

**wooke**  
ROCK DRILL EQUIPMENT

***RW Series***  
***Reverse Circulation Hammer***



# **C**ONTENT

Company Profile	-----	1
RW Series Reverse Circulation Hammer	-----	4
RW531	-----	5
RW004	-----	6
RW534	-----	7
RW53	-----	8
RW040	-----	9
RW054	-----	10
PRW54	-----	11

# COMPANY INTRODUCTION

Established in 1995, Wooke Rock Drill Equipment Co Ltd is located in the city of Yichang, known for the worldwide famous hydroelectric project “Three Gorges Dam”. With the products testified by Three Gorges Project, we are an innovative enterprise pioneering the industry development. Our company has been awarded as “National High-Tech Enterprise”, “State Invisible Enterprise Champion”, and is a current “Executive Member of China Rock-Drill Steel and Tools Association”.

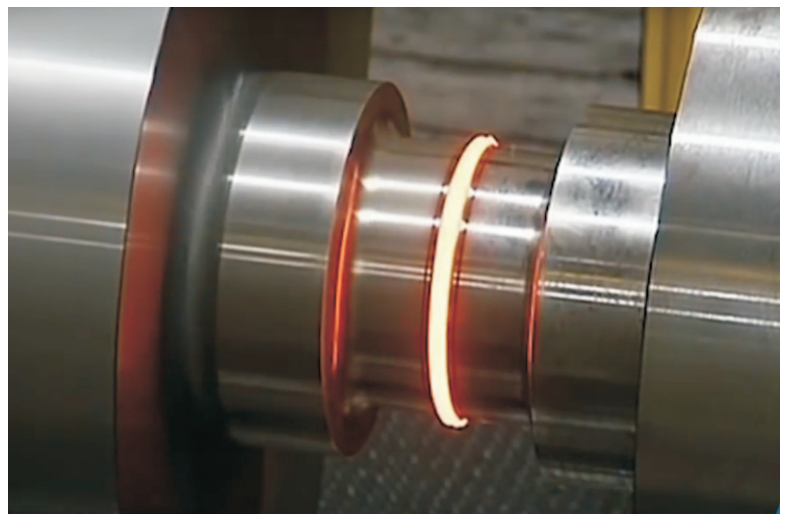
Our company focuses on manufacturing high air pressure DTH hammers, bits, drill pipes, top hammer threaded button bits, shank adapters, coupling sleeves, RC hammers and bits, and a variety of eccentric and symmetric casing systems, which are widely used in open-pit quarry, mining, water and hydropower projects, geological exploration etc.

“Focus on quality, strive for excellence” is our motto. Our company has a number of disruptive product patents and intellectual properties in high air pressure DTH rock drilling tools manufacturing technologies. We have exclusively designed and launched TND series、Wooke series DTH products, both are cutting-edge domestically and internationally, and have successfully transformed from traditional production to intelligentized automatic production. Our comprehensive competitiveness is ranking among the leading positions in China.





▲ Italy Ji Aifei produced heat treatment production line



▲ Friction Welding



▲ Modern CNC production lines (metal processing)

Top loading filter to prevent debris entering the hammer.

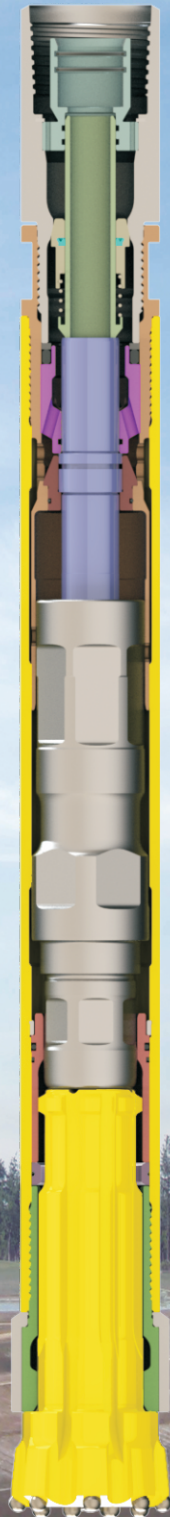
NRV to prevent hammer from flooding.

Easy sample tube removal

Piston + Liner configuration for optimal air flow

The spline design of the drill bit shank ensures sufficient guiding area and reduces stress concentration

Bit Catcher to prevent loss of bit head if failure occurs and seals the hole for sample recovery



RW series RC hammer features an easier and simpler disassembly structure of the top sub and the sample tube.

RW series RC hammer is specially designed to optimize hammer performance in Exploration and Grade control applications.

RW series RC hammer features a better flushing characteristics from high velocity air flow directed through the drill bit. A variety of thread connections are available which includes options for both Remet and Metzke.

The combined performance of RW series RC hammer effectively increases drilling ROP, increases the service life, and more importantly, guarantees better sampling quality.

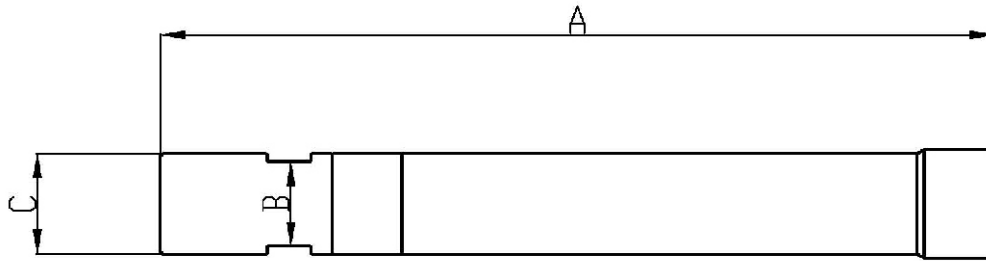
RC Drill bit diameter range: 86-146mm

Work pressure: 15-35 bar

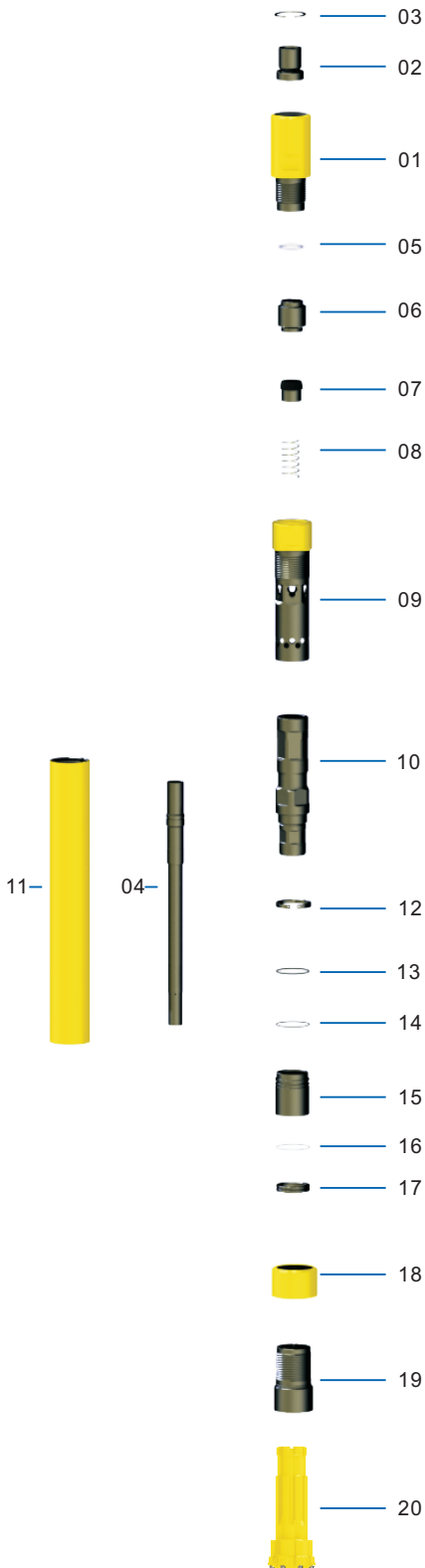
RW series RC hammer assortment:

3"		4"		5"		5 ½"	
RW531	RW004	RW543	RW53	RW040	RW054	PRW54	

# RW Series Reverse Circulation Hammer



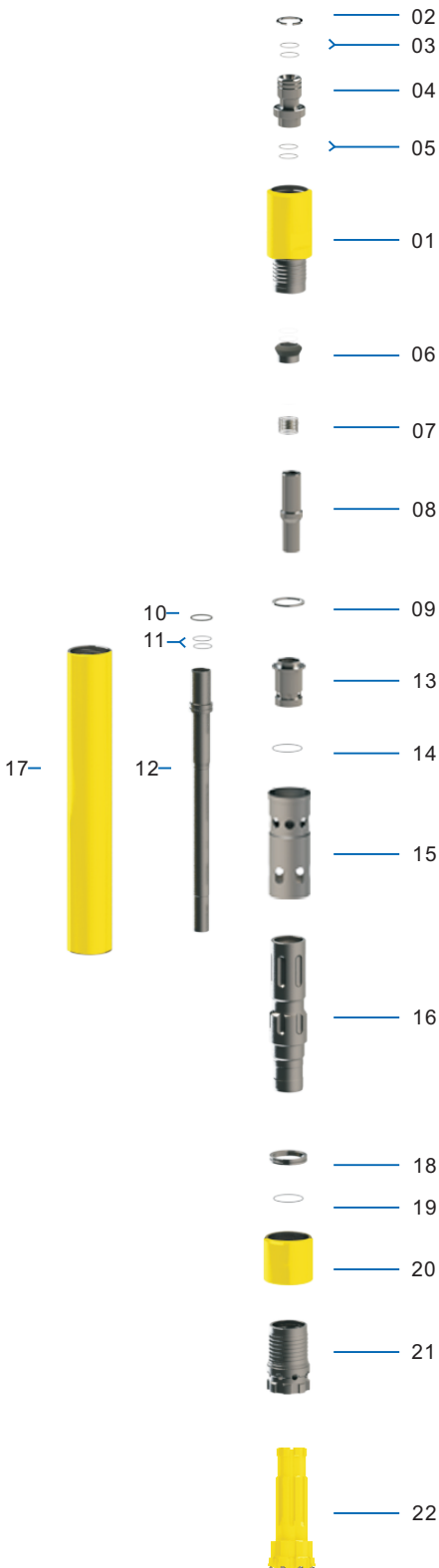
Reverse Circulation Hammer					Hole Range (mm)	Size(mm)			Weight (kg)	Remark
Assortment	Type	Top Sub		Bit Shank		A	B	C		
		Thread	Code							
3"	RW531	3"Remet	R30	RE531	86-102	1142.5	76.2	81.2	29	
4"	RW004			RE004	114-127	1210.6	90	106.7	52	
5"	RW543	3.5"Remet	R35	RE543	124-135	1204.5	96.5	116.8	62	
	RW53	4"Remet	R40							
		4"Metzke	M40	DR53	127-140	1220	101.6	121.5	67	
	RW040			RE040	127-140	1210	94	121	80.5	
5 1/2"	RW054	4.5"Remet	R45	RE054	140-146	1297.5	100	130.2	84	
	PRW54	4.5"Metzke	M45	PR54		1298			85	Fishing Thread Type



Hammer Type		RW531				
Top Sub	Part Code	R30				
	Thread	3"Remet				
Outside diameter (mm)		81.2				
Hammer length without bit (mm)		1142.5				
Top sub spanner flat size (mm)		76.2				
Weight (kg)		29				
Item Description		Weight(kg)	Part No.			
01 Top sub		3.76	RW531-HJT			
02 Viton make up ring		1.22	RW531-TQS			
03 Piston retaining ring		0.01	RW531-DQ			
04 Sample tube		0.01	RW531-SJG			
05 Circlip		0.04	RW531-KQ			
06 Distributor		0.37	RW531-PQZ			
07 Check Valve Dart		0.08	RW531-NZF			
08 Spring		0.10	RW531-TH			
09 Inner cylinder		3.40	RW531-NG			
10 Piston		4.69	RW531-HS			
11 Piston case		9.20	RW531-WTG			
12 Piston retaining ring		0.02	RW531-DQ			
13 'O' Ring		0.01	RW531-ODQ-I			
14 'O' Ring		0.01	RW531-ODQ-II			
15 Bush drive sub		1.03	RW531-DXT			
16 'O' Ring		0.01	RW531-OKH			
17 Bit retaining ring		0.08	RW531-KH			
19 Drive sub		1.60	RW531-QJT			
20 Bit						
Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
86	RE531	Concave	Spherical	6x12; 3x12+1x12	4.2	RW531-ZT-086
89				8x12; 4x12+1x12	4.3	RW531-ZT-089
95				8x12; 4x12+2x12	4.6	RW531-ZT-095
102				8x12; 4x12+2x12	4.9	RW531-ZT-102
18 Shroud Hrdn						
Outside Diameter mm		Part No.				
84		RW531-NMT-084				
87		RW531-NMT-087				
93		RW531-NMT-093				
100		RW531-NMT-100				

Air consumption

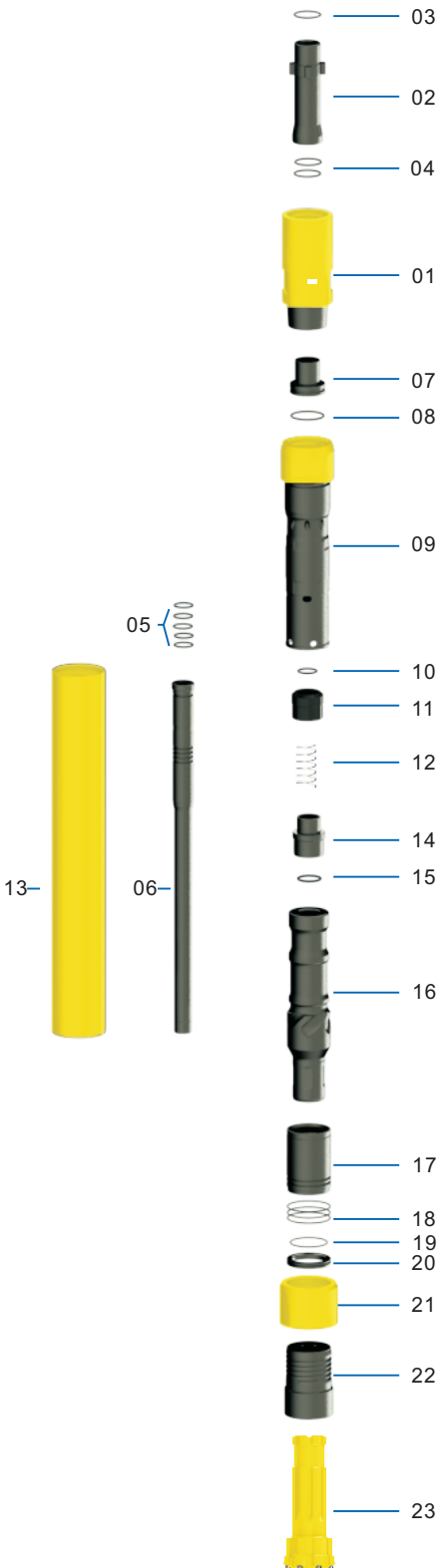
PSI	bar	m3/min
150	10.3	6.2
250	17.2	9.5
350	24.1	14.2
400	27.5	16.5



Hammer Type		RW004				
Top Sub	Part Code	R35	R40	M40		
	Thread	3.5"Remet	4"Remet	4"Metzke		
Outside diameter (mm)		106.7				
Hammer length without bit (mm)		1210.6				
Top sub spanner flat size (mm)		90				
Weight (kg)		52				
Item Description		Weight(kg)	Part No.			
01 Top sub		7.79	RW004-HJT			
02 Circlip		0.02	RW004-KQ			
03 'O' Ring		0.02	RW004-SPG			
04 Adaptor screen		1.06	RW004-TQS			
05 'O' Ring		0.02	RW004-OTQS			
06 Check Valve Dart		0.51	RW004-NZF			
07 Spring		0.08	RW004-TH			
08 Sample tube		0.74	RW004-SJG			
09 Make up ring steel		0.02	RW004-GDQ			
10 'O' Ring		0.02	Rw004-OSJG			
11 'O' Ring		0.02	RW004-OSJG			
12 Sample tube		2.38	RW004-SJG			
13 Distributor		1.75	RW004-PQZ			
14 'O' Ring		0.02	RW004-OPQZ			
15 Inner cylinder		2.45	RW004-NG			
16 Piston		10.45	RW004-HS			
17 Piston case		0.05	RW004-WTG			
18 Bit retaining ring		0.29	RW004-KH			
19 'O' Ring		0.02	RW004-OKH			
21 Drive sub		1.05	RW004-QJT			
22 Bit		11.7	RW004-ZT			
Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
114	RE004	Concave	Spherical	8x14; 6x14+3x14	11.5	RW004-ZT-114
118				8x14; 6x14+3x14	11.7	RW004-ZT-118
121				8x14; 6x14+3x14	12.0	RW004-ZT-121
127				8x14; 6x14+3x14	12.4	RW004-ZT-127
20 Shroud Hrdn						
Outside Diameter mm	Part No.					
112	RW004-NMT-112					
116	RW004-NMT-116					
119	RW004-NMT-119					
125	RW004-NMT-125					

**Air consumption**

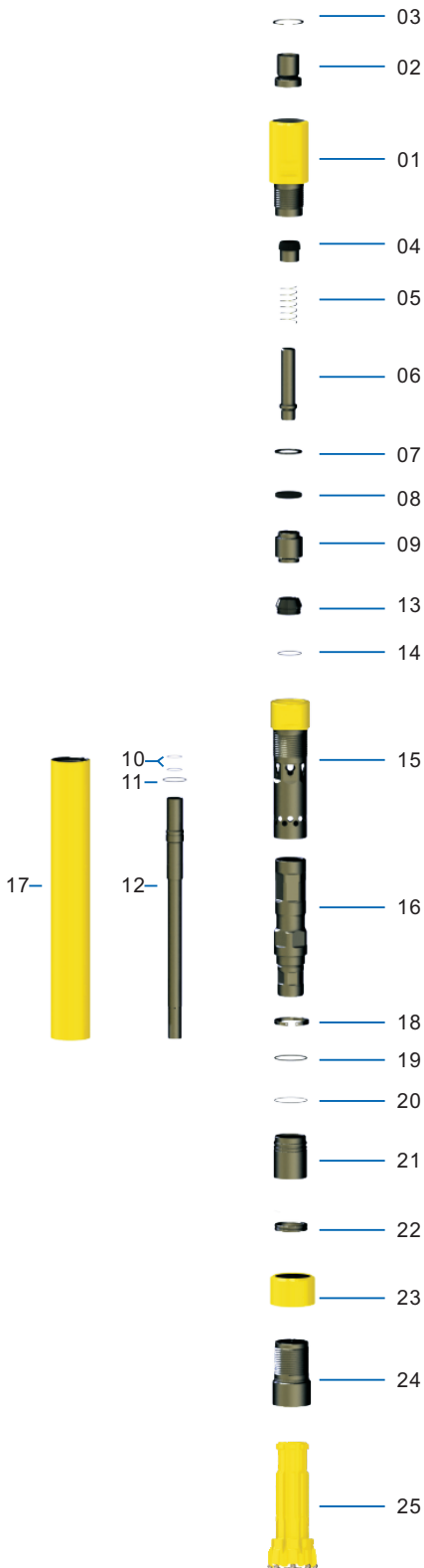
PSI	bar	m3/min
150	10.3	8.4
250	17.2	11.7
350	24.1	16.5
400	27.5	18.8



**Air consumption**

PSI	bar	m3/min
200	13.8	9.5
250	17.2	11.7
350	24.1	16.5
450	27.5	18.8

Hammer Type		RW543				
Top Sub	Part Code	R35	R40	M40		
	Thread	3.5"Remet	4"Remet	4"Metzke		
Outside diameter (mm)		116.8				
Hammer length without bit (mm)		1204.5				
Top sub spanner flat size (mm)		96.5				
Weight (kg)		62				
Item Description		Weight(kg)	Part No.			
01 Top sub		8.52	RW543-HJT			
02 Adaptor tube		2.25	RW543-SPG			
03 Circlip		0.04	RW543-KQ			
04 'O' Ring		0.02	RW543-OKH			
05 'O' Ring		0.02	Rw543-OSJG			
06 Sample tube		3.50	Rw543-SJG			
07 Distributor		0.56	RW543-PQZ			
08 'O' Ring		0.02	RW543-OPQZ			
09 Inner cylinder		7.26	RW543-NG			
10 'O' Ring		0.02	RW543-NG			
11 Check Valve Dart		0.50	RW543-NZF			
12 Spring		0.08	RW543-TH			
13 Piston case		19.17	RW543-WTG			
14 Mount Sample Tube		0.86	RW543-DWT			
15 'O' Ring		0.02	RW543-DWT			
16 Piston		11.64	RW543-HS			
17 Bush drive sub		2.94	RW543-DXT			
18 'O' Ring		0.02	RW543-ODXT			
19 'O' Ring		0.02	RW543-OKH			
20 Bit retaining ring		0.26	RW543-KH			
22 Drive sub		2.94	RW543-QJT			
23 Bit						
Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
124	RE543	Concave	Spherical	8x14; 4x13+4x13	10.8	RW543-ZT-124
127				8x14; 4x14+4x14	11.0	RW543-ZT-127
130				8x14; 6x14+4x14	11.3	RW543-ZT-130
133				8x16; 6x14+4x14	11.8	RW543-ZT-133
190				10x16; 6x16+10x14	38.0	RW543-ZT-190
21 Shroud Hrdn						
Outside Diameter mm	Part No.					
122	RW543-NMT-122					
125	RW543-NMT-125					
128	RW543-NMT-128					
131	RW543-NMT-131					
188	RW543-NMT-188					



Hammer Type		RW53		
Top Sub	Part Code	R35	R40	M40
	Thread	4.5"Remet	4"Remet	4"Metzke
Outside diameter (mm)		121.5		
Hammer length without bit (mm)		1226		
Top sub spanner flat size (mm)		101.6		
Weight (kg)		68.82		

Item Description	Weight(kg)	Part No.
01 Top sub	9.10	RW53-HJT
02 Air filter	1.30	RW53-TQS
03 Piston retaining ring	0.14	RW53-DQ
04 Check Valve Dart	0.15	RW53-NZF
05 Spring	0.06	RW53-TH
06 Adaptor tube	1.10	RW53-SPG
07 Make up ring steel	0.10	RW53-GDQ
08 Viton make up ring	0.02	RW53-XJQ
09 Distributor	1.45	RW53-PQZ
10 'O' Ring	0.01	Rw53-OSJG-I
11 'O' Ring	0.01	Rw53-OSJG-II
12 Sample tube	4.00	RW53-SJG
13 Mount sample tube	1.00	RW53-DWT
14 'O' Ring	0.01	RW53-ODWT
15 Inner cylinder	7.40	RW53-NG
16 Piston	13.9	RW53-HS
17 Piston case	20.1	RW53-WTG
18 Piston retaining ring	0.15	RW53-DQ
19 'O' Ring	0.01	RW53-ODXT-I
20 'O' Ring	0.01	RW53-ODXT-II
21 Bush drive sub	2.00	RW53-DXT
22 Bit retaining ring	0.30	RW53-KH
24 Drive sub	3.80	RW53-QJT
25 Bit		

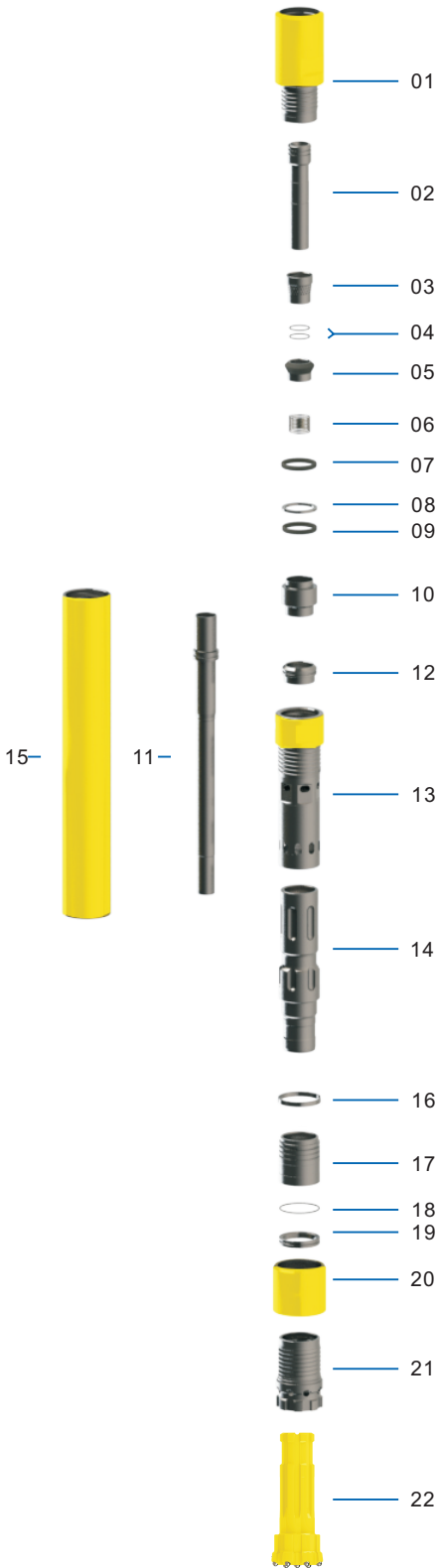
Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
127	DR53	Concave	Spherical	8-14;6-14;2-14	14.7	RW53-ZT-127
130				8-14;6-14;4-14	15.1	RW53-ZT-130
133				8-16;6-14;3-14	15.4	RW53-ZT-133
136				8-16;6-16;3-14	15.8	RW53-ZT-136
140				8-16;6-14;3-14	16.31	RW53-ZT-140
190				10-16;6-16;4-14	36.0	RW53-ZT-190

23 Shroud Hrdn

Outside Diameter mm	Part No.
125	RW53-NMT-125
128	RW53-NMT-128
131	RW53-NMT-131
134	RW53-NMT-134
138	RW53-NMT-138
188	RW53-NMT-188

Air consumption

PSI	bar	m3/min
250	17.2	13.6
350	24.1	19.1
450	31.0	24.2
500	34.5	26.6



Hammer Type		RW040				
Top Sub	Part Code	R35	R40	M40	R45	M45
	Thread	3.5"Remet	4"Remet	4"Metzke	4.5"Remet	4.5"Metzke
Outside diameter (mm)		121.1				
Hammer length without bit (mm)		1362				
Top sub spanner flat size (mm)		105				
Weight (kg)		80.5				
Item Description		Weight(kg)	Part No.			
01 Top sub		8.52	RW040-HJT			
02 Adaptor tube		2.25	RW040-SPG			
03 Air filter		0.37	RW040-TQS			
04 Circlip		0.04	RW040-KQ			
05 Check Valve Dart		0.50	RW040-NZF			
06 Spring		0.12	RW040-TH			
07 Spring Seat		0.12	RW040-THZ			
08 Make up ring steel		0.09	RW040-GDQ			
09 Viton make up ring		0.06	RW040-XJQ			
10 Distributor		1.75	RW040-PQZ			
11 Sample tube		4.32	RW040-SJG			
12 Mount sample tube		1.00	RW040-DWT			
13 Inner cylinder		7.69	RW040-NG			
14 Piston		13.63	RW040-HS			
15 Piston case		24.14	RW040-WTG			
16 Piston retaining ring		0.10	RW040-DQ			
17 Bush drive sub		1.89	RW040-DXT			
18 'O' Ring		0.02	RW040-ODXT			
19 Bit retaining ring		0.31	RW040-KH			
21 Drive sub		3.67	RW040-QJT			
22 Bit						
Diameter mm	Shank	Face type	Button design		Weight kg	Part No.
124	RE040	Concave	Spherical	8x14; 4x13+4x13	14.3	RW040-ZT-124
127				8x14; 4x14+4x14	14.7	RW040-ZT-127
130				8x14; 6x14+4x14	15.2	RW040-ZT-130
133				8x16; 6x14+4x14	15.8	RW040-ZT-133
190				10x16; 6x16+10x14	38.0	RW040-ZT-190
20 Shroud Hrdn						
Outside Diameter mm	Part No.					
122	RW040-NMT-122					
125	RW040-NMT-125					
128	RW040-NMT-128					
131	RW040-NMT-131					
188	RW040-NMT-188					

**Air consumption**

PSI	bar	m3/min
250	17.2	13.6
350	24.1	19.1
450	31.0	24.2
500	34.5	26.6



**Air consumption**

PSI	bar	m3/min
250	17.2	16.1
350	24.1	21.9
450	31.0	27.0
500	34.5	30.1

Hammer Type		RW054	
Top Sub	Part Code	R45	M45
	Thread	4.5"Remet	4.5"Metzke
Outside diameter (mm)		130.2	
Hammer length without bit (mm)		1252	
Top sub spanner flat size (mm)		100	
Weight (kg)		84	

Item Description	Weight(kg)	Part No.
01 Top sub	11.61	RW054-HJT
02 'O' Ring	0.02	RW054-OSPG
03 Adaptor tube	2.35	RW054-SPG
04 Air filter	0.50	RW054-TQS
05 'O' Ring	0.02	RW054-OTQS
06 Check Valve Dart	0.58	RW054-NZF
07 Spring	0.12	RW054-TH
08 Make up ring steel	0.14	RW054-GDQ
09 Viton make up ring	0.06	RW054-XJQ
10 'O' Ring	0.02	RW054-OPQZ
11 Distributor	1.54	RW054-PQZ
12 'O' Ring	0.02	RW054-OPQZ
13 'O' Ring	0.02	RW054-ODWT
14 'O' Ring	0.02	RW054-OSJG
15 Sample tube	6.47	RW054-SJG
16 Mount sample tube	1.00	RW054-DWT
17 'O' Ring	0.02	RW054-ONG
18 Inner cylinder	8.54	RW054-NG
19 Piston	17.2	RW054-HS
20 Piston case	23.44	RW054-WTG
21 Piston retaining ring	0.20	RW054-DQ
22 'O' Ring	0.02	RW054-ODQ
23 'O' Ring	0.02	RW054-ODXT
24 Bush drive sub	1.89	RW054-DXT
25 'O' Ring	0.02	RW054-OKH
26 Bit retaining ring	0.43	RW054-KH
28 Drive sub	4.90	RW054-QJT
29 Bit		

Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
136	RE054	Concave	Spherical	8x16; 6x16+3x14	18.2	RW054-ZT-136
140				8x16; 6x16+3x14	18.5	RW054-ZT-140
143				8x16; 6x16+3x14	18.8	RW054-ZT-143
146				8x16; 6x16+3x14	19.2	RW054-ZT-146
190				10x16; 6x16+10x14	38.0	RW054-ZT-190

27 Shroud Hrdn	
Outside Diameter mm	Part No.
134	RW054-NMT-134
138	RW054-NMT-138
141	RW054-NMT-141
144	RW054-NMT-144
188	RW054-NMT-188



**Air consumption**

PSI	bar	m3/min
250	17.2	16.1
350	24.1	21.9
450	31.0	27.0
500	34.5	30.1

Hammer Type		PRW54	
Top Sub	Part Code	R45	M45
	Thread	4.5"Remet	4.5"Metzke
Outside diameter (mm)		130.2	
Hammer length without bit (mm)		1298	
Top sub spanner flat size (mm)		100	
Weight (kg)		85	

Item Description	Weight(kg)	Part No.
01 Top sub	11.61	RW054-HJT
02 'O' Ring	0.02	RW054-OSPG
03 Adaptor tube	2.35	RW054-SPG
04 Air filter	0.50	RW054-TQS
05 'O' Ring	0.02	RW054-OTQS
06 Check Valve Dart	0.58	RW054-NZF
07 Spring	0.12	RW054-TH
08 Make up ring steel	0.14	RW054-GDQ
09 Viton make up ring	0.06	RW054-XJQ
10 'O' Ring	0.02	RW054-OPQZ
11 Distributor	1.54	RW054-PQZ
12 'O' Ring	0.02	RW054-OPQZ
13 'O' Ring	0.02	RW054-ODWT
14 'O' Ring	0.02	RW054-OSJG
15 Sample tube	6.47	RW054-SJG
16 Mount sample tube	1.00	RW054-DWT
17 'O' Ring	0.02	RW054-ONG
18 Inner cylinder	8.54	RW054-NG
19 Piston	17.2	RW054-HS
20 Piston case	23.44	RW054-WTG
21 Piston retaining ring	0.20	RW054-DQ
22 'O' Ring	0.02	RW054-ODQ
23 'O' Ring	0.02	RW054-ODXT
24 Bush drive sub	1.89	RW054-DXT
25 'O' Ring	0.02	RW054-OKH
26 Bit retaining ring	0.43	RW054-KH
28 Drive sub	4.90	PRW54-QJT
29 Bit		

Diameter mm	Shank	Face type	Button design	Weight kg	Part No.	
136	PR54	Concave	Spherical	8x16; 6x16+3x14	18.5	PRW54-ZT-136
140				8x16; 6x16+3x14	18.8	PRW54-ZT-140
143				8x16; 6x16+3x14	19.0	PRW54-ZT-143
146				8x16; 6x16+3x14	19.5	PRW54-ZT-146
190				10x16; 6x16+10x14	38.5	PRW54-ZT-190

27 Shroud Hrdn	
Outside Diameter mm	Part No.
134	PRW54-NMT-134
138	PRW54-NMT-138
141	PRW54-NMT-141
144	PRW54-NMT-144
188	PRW54-NMT-188



## **WOOKE ROCK DRILL EQUIPMENT CO.,LTD**

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