



## ROCK DRILLING TOOLS



# About Us

HEMCO - Heavy Equipment Manufacturing Co., is devoted to design, development and manufacture of high quality equipment, tools and accessories for the drilling industry. Our products include parts and accessories for DTH hammers, top hammer drill bits, drill rods and reverse circulation drilling tools amongst others.

We are continuously striving for improvement of our products and are totally dedicated to providing world class service to our customers. Because of our "Passion for Quality" and our customer focused approach, HEMCO is fast becoming a world class manufacturer and supplier for the foundation engineering and drilling industry.

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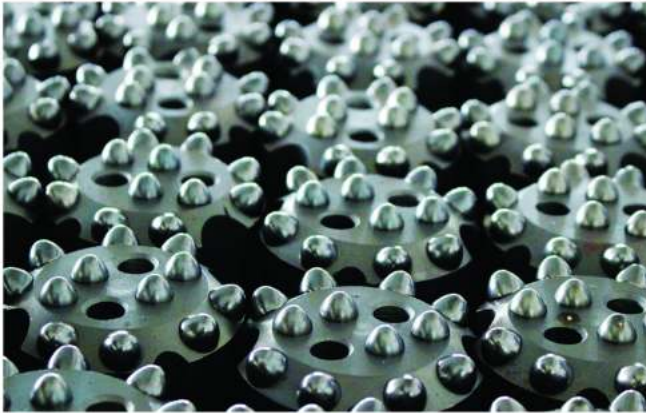


# ▶ Top Hammer Drill Bits and Drill Rods

Top hammer drilling is all about transmitting intense impact energy into the rock being drilled with minimal loss of energy. Thus the process of drilling small diameter holes by top hammering imposes much strain on the drilling tools and equipment.

HEMCO top hammer bits and drill rods are manufactured to the highest standards using premium grade materials to give maximum meterage of drilling even in very hard rock formations.

TOP HAMMER DRILL BITS AND DRILL RODS





HEMCO MF drill rods are specially designed for the toughest surface bench drilling works. The special features of these drill rods include:

- Highly rigid design resulting in straight holes and maximum productivity
- Special high strength steel for long life
- Effective heat treatment for extended service life and minimal wear threat
- Tight manufacturing tolerances for the threads resulting in maximum durability and reliability

HEMCO also supplies extension rods, drifting and tunneling rods to world class standards.

### MF Drill Rods (Speed Rods)

Thread Sizes: R32, T38, T45, T51

Rod Diameters: Round 32mm, Round 39mm, Round 46mm, Round 52mm

Effective Lengths: 915mm to 6,100mm

### Extension Rods

Thread Sizes: R22, R25, R28, R32, R35, R38, T38, T45, T51

Rod Diameters: Round 32mm, Round 39mm, Round 46mm, Round 52mm, Hex 22mm, Hex 25mm, Hex 28mm, Hex 32mm, Hex 35mm

Effective Lengths: 600mm to 6,400mm

### Drifting & Tunneling Rods

Thread Sizes: R22, R25, R28, R32, R38, T38

Rod Diameters: Round 32mm, Round 39mm, Hex 25mm, Hex 28mm, Hex 32mm, Hex 35mm

Effective Lengths: 2,100mm to 6,400mm

### Shank Adaptors

HEMCO shank adaptors ensure a quality drill string interface to the most exacting industry tolerances. Built to seamlessly interface with hydraulic and pneumatic drifters and top hammers, our shank adapters come in a full range of industry-standard thread configurations. Our precision grinding process ensures straightness, and our tools are fully carburized with an advanced heat treatment.

Different shank adapters are available, like Atlas Copco, Tamrock, Ingersoll Rand, etc. Also for the same drill machine, due to different applications, the shank adapters can be different length and different threads



Atlas Copco (COP1238, COP1838, COP1032 and etc)

Furukawa (HD715, HD612, HD609, PD200 and etc)

Ingersoll-Rand (VL140, VL671, YH80A and etc)

Tamrock (HLX5, HL600, HL500, HL300, HL 700, HL850 and etc)

# ▶ Top Hammer Drill Bits

TOP HAMMER DRILL BITS

Description	Code	Thread	Diameter (mm)	Butons x button diameter		Flushing holes		Front shape	Skirt
				m gauge	mm center	mm gauge	mm center		
R32-43-REG	F011563	R32	43	6 x 9	3 x 8	1 x 5	3 x 5.5	Flat	REG
R32-43-REG	F011565	R32	43	5 x 10	2 x 8	2 x 6	1 x 6	Flat	REG
R32-51-REG	F011112	R32	51	6 x 10	3 x 9	1 x 6	3 x 6	DC	REG
R32-51-REG	F011100	R32	51	6 x 10	3 x 9	1 x 5	3 x 6	Flat	REG
R35-51-REG	F011532	R35	51	6 x 10	3 x 9	1 x 5	3 x 6	Flat	REG
T38-51-REG	F011356	T38	51	6 x 10	3 x 9	1 x 6	3 x 6	Flat	REG
T38-64-REG	F011092	T38	64	8 x 11	4 x 10	-	2 x 9.5	Flat	REG
T38-64-REG	F011003	T38	64	8 x 11	4 x 10	-	2 x 10	Flat	REG
T38-64-RET	F011427	T38	64	6 x 10	4 x 10	-	3 x 8	DC	RET
T38-64-RET	F011425	T38	64	6 x 10	6 x 10	-	3 x 8	DC	RET
T38-76-REG	F011077	T38	76	8 x 11	4 x 11	-	2 x 10	Flat	REG
T38-76-REG	F011360	T38	76	8 x 11	5 x 11	2 x 6	2 x 10	Flat	REG
T38-76-RET	F011178	T38	76	6 x 13	3 x 11 - 1 x 10	-	3 x 10	DC	RET
T38-76-RET	F011165	T38	76	6 x 13	4 x 11	1 x 8	3 x 10	Flat	RET
T38-89-REG	F011269	T38	89	9 x 11	6 x 11	1 x 8	3 x 12	Flat	REG
T38-89-REG	F011188	T38	89	8 x 12	5 x 12	2 x 8	2 x 12	Flat	REG
T38-89-REG	F011259	T38	89	8 x 12	5 x 12	2 x 8	2 x 12	Flat	REG
T38-89-REG	F011263	T38	89	8 x 11	6 x 11	2 x 8	4 x 8	DC	REG
T38-89-REG	F011561	T38	89	8 x 11	6 x 11	2 x 8	4 x 8	DC	REG
T45-76-REG	F011355	T45	76	6 x 13	4 x 10	-	3 x 10	DC	REG
T45-76-RET	F011014	T45	76	6 x 13	3 x 11 - 1 x 10	-	3 x 10	DC	RET
T45-76-RET	F011161	T45	76	6 x 13	4 x 11	-	2	Dome	RET
T45-76-RET	F011429	T45	76	6 x 13	3 x 11 - 1 x 10	-	3 x 10	DC	RET
T45-89-REG	F011187	T45	89	8 x 12	5 x 12	2 x 8	2 x 12.2	Flat	REG
T45-89-REG	F011242	T45	89	8 x 12	5 x 12	2 x 8	2 x 12.2	Flat	REG
T45-89-REG	F011245	T45	89	8 x 11	6 x 11	2 x 8	4 x 8	DC	REG
T45-89-REG	F011011	T45	89	8 x 13	6 x 12	-	2 x 12.7	Flat	REG
T45-89-RET	F011167	T45	89	9 x 11	6 x 11	1 x 8	3 x 11.5	Flat	RET
T45-89-RET	F011431	T45	89	8 x 13	5 x 12	-	4 x 9.5	DC	RET
T45-89-RET	F011433	T45	89	8 x 13	5 x 12	-	4 x 9.5	DC	RET
T45-95-RET	F011386	T45	95	9 x 12	6 x 11	1 x 8	3 x 11.7	Flat	RET
T51-89-REG	F011313	T51	89	8 x 13	5 x 12	-	4 x 10	DC	REG
T51-89-REG	F011359	T51	89	8 x 13	5 x 13	2 x 8	2 x 12	Flat	REG

Description	Code	Thread	Diameter (mm)	Buttons x button diameter m gauge	mm center	Flushing holes mm gauge	mm center	Front shape	Skirt
T51-89-REG	F011361	T51	89	8 x 13	5 x 13	2 x 8	2 x 12	Flat	REG
T51-89-REG	F011109	T51	89	8 x 12	6 x 12	2 x 8	2 x 13	Flat	REG
T51-89-RET	F011017	T51	89	8 x 12	6 x 12	-	2 x 14.3	Flat	RET
T51-89-RET	F011076	T51	89	8 x 13	5 x 12	-	4 x 9.5	DC	RET
T51-89-RET	F011169	T51	89	9 x 11	6 x 11	1 x 8	3 x 11.5	Flat	RET
T51-95-RET	F011174	T51	95	9 x 12	6 x 11	1 x 8	3 x 11.7	Flat	RET
T51-102-REG	F011088	T51	102	8 x 14	7 x 12	2 x 10	2 x 13	Flat	REG
T51-102-REG	F011252	T51	102	8 x 13	6 x 13	-	4 x 10	DC	REG
T51-102-REG	F011320	T51	102	8 x 13	6 x 12	-	4 x 10	DC	REG
T51-102-REG	F011323	T51	102	8 x 13	6 x 12	1 x 8	2 x 14	Flat	REG
T51-102-RET	F011101	T51	102	8 x 14	7 x 12	-	2 x 14	Flat	RET
T51-102-RET	F011075	T51	102	9 x 13	9 x 11	-	3 x 12	DC	RET
T51-102-RET	F011421	T51	102	8 x 13	6 x 12	-	4 x 10	DC	RET
T51-102-RET	F011423	T51	102	8 x 13	6 x 12	-	4 x 10	DC	RET
T51-115-REG	F011255	T51	115	8 x 14	6 x 14	-	4 x 12.7	DC	REG
T51-115-RET	F011096	T51	115	8 x 14	6 x 14	-	4 x 12.7	DC	RET
T51-115-REG	F011326	T51	115	8 x 13	6 x 13	1 x 8	2 x 14	Flat	REG
T51-115-REG	F011316	T51	115	8 x 13	6 x 13	-	4 x 12	DC	REG
T51-127-REG	F011329	T51	127	8 x 14	8 x 12	1 x 8	2 x 14	Flat	REG
T51-127-REG	F011332	T51	127	8 x 14	4 x 14 - 3 x 13	-	4 x 12	DC	REG
T51-127-RET	F011335	T51	127	8 x 14	8 x 12	1 x 8	2 x 14	Flat	RET
T51-127-RET	F011339	T51	127	8 x 14	8 x 12	1 x 8	2 x 14	Flat	RET



# ▶ DTH Hammers and Bits

HEMCO offers Down-the-hole (DTH) hammers and bits for drilling diameters from 90mm to 305mm. The hammers and the bits are manufactured to the highest standards using premium grade steel alloys that are heat treated and hardened for maximum productivity without compromising durability or reliability.



Model	Connection Thread	Size Inch	Length mm	Outer Diameter mm	Hole Range mm	Working Pressure
HD35	API 2 3/8" Reg	3"	930	82	90-110	1.0 - 1.5 MPA
HQL4	API 2 3/8" Reg	4"	1097	99	110-135	1.0 - 2.5 MPA
HQL5	API 3 1/2" Reg	5"	1156	125	135-155	1.0 - 2.5 MPA
HQL6	API 3 1/2" Reg	6"	1212	148	155-190	1.0 - 2.5 MPA
HQL8	API 4 1/2" Reg	8"	1467	185	195-254	1.0 - 2.5 MPA
HQL10	API 5 1/2" Reg	10"	1502	225	254-311	1.0 - 2.5 MPA
HQL12	API 6 5/8" Reg	12"	1880	275	305-445	1.0 - 2.5 MPA

## Key Features

- Simple design of the piston.
- More efficient energy transfer, faster drilling speed, lower air and oil consumption.
- Fewer internal parts, simple structure, longer life, less failure.
- Easy to disassemble because the top sub, drive chuck and external cylinder are connected by multistep thread.



## Bit Face Shape



### Drop Center

For high penetration rates in soft to medium hard and fissured rock formations. Low to medium air pressures. Maximum hole deviation control.



### Concave Face

The all-round application bit face specifically for medium hard and homogeneous rock formations. Good hole deviation control and good flushing capacity.



### Convex Face

For high penetration rates in soft to medium-hard with low to medium air pressures. It is the most resistance to steel wash, and may reduce the load and wear on the gauge buttons, but poor hole deviation control.



### Double Gauge Face

This kind of face shape is suitable for fast penetration rates in medium to hard rock formations. Designed for high air pressures and good resistance to steel wash step gauge bit.



### Flat Face

This kind of face shape is suitable for hard to very hard and abrasive rock formations in applications with high air pressures. Good penetration rates and resistance to steel wash.

## Carbide Button Shape



### Domed / Round Button

Domed / Round Buttons are usually used as gauge buttons of DTH bits, suitable for very abrasive and very hard formations.



### Parabolic / Semi-Ballistic Buttons

Parabolic Buttons are usually used as gauge buttons and front buttons of DTH bits, suitable for medium abrasive and hard formations.



### Ballistic Button

Ballistic Buttons are usually used as front buttons of DTH bits, suitable for medium abrasive and medium hard formations. They can also be used as gauge buttons if the rock is soft.



### Sharp Button

Sharp Buttons are usually used as front buttons of DTH bits for soft formations where fast penetration rates are possible and button breakage is minimal.



### Flat Button

Flat buttons are usually used as protection buttons to reduce wear on rubbing surfaces of DTH bits.

# ▶ Reverse Circulation Hammers

HEMCO's RC hammers draw in the cuttings to the center of the hammer and up the drill string to be safely collected at the working platform. This results in an accurate sampling of the strata while at the same time conforming to the strictest environmental standards. The use and the advantages of the R.C. Hammers are:

## No Contamination

The R.C. System collects sample through the recovery holes in the face of the drill bit immediately as the cuttings or sample is formed. The drilled sample does not have to travel the length of the hammer where contamination and loss of sample takes place.

## Higher Production

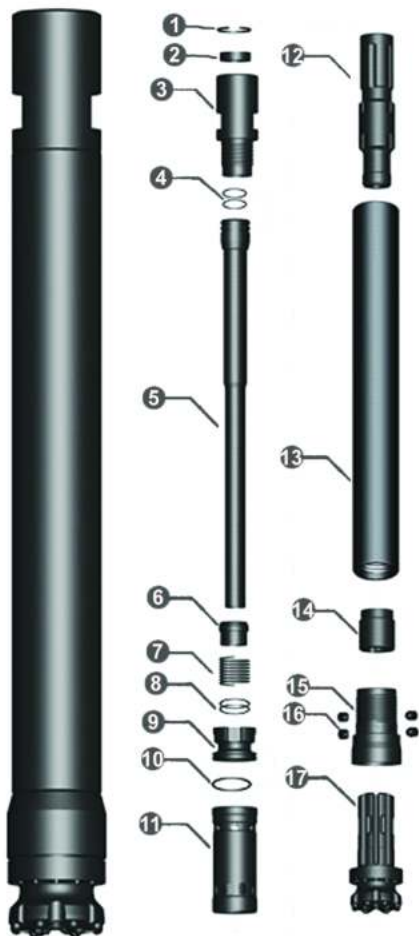
In broken and fractured ground conditions, the R.C. will often out perform the conventional hammer in terms of penetration rates.

## Dry Sample

Even in certain water bearing stratas it is still possible to collect a dry sample because the cuttings (sample) are collected as they are formed through the face of the drill bit.

## Higher Sample Recovery

Because the sample is collected through the face of the drill bit there is no loss of sample when drilling through broken or fractured ground. And since the bit matched to the chuck size, there is very little bypass of sample and recovery rates of, up to 98% are generally achievable.



	Item Description	Part No
1	Internal Circlip	Model-HRC01
2	Air Screen	Model-HRC02
3	Top Sub	Model-HRC03
4	O-Ring	Model-HRC04
5	Sample Tube	Model-HRC05
6	Check Valve	Model-HRC06
7	Spring	Model-HRC07
8	O Ring	Model-HRC08
9	Air Distributor	Model-HRC09
10	O Ring	Model-HRC10
11	Internal Cylinder	Model-HRC11
12	Piston	Model-HRC12
13	External Cylinder	Model-HRC13
14	Guided Sleeve	Model-HRC14
15	Drive Chuck	Model-HRC15
16	Bit Retaining Pin	Model-HRC16
17	Drill Bit	Model-HRC17

## Technical Specification

### RC4-E04 R.C. Hammer

Length	Weight	External Dia	Bit Shank	Hole Range	Connection Thread	
1252mm	52.0kg	ø107mm	RE 004	ø111 - ø127	3.5" - 4" Remet 4" Metzke	
Working Pressure	Impact Rate at 2.4 Mpa	Recommended Rotation Speed		Air Consumption		
1.0 - 3.0 Mpa	30HZ	25 - 40 r/min		1.7 Mpa	2.4 Mpa	3.0 Mpa
				8 m <sup>3</sup> /min	12 m <sup>3</sup> /min	16 m <sup>3</sup> /min

### RC4.5-E542 R.C. Hammer

Length	Weight	External Dia	Bit Shank	Hole Range	Connection Thread	
1191mm	58.0kg	ø109.5mm	RE542	ø113 - ø130	3.5" - 4" Remet 4" Metzke	
Working Pressure	Impact Rate at 2.4 Mpa	Recommended Rotation Speed		Air Consumption		
1.5 - 3.5 Mpa	35HZ	25 - 40 r/min		1.7 Mpa	2.4 Mpa	3.0 Mpa
				12 m <sup>3</sup> /min	18 m <sup>3</sup> /min	26 m <sup>3</sup> /min

### RC4.5-E543 R.C. Hammer

Length	Weight	External Dia	Bit Shank	Hole Range	Connection Thread	
1191mm	64.0kg	ø116mm	RE543	ø120 - ø135	3.5" - 4" Remet 4" Metzke	
Working Pressure	Impact Rate at 2.4 Mpa	Recommended Rotation Speed		Air Consumption		
1.5 - 3.5 Mpa	35HZ	25 - 40 r/min		1.7 Mpa	2.4 Mpa	3.0 Mpa
				12 m <sup>3</sup> /min	18 m <sup>3</sup> /min	26 m <sup>3</sup> /min

### RC5-E545 R.C. Hammer

Length	Weight	External Dia	Bit Shank	Hole Range	Connection Thread	
1261mm	64.0kg	ø117.5mm	RE545	ø122 - ø135	4" - 4.5" Remet 4" - 4.5" Metzke	
Working Pressure	Impact Rate at 2.4 Mpa	Recommended Rotation Speed		Air Consumption		
1.5 - 3.5 Mpa	35HZ	25 - 40 r/min		1.7 Mpa	2.4 Mpa	3.0 Mpa
				16 m <sup>3</sup> /min	22 m <sup>3</sup> /min	28 m <sup>3</sup> /min

### RC5.5-P54 R.C. Hammer

Length	Weight	External Dia	Bit Shank	Hole Range	Connection Thread	
1294mm	85kg	ø130mm	PR 54	ø135 - ø150	4.5" Remet 4.5" Metzke	
Working Pressure	Impact Rate at 2.4 Mpa	Recommended Rotation Speed		Air Consumption		
1.5 - 3.5 Mpa	35HZ	25 - 40 r/min		1.7 Mpa	2.4 Mpa	3.0 Mpa
				16 m <sup>3</sup> /min	22 m <sup>3</sup> /min	28 m <sup>3</sup> /min

# ► Worldwide Distribution



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