compressor Co. (made in korea)
11	Welding Machine	IEM-480		1	380V*20kw	27	1999.01	Kukje Jonghap Jeongi Co. (made in korea)
12	CO2 Welding Machine	BA-600H		1	380V*32.7 kw	44	2007.12	Jo Well Co. (made in korea)

## Contact Us



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