

BD531– R.C. HAMMER

Compatibility - RE531, AD610, SR731



Black Diamond
BD Drill Drilling Services Australia



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	81	3 1/4
Bit	85 - 102	3 3/8 - 4
Suits medium to hard ground conditions		

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Top Sub Assembly

	Product Code	Description	Amt	Compatibility
1	BD531-TSUB-R3	Top Sub 3" Remet	1	33-531-R30
2	BD531-SK-TSUB-R3	O Ring	2	38-531-000
3	BD531-ASCREENR3	Adaptor Tube 3" Remet	1	20-531-R30

Hammer Assembly

	Product Code	Description	Amt	Compatibility
4	BD531-SK-STUBE	O Ring (Sample Tube)	4	38-531-000
5	BD531-STUBE	Sample Tube	1	37-531-000
6	BD531-CIRCLIP	Circlip	1	41-D1300-0680
7	BD531-SK-DIST-1	O Ring (Distributor 1)	2	38-531-000
8	BD531-SK-DIST-2	O Ring (Distributor 2)	1	38-531-000
9	BD531-DIST	Distributor	1	29-531-000
10	BD531-CVALVE	Check Valve/Plunger	1	25-531-000
11	BD531-SK-CVALVE	O Ring (Check Valve)	1	38-531-000
12	BD531-SPRING	Spring	1	22-531-000
13	BD531-STUBE-MOUNT	Mount Sample Tube	1	-
14	BD531-ICYL	Inner Cylinder	1	31-531-000
15	BD531-SK-ICYL	O Ring (Inner Cylinder)	1	38-531-000
16	BD531-PISTON	Piston	1	36-531-000
17	BD531-ECYL	External Cylinder	1	35-531-000
18	BD531-SCOVER	Seal Cover	2	-
19	BD531-BUSH	Bearing Bush	1	26-531-000
20	BD531-SRING	Bit Stop Ring	1	27-531-000
21	BD531-SK-SRING	O Ring (Bit Stop Ring)	1	38-531-000
22	BD531-SHROUD-85/83-DB	Shroud	1	40-531-305
23	BD531-DSUB	Drive Sub	1	16-531-000
24	BD531-85DC-TPD	Drill Bit	1	62-531-306CF
25	BD531-SK	Seal Kit (2+4+7+8+11+15+18+21)	14	38-531-000



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Bit Selection Table

Bit Product Code	Diameter		Compatibility
	Metric	Imperial	
BD531-85DC-TPD	85mm	2 1/4"	
BD531-89DC-TPD	89mm	2 1/2"	62-531-308CF
BD531-95DC-TPD	95mm	2 3/4"	62-531-312CF
BD531-102DC-TPD	102mm	3"	62-531-400CF



Shroud Selection Table

Shroud Product Code	Diameter		Compatibility
	Metric	Imperial	
BD531-SHROUD-85/83-DB	85mm	3 3/8"	40-531-305
BD531-SHROUD-89/87-DB	89mm	3 1/2"	40-531-307
BD531-SHROUD-92/90-DB	92mm	3 5/8"	-
BD531-SHROUD-95/93-DB	95mm	3 3/4"	40-531-311
BD531-SHROUD-98/96-DB	98mm	3 7/8"	-
BD531-SHROUD-102/100-DB	102mm	4"	40-531-315



General Specifications

Description	Metric	Imperial
Piston Case OD	81mm	3 1/4"
Hammer length	1069mm	3' 6 1/16"
Hammer Weight	29.0 Kg	64lb
Bit Size Range	85-102mm	3 3/8" – 4"
Drill Rod Diameter	76mm	3"
Spanner Flat Width – Inner Cylinder	32mm	1 1/4"
Spanner Flat Width – Top Sub	-	-

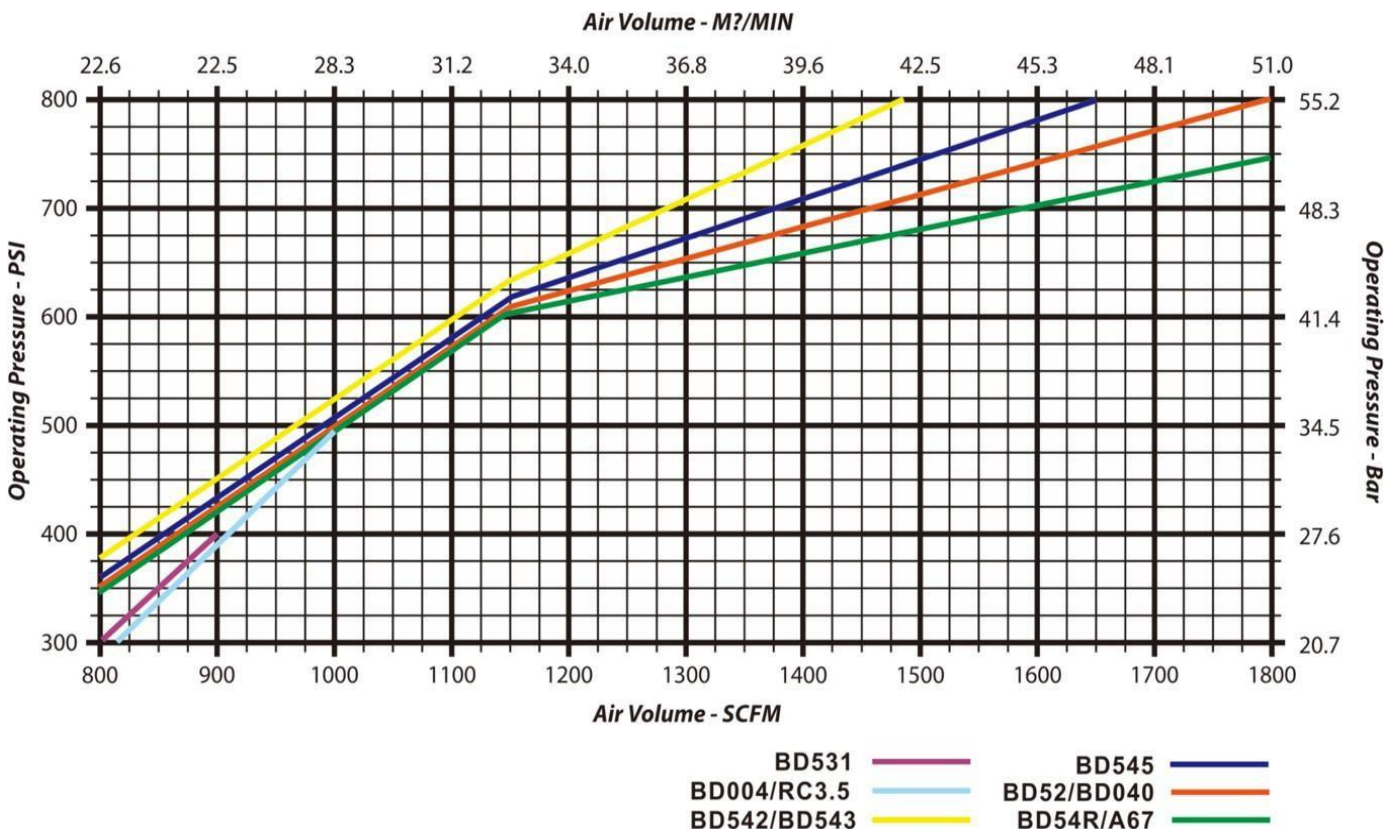
Air Consumption

Pressure		Consumption	
psi	bar	cfm	m³/min
150	10.3	220	6.2
200	13.8	300	8.4
250	17.2	340	9.5
300	20.7	415	11.7
350	24.1	504	14.2
400	27.5	585	16.5

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"
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)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		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		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)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.

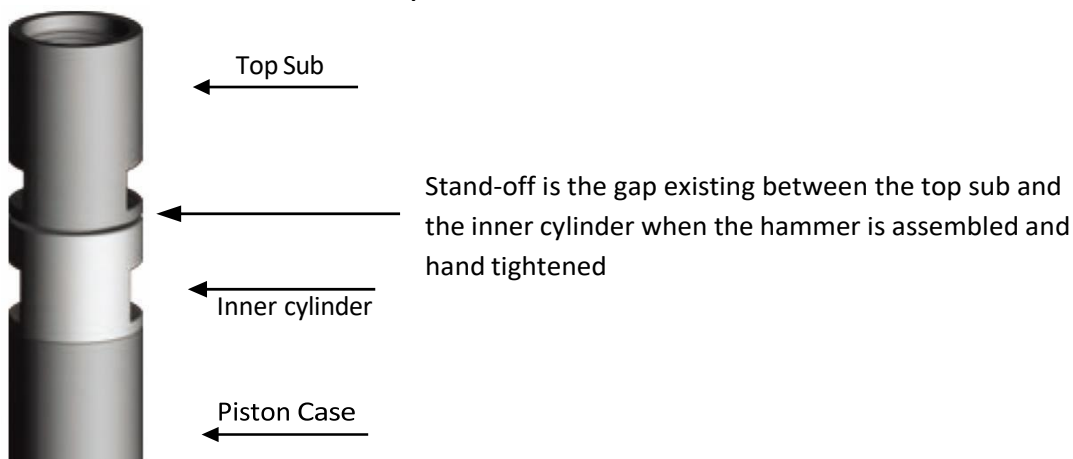


Figure 1: Gripping Locations for BD DRILL Reverse Circulation Hammer

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



Stand off

0.6mm to 1mm

0.024" to 0.04"