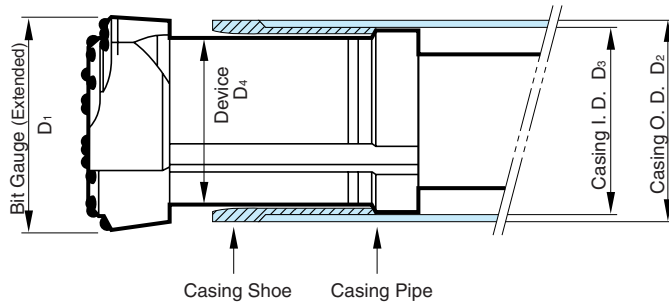


APPROPRIATE CASING AND HAMMER TYPE



Type	Two Wing	Three Wing	Bit gauge		Applicable casing pipe			Device O. D. D ₄	Hammer type	※1	※2	※3	※4	※5
			Extended D ₁	Retracted	Max. O. D. D ₂	Min. I. D. D ₃	Nominal Size							
			mm	mm	mm	mm	in.							
90	●		125	91	114.3	102.3	4"	92	DHD3. 5, COP32	↑		↑		↑↓
115	●		152	114	141.3	126.6	5"	115	SD-4, DHD340, COP42	↑		↑		↑↓
140	●		185	140	165.2	153.2	6"	141	SD-5, DHD350	↑		↑		
165	●		215	166	190.7	178.7	7"	167	SD-6, DHD360, QL60	↑		↑		
187	●		237	186	216.3	202.3	8"	187	SD-6, DHD360, QL60	↑		↑		
215	●		272	217	254.0	241.0	9"	218	SD-8, DHD380, QL80	↑		↑		
240		●	290	238	273.1	254.5	10"	240	SD-8, DHD380, QL80	↑	↑	↑		
280		●	340	281	318.5	301.7	12"	283	SD-10, ★SD-8, ★DHD380, ★QL80	↑	↑	↑		
315		●	373	318	355.6	336.6	14"	320	SD-12, DHD112, N120	↑	↑	↑		↑
365		●	425	363	406.4	387.4	16"	365	SD-12, DHD112, N120	↑	↑	↑		
410		●	478	412	457.2	435.0	18"	414	SD-15, DHD112S, N120S	↑	↑	↑		
460		●	530	461	508.0	482.6	20"	463	SD-15, DHD112S, N120S, SD-18, N180	↑	↑	↑		
510		●	580	509	558.8	533.4	22"	511	SD-15, DHD112S, SD18, N180	↑	↑	↑		
560		●	630	559	609.6	584.2	24"	561	SD-18, DHD120A, N180	↑	↑	↑		

* When ordering, information about casing diameters (O.D. and I.D.) is necessary.

* Order made bits can be manufactured upon request.

* No shank breakage warranty

※1 : Water Well

※2 : Piling, Foundation

※3 : Pipe Roof, Water Service, Water Remove, Anchoring

※4 : Geothermal, Oil Well

※5 : Fore Piling

PATENTED

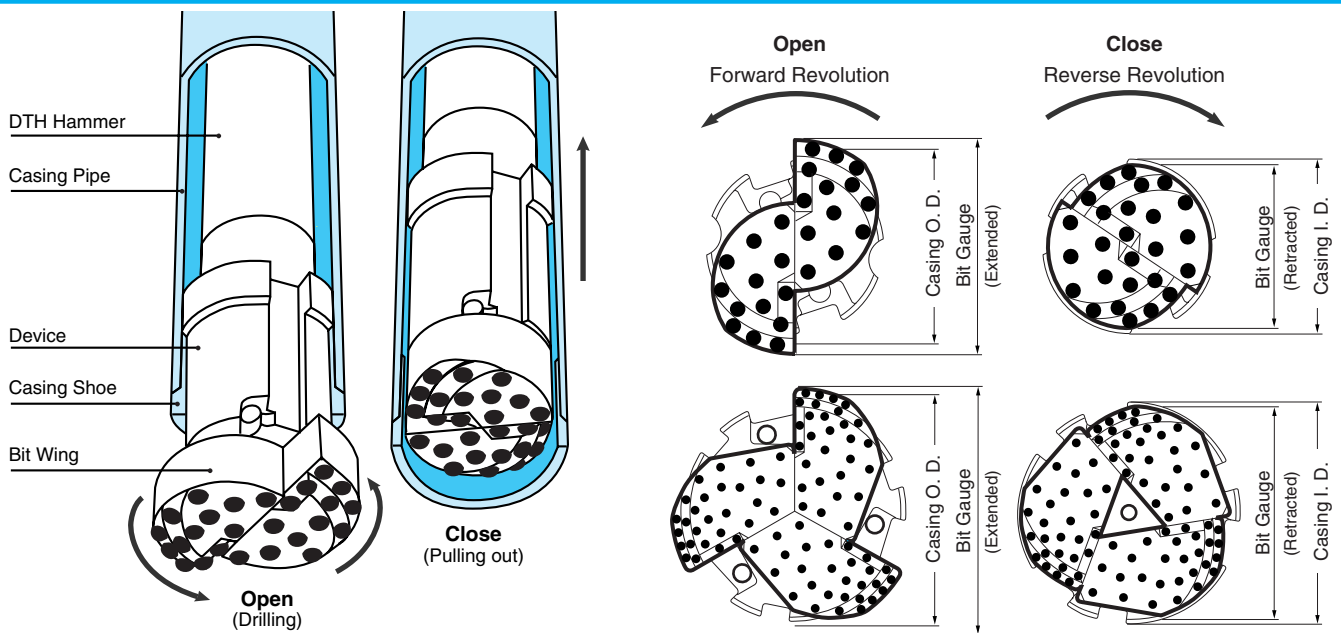
- Japan Pat.No.1676072
- U.S.A. Pat.No.5,113,954/No.5,139,099
- E.P.C. Pat.No.0444682/0468515
- Australia Pat.No.62910/644195
- South Africa Pat.No.91/1493/91/5804
- Finland Pat.No.91551/94891
- ★ Patent Pending in 3 countries

The SUPER MAXBIT achieves a stable and balanced drilling system for various collapsing overburden formations. This is an advanced technology compared to the other eccentric drilling methods. It consists of two to three bit wings connected to the Down The Hole Hammer. The bit wings are extendable/retractable when the drill string rotates in the forward/reverse direction. Drilling and casing are possible simultaneously with the use of a casing shoe.

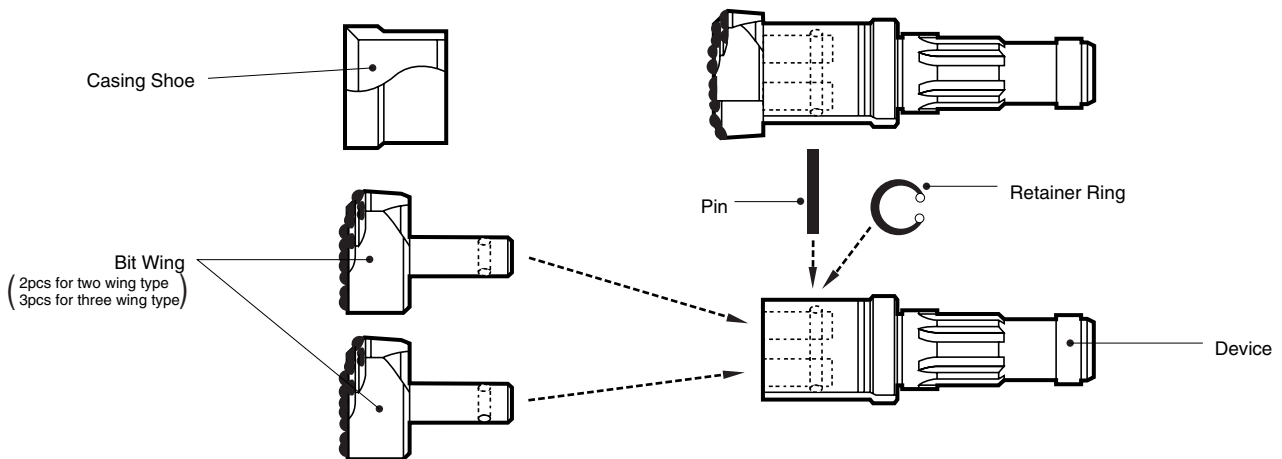
The SUPER MAXBIT has a following advantages:

- High-speed drilling similar to a standard DTH bit.
- Straight hole drilling.
- Uniform rotation while drilling of boulders, sand and gravel.
- Reliability of extending and retracting proven by customer experiences.

MECHANISM



COMPONENTS

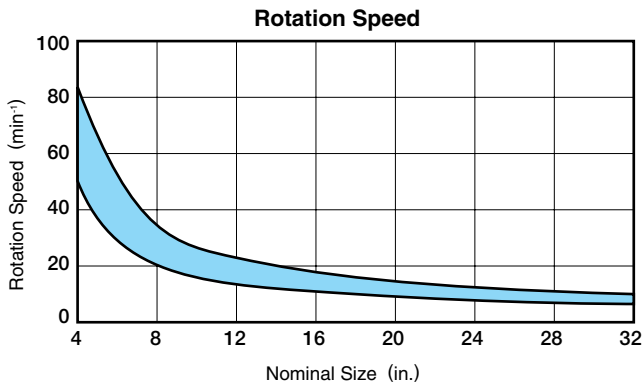


- * Pin is attached with rubber plug.
- * Retainer ring and rubber plug are not attached under 4" bit.
- * Please be careful not to get your finger snapped when assembling.

OTHERS

Rotation Speed

Target external rotation speed to 15~20m/min. Please refer to the following figure for more details.
Establish the parameters to achieve uniformed drilling.



Setting Compressor

● Pressure

- ◆ Set between 0.7 to 1.0MPa (100~150psi)
- ◆ Check the height of underground water when drilling through the layer.
(In 30m depth, please add 3kg/cm² to the supplying compressor.)
- ◆ Do not set over 1.5MPa (225psi)

● Air Consumption

- ◆ Set the air consumption using the following equation.

$$Q = \frac{V(D^2 - d^2)}{1273500}$$

- Q : Air consumption (m³/min)
- D : Inside diameter of casing (mm)
- d : Outside diameter of jacket or hammer (mm)
- V : Cutting speed 1,100~1,500 (m/min)

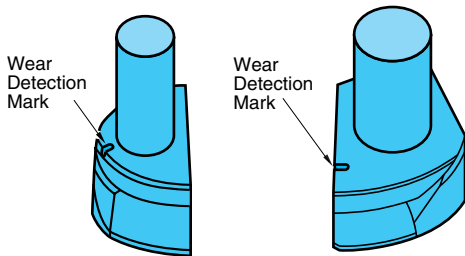
Recommended Air Consumption

Nominal Size (in.)	Air Consumption	
	(m ³ /min)	(cfm)
4	4 ~ 15	140 ~ 530
8	19 ~ 26	670 ~ 920
12	33 ~ 45	1,170 ~ 1,590
16	42 ~ 57	1,480 ~ 2,010
20	59 ~ 80	2,080 ~ 2,830
24	72 ~ 98	2,540 ~ 3,460
28	81 ~ 111	2,860 ~ 3,920
32	90 ~ 122	3,180 ~ 4,310

Exchange of components is necessary ;

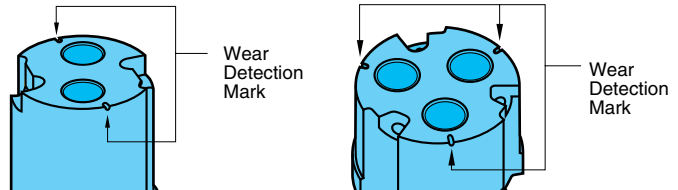
● Wings

1. When the wear detection mark on a wing disappears.
2. When the carbide wear is excessive.
3. When wing body wears and carbides pop out.



● Device

When the wear detection marks on the device end disappear.



● Pin

When the wear attains the following value.
Please exchange the pin if you observe excessive wear.

	Two Wing Type	Three Wing Type
Amount of Wear (mm)	0.5~1.0	1.0~1.5