

## **Reverse Circulation Hammer & Bits**



## **CATALOGUE GUIDE**

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## **The Characteristics Of RC Hammers**

RC series reverse circulation DTH Hammer is the latest developed product of our company, it is mainly used for deep exploration drilling and stope ore grade control.

### **It has the following characteristics:**

- ◆ Based on previous experience of ordinary hammers, combined with the features of reverse circulation hammer, optimized internal structure and ideal energy transfer, thus ensuring the series of hammers drilling with fast, smooth and continuous sampling.
- ◆ The internal structure is very simple with components of high rigidity, thus ensuring long life and easy maintenance of the hammer.
- ◆ The collection tube adopts an integrative design and can be replaced without disassembling the hammer. With carburizing treatment, it has good abrasive resistance.
- ◆ Equipped with bits designed with patent, simply by replacing the drill bit, the same hammer can drill holes of different sizes ensuring that the sample is not contaminated.
- ◆ In difficult conditions such as loose soil, hard rock and plenty of water exists, sampling can be done well.

### **Explanation of The characteristics of HRC Hammers**

For Example :RC3-E531

- ◆ RC-Reverse Circulation DTH Hammer
- ◆ 3-Hammer item number
- ◆ E531-Drill Bits item number

## **Introduction of R.C. Drilling and R.C. DTH Hammers**

### **It has the following characteristics:**

- ◆ R.C. Drilling, referred to as "Center Sample Recovery" or "Dual Wall Drilling", employs a Dual Wall Pipe where the drilling medium, normally high pressure air, is passed between the outer and inner tubes down to the face of the drilling bit where it is returned up the centre tube along with the sample cut by the drill bit.

### **The use and the advantages of the R.C. DTH Hammers:**

#### **◆ 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 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.

# RC5.5-P52 R.C. HAMMER

5.5"R.C. Hammers	Item Description	Weight (Kg)	Part Number	
	1	"O" Ring	0.02	RC5.5-P52-01
	2	Adaptor Screen	2.19	RC5.5-P52-02
	3	Circlip	0.04	RC5.5-P52-03
	4	Airscreen Top Load	0.42	RC5.5-P52-04
	5	Circlip	0.03	RC5.5-P52-05
	6	Top Sub	8.92	RC5.5-P52-06
	7	Plunger	0.63	RC5.5-P52-07
	8	"Y" Ring	0.03	RC5.5-P52-08
	9	Spring	0.12	RC5.5-P52-09
	10	Make Up Ring Steel	0.10	RC5.5-P52-10
	11	Viton Make Up Ring	0.05	RC5.5-P52-11
	12	"O" Ring	0.02	RC5.5-P52-12
	13	Distributor	1.31	RC5.5-P52-13
	14	"O" Ring	0.02	RC5.5-P52-14
	15	"O" Ring	0.02	RC5.5-P52-15
	16	Sample Tube	4.52	RC5.5-P52-16
	17	"O" Ring	0.02	RC5.5-P52-17
	18	Mount Sample Tube	0.80	RC5.5-P52-18
	19	Inner Cylinder	7.39	RC5.5-P52-19
	20	Piston	14.63	RC5.5-P52-20
	21	Piston Case	18.86	RC5.5-P52-21
	22	Piston Retaining Ring	0.13	RC5.5-P52-22
	23	Bush Drive Sub	1.89	RC5.5-P52-23
	24	"O" Ring	0.02	RC5.5-P52-24
	25	"O" Ring	0.02	RC5.5-P52-25
	26	Bit Retaining Ring	0.31	RC5.5-P52-26
	27	"O" Ring	0.02	RC5.5-P52-27
	28	Shroud	1.86	RC5.5-P52-28
	29	Drive Sub	4.17	RC5.5-P52-29
	30	Drill Bit	11.01	RC5.5-P52-30

## Technical Date

Length(Less bit)	Weight(Less bit)	External diameter	Bit Shank	Hole Range	Connection Thread
1227mm	68.5Kg	ø121mm	PR52	ø126-ø142	4"-4.5"Remet 4"-4.5"Metzke
Working Pressure	Impact rate at 2.4Mpa	Recommended rotation speed	Air Consumption		
			1.7Mpa	2.4Mpa	3.0Mpa
1.5-3.5Mpa	35HZ	25-40r/min	16m <sup>3</sup> /min	22m <sup>3</sup> /min	28m <sup>3</sup> /min

# RC5.5-E547 R.C. HAMMER

5.5"R.C. Hammers	Item Description	Weight (Kg)	Part Number	
	1	Circlip	0.04	RC5.5-E547-01
	2	"O" Ring	0.02	RC5.5-E547-02
	3	Adaptor Screen	2.95	RC5.5-E547-03
	4	"O" Ring	0.02	RC5.5-E547-04
	5	Top Sub	7.38	RC5.5-E547-05
	6	Sample Tube	4.61	RC5.5-E547-06
	7	"O" Ring	0.02	RC5.5-E547-07
	8	Circlip	0.04	RC5.5-E547-08
	9	Airscreen	0.02	RC5.5-E547-09
	10	Distributor Nozzle	0.48	RC5.5-E547-10
	11	"O" Ring	0.02	RC5.5-E547-11
	12	Plunger	0.53	RC5.5-E547-12
	13	"Y" Ring	0.02	RC5.5-E547-13
	14	Spring	0.12	RC5.5-E547-14
	15	"O" Ring	0.02	RC5.5-E547-15
	16	Inner Cylinder	10.97	RC5.5-E547-16
	17	Piston	17.08	RC5.5-E547-17
	18	Piston Case	18.55	RC5.5-E547-18
	19	Bush Drive Sub	3.04	RC5.5-E547-19
	20	"O" Ring	0.02	RC5.5-E547-20
	21	Piston Retaining Ring	0.04	RC5.5-E547-21
	22	Bit Retaining Ring	0.23	RC5.5-E547-22
	23	"O" Ring	0.02	RC5.5-E547-23
	24	Shroud	1.70	RC5.5-E547-24
	25	Drive Sub	3.61	RC5.5-E547-25
	26	Drill Bit	14.30	RC5.5-E547-26

## Technical Date

Length(Less bit)	Weight(Less bit)	External diameter	Bit Shank	Hole Range	Connection Thread
1270mm	71.0Kg	ø124.5mm	RE547	ø130-ø146	4.5"Remet 4.5"Metzke
Working Pressure	Impact rate at 2.4Mpa	Recommended rotation speed	Air Consumption		
			1.7Mpa	2.4Mpa	3.0Mpa
1.5-3.5Mpa	35HZ	25-40r/min	16m <sup>3</sup> /min	22m <sup>3</sup> /min	28m <sup>3</sup> /min


# RC5.5-P54 R.C. HAMMER

5.5"R.C. Hammers	Item Description	Weight (Kg)	Part Number
	1	11.61	RC5.5-P54-01
	2	0.02	RC5.5-P54-02
	3	2.35	RC5.5-P54-03
	4	0.37	RC5.5-P54-04
	5	7.79	RC5.5-P54-05
	6	0.04	RC5.5-P54-06
	7	0.58	RC5.5-P54-07
	8	0.02	RC5.5-P54-08
	9	0.12	RC5.5-P54-09
	10	0.14	RC5.5-P54-10
	11	0.06	RC5.5-P54-11
	12	1.54	RC5.5-P54-12
	13	0.02	RC5.5-P54-13
	14	0.02	RC5.5-P54-14
	15	0.02	RC5.5-P54-15
	16	6.47	RC5.5-P54-16
	17	0.02	RC5.5-P54-17
	18	1.02	RC5.5-P54-18
	19	8.54	RC5.5-P54-19
	20	17.20	RC5.5-P54-20
	21	23.44	RC5.5-P54-21
	22	0.20	RC5.5-P54-22
	23	2.53	RC5.5-P54-23
	24	0.02	RC5.5-P54-24
	25	0.02	RC5.5-P54-25
	26	0.43	RC5.5-P54-26
	27	0.02	RC5.5-P54-27
	28	2.35	RC5.5-P54-28
	29	4.90	RC5.5-P54-29
	30	18.33	RC5.5-P54-30


## Technical Date

Length(Less bit)	Weight(Less bit)	External diameter	Bit Shank	Hole Range	Connection Thread
1294mm	84.50Kg	ø130mm	PR54	ø135-ø150	4.5"Remet 4.5"Metzke
Working Pressure	Impact rate at 2.4Mpa	Recommended rotation speed	Air Consumption		
			1.7Mpa	2.4Mpa	3.0Mpa
1.5-3.5Mpa	35HZ	25-40r/min	16m <sup>3</sup> /min	22m <sup>3</sup> /min	28m <sup>3</sup> /min


## PR 52 Reverse circulation drill bit and shroud

	Diameter		No × Button diameter, mm		Button angle°	Flushing holes	Shroud Diameter	Weight (Kg)	Part No
	mm	inch	Gauge Buttons	Front Buttons					
	133	5 1/4	8×16	10×14	35	2	131	11.2	PR52-133
136	5 3/8	8×16	6×16+3×14	35	2	134	11.5	PR52-136	
140	5 1/2	8×16	6×16+3×14	35	2	138	11.9	PR52-140	
143	5 5/8	8×16	6×16+3×14	35	2	141	12.3	PR52-143	

## RE 547 Reverse circulation drill bit and shroud

	Diameter		No × Button diameter, mm		Button angle°	Flushing holes	Shroud Diameter	Weight (Kg)	Part No
	mm	inch	Gauge Buttons	Front Buttons					
	136	5 3/8	8×16	6×16+3×14	35	2	134	15.1	RE547-136
140	5 1/2	8×16	6×16+3×14	35	2	138	15.5	RE547-140	
143	5 5/8	8×16	6×16+3×14	35	2	141	15.8	RE547-143	
146	5 3/4	8×16	6×16+3×14	35	2	144	16.3	RE547-146	

## PR 54 Reverse circulation drill bit and shroud

	Diameter		No × Button diameter, mm		Button angle°	Flushing holes	Shroud Diameter	Weight (Kg)	Part No
	mm	inch	Gauge Buttons	Front Buttons					
	136	5 3/8	8×16	6×16+3×14	35	2	134	18.2	PR54-136
140	5 1/2	8×16	6×16+3×14	35	2	138	18.5	PR54-140	
143	5 5/8	8×16	6×16+3×14	35	2	141	18.8	PR54-143	
146	5 3/4	8×16	6×16+3×14	35	2	144	19.2	PR54-146	

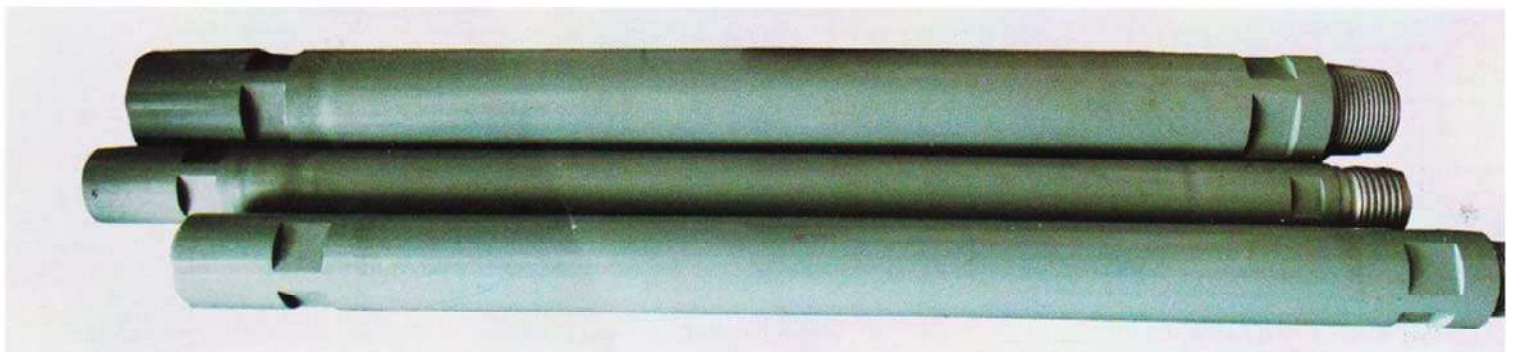
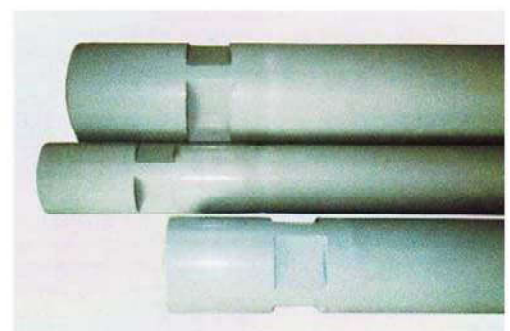
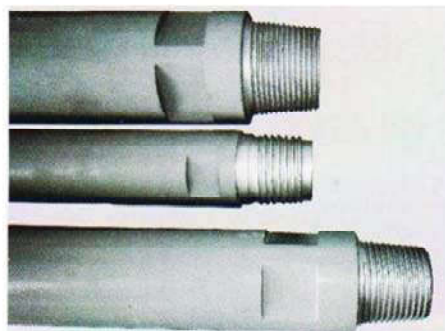


# Reverse circulation pipes(dual wall drilling)

High pressure air transported into somewhere of the well along with air pip, via mixer to inject the high-pressure air into the pipe with liquid, due to the density of mixed liquor lower than the flushing liquor therefore a differential pressure occurred between pipe and sample tube that to make the mixed air and liquid follow up fleetly by the fluid column pressure and take the rock debris or power out to the ground from bottom of the hole continuously. By this drilling method will provide with advantages like high penetration rate, quality pore-forming and fewer hole collapse during drilling in loose formation.

This series reverse circulation pipes can increase penetration in lost-circulation formation, reduce drilling fluid consumption, protect reservoir stratum and save the cost of other consumption tools. In addition, the pipes can be worked in two direction circulation drilling ways to control the well drilling. By reverse circulation method to kill the well the heavy mud can be transferred directly to the bottom of the well, no periodic circulation and save time.

Type	external dia. of outer pipe (mm)	Inner dia. of inner pipe (mm)	thread of pipe	Length (mm)	sealing	Depth (m)	Marks
MD80/48	80×8	48×5	buttress thread	1500-6000	dual o ring radial	300-800	
MD89/38	89×8.56	38×4	3"Remet/Metzke	1500-6000	dual o ring radial	300-800	
MD102/46	102×8.56	46×5	3"Remet/Metzke	1500-6000	dual o ring radial	300-1000	outer pipe R780 or DZ50(optional) inner pipe
MD108/46	108×8.56	46×5	3 1/2"Remet/Metzke	1500-6000	dual o ring radial	300-1200	
MD114/50	114×8.56	50×5.5	4"Remet/Metzke	1500-6000	dual o ring radial	300-1200	
MD120/60	127×8.56	60×7	4"Remet/Metzke	1500-6000	dual o ring radial	Less5000	
MD146/73	146×10	75	4 1/2"Remet/Metzke	1500-6000	dual o ring radial	Less5000	



# "Globe Drilling Industry Experts"

No matter what kinds of rock-Soft rock,loose-medium rock, hard rock and any other special formations, just tell us what you need,our special Tailored service is waiting for you upon you demand.



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