

# RC3.5 – R.C. HAMMER

Compatibility – RE035, AD620, SR710



Black Diamond Drilling offers a complete range of reverse circulation hammers along with fully integrated R.C. Bits and Shrouds that have been designed to provide a world-class sampling system. Precision engineering enables our R.C. Hammers to excel in maintaining an efficient and smooth flow of drill cuttings to the surface, ensuring cleaner, more accurate samples. This leads to more reliable data for exploration and better overall hole quality.

## SPECIFICATIONS

Item	Diameter Ø	
	mm	inch
Hammer	94	3 11/16
Bit	100 - 127	3 15/16 – 4 1/2
Suits medium to hard ground conditions		

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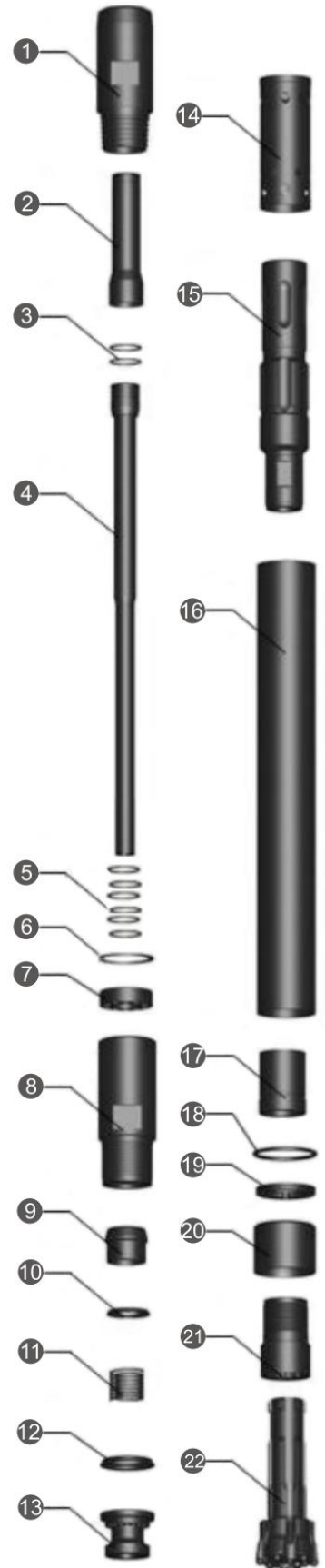


## Top Sub Assembly

Product Code	Description	Amt	Compatibility
1 RC3.5-TSUB-R3	Top Sub 3" Remet	1	33-035-R30
2 RC3.5-ASCREEN-R3	Adaptor Tube 3" Remet	1	20-035-R30
3 RC3.5-SK-ASCREEN-R3	O Ring	2	38-035-000

## Hammer Assembly

Product Code	Description	Amt	Compatibility
4 RC3.5-STUBE	Sample Tube	1	37-035-00U
5 RC3.5-SK-STUBE	O Ring (Sample Tube)	6	38-035-000
6 RC3.5-CIRCLIP	Circlip	1	-
7 RC3.5-DIST	Distributor	1	29-035-000
8 RC3.5-TBARREL	Top Barrel (Sub)	1	-
9 RC3.5-CVALVE	Check Valve/Plunger	1	25-035-000
10 RC3.5-SK-CVALVE	Y Ring (Check Valve)	1	38-035-000
11 RC3.5-SPRING	Spring	1	22-035-000
12 RC3.5-MUR-STEEL	Make Up Ring Steel	1	24-035-000
13 RC3.5-STUBE-MOUNT	Mount Sample Tube	1	37-035-00L
14 RC3.5-ICYL	Inner Cylinder	1	31-035-000
15 RC3.5-PISTON	Piston	1	36-035-000
16 RC3.5-ECYL	External Cylinder/Piston Case	1	35-035-000
17 RC3.5-BUSH	Bearing Bush	1	-
18 RC3.5-SK-SRING	O Ring (Bit Stop Ring)	1	38-035-000
19 RC3.5-SRING	Bit Stop Ring	1	27-035-000
20 RC3.5-SHROUD-104/102	Shroud	1	40-035M-307-RE035
21 RC3.5-DSUB	Drive Sub	1	16-035-000
22 RC3.5-104DC-TV	Drill Bit	1	63-035-400DC
23 BD531-DSUB	Seal Kit (3+5+10+18)	1	38-035-000



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**Black Diamond**  
BD Drill Drilling Services Australia

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## Bit Selection Table

Bit Product Code	Diameter		Compatibility
	Metric	Imperial	
RC3.5-100DC-TPD	100mm	4"	63-035-400DC
RC3.5-104DC-TPD	104mm	4 1/8"	-
RC3.5-108DC-TPD	108mm	4 1/4"	-
RC3.5-114DC-TPD	114mm	4 1/2"	-



## Shroud Selection Table

Shroud Product Code	Diameter		Compatibility
	Metric	Imperial	
RC3.5-SHROUD-100/98-DB	100mm	3 15/16"	40-035-315
RC3.5-SHROUD-104/102-DB	104mm	4 1/8"	-
RC3.5-SHROUD-108/106-F	108mm	4 1/4"	-
RC3.5-SHROUD-114/112-DB	114mm	4 1/2"	-
RC3.5-SHROUD-127/125	127mm	5"	-



## General Specifications

Description	Metric	Imperial
Piston Case OD	94mm	3 11/16"
Hammer length	1184mm	3' 10 3/8"
Hammer Weight	44.0kg	97lb
Bit Size Range	100 – 127mm	3 15/16" – 5"
Drill Rod Diameter	89mm	3 1/2"
Spanner Flat Width – Inner Cylinder	-	-
Spanner Flat Width – Top Sub	40mm	1 9/16"

## Air Consumption

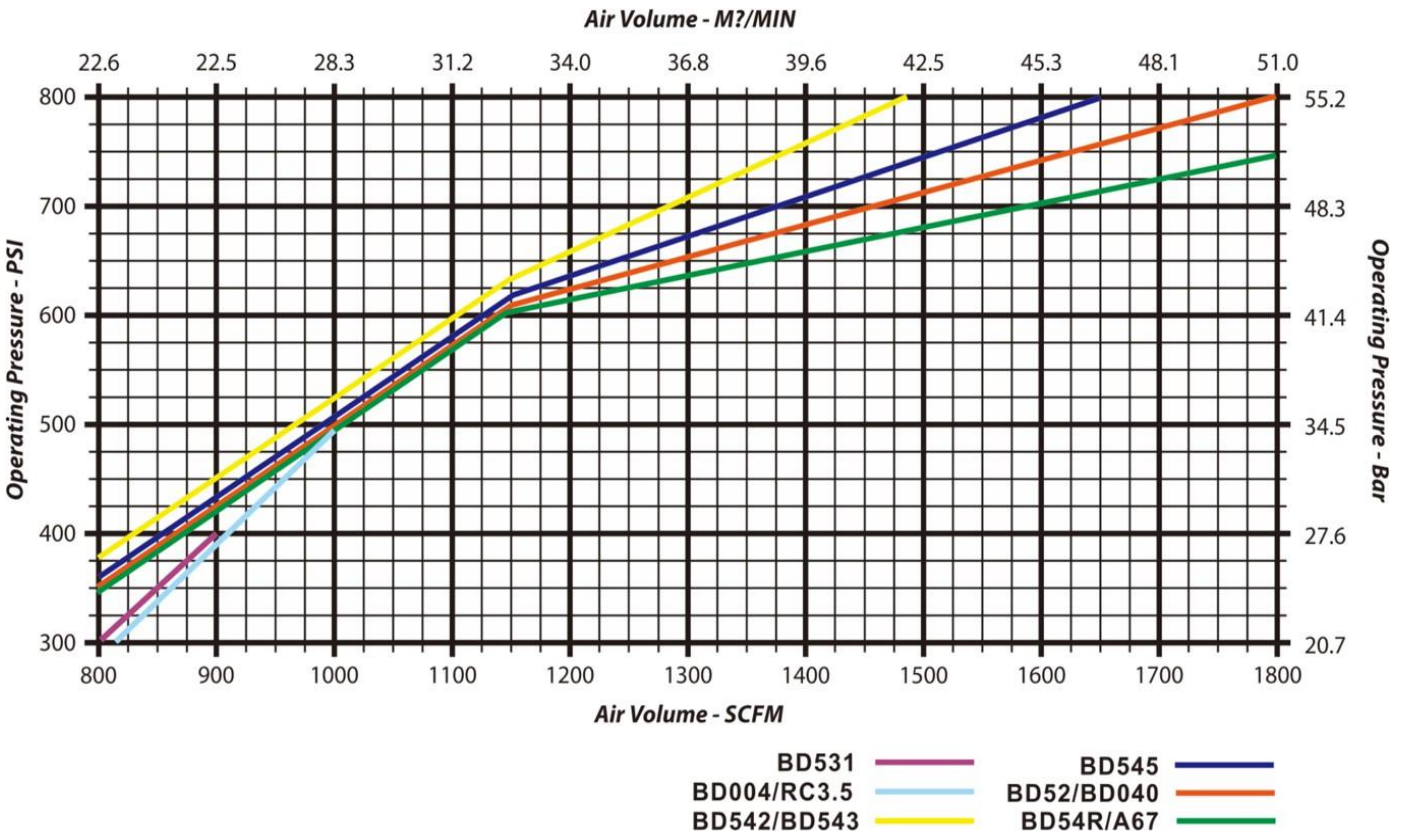
Pressure		Consumption	
psi	bar	cfm	m <sup>3</sup> /min
300	20.7	820	23.3
350	25.9	850	24
400	27.6	912	25.8
450	31.1	960	27.2
500	34.5	1000	28.3

## REVERSE CIRCULATION GENERAL SPECIFICATIONS

Hammer	BD351	RC3.5	BD004			BD542			BD543			BD545		BD040				BD52		BD54		A67	
Top sub thread	R3"	R3"	R3.5"	R4"	M4"	R3.5"	R4"	M4"	R4"	M4"	M4.5	R4.5	M4"	R4"	M4.5"	R4.5"	m4.5"	R4.5"	M4.5"	R4.5	M4.5"	R4.5	M4.5"
Package case size	(L)1100 (W)110 (H)120	(L)1230 (W)120 (H)150	(L)1300 (W)150 (H)180			(L)1230 (W)140 (H)170			(L)1260 (W)150 (H)180			(L)1300 (W)150 (H)180				(L)1300 (W)160 (H)190		(L)1300 (W)160 (H)190		(L)1330 (W)160 (H)190			
Recommended bit size, mm	86-100	100-110	111-125			113-133			123-140			127-140				133-143		136-146		136-146			
Bit shank	RE531	RC3.5	RE004			RE542			RE543			RE545		RE040				PR52		PR54		BD67	
External diameter, mm	81	94	107			109.5			116			117.5		121				120.5		130		132	
Length excl. thread, mm (Less bit)	1069	1184	1252			1191			1261			1210				1227		1294		1200			
Hammer weight, Kg (Less bit)	29	44	52			57			63			65		53.8	47.5	69.8	69.4	68.5		84.5		81.8	
Piston weight, Kg	4.8	8.3	10.5			11.6			11.6			13.5		13.6				14.3		16.8		17	
Wrench flat, mm	No wrench flat	(L)82 (W)40	(L)90 (W)40	(L)90 (W)50	(L)90 (W)50	(L)95 (W)45	(L)95 (W)45	(L)95 (W)50	(L)95 (W)45	(L)95 (W)50	(L)102 (W)50	(L)102 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)94 (W)50	(L)100 (W)50	(L)100 (W)50	(L)95 (W)51	

Drilling conditions and project specifications may require a larger air package to be used

## AIR CONSUMPTION/OPERATING PRESSURE



## REVERSE CIRCULATION SERVICE GUIDE

When breaking a hammer down, avoid placing breakout tools in the mid-section of the cylinder (barrel). Recommended breakout points are 130mm from each end of cylinder. Wrap around chain breakouts are recommended (see diagram). When holding bits for breakout, use a secure plate or opt to grab the bit head, but never on the gauge row buttons.

**This information is included with every Hammer purchase.**



**DO NOT APPLY HEAT OR DIRECT IMPACT TO HAMMER WHEN CRACKING JOINTS AS THIS TYPICALLY DAMAGES THE HAMMER.**



Figure 1: Gripping Locations for BD DRILL Reverse Circulation Hammer

**Lubrication:** Correct lubrication is critical to performance and longevity.

### Recommended:

- Oil Grade: SAE 320 Hammer Oil for most operating conditions
- Rate: 2 litre/hour minimum via automatic feeder
- Double the rate when injecting fluids such as water, foam & polymers
- Clean and relubricate the hammer each day after use to prevent corrosion and premature failure

