

BD531– R.C. HAMMER

Compatibility - RE531, AD610, SR731



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	86 - 102	3 3/8 - 4
Suits medium to hard ground conditions		

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Black Diamond
BD Drill Drilling Services Australia

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	Shroud	1	40-531-305
23 BD531-DSUB	Drive Sub	1	16-531-000
24 BD531-85DC-TV	Drill Bit	1	62-531-306CF
25 BD531-SK	Seal Kit (2+4+7+8+11+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 ¼"	
BD531-89DC-TPD	89mm	2 ½"	62-531-308CF
BD531-95DC-TP	95mm	2 ¾"	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 ½"	40-531-307
BD531-SHROUD-92/90-DB	92mm	3 5/8"	-
BD531-SHROUD-95/93-DB	95mm	3 ¾"	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 ¼"
Hammer length	1069mm	3' 6 1/16"
Hammer Weight	29.0 Kg	64lb
Bit Size Range	86-102mm	3 3/8" – 4"
Drill Rod Diameter	76mm	3"
Spanner Flat Width – Inner Cylinder	32mm	1 ¼"
Spanner Flat Width – Top Sub	-	-

Air Consumption

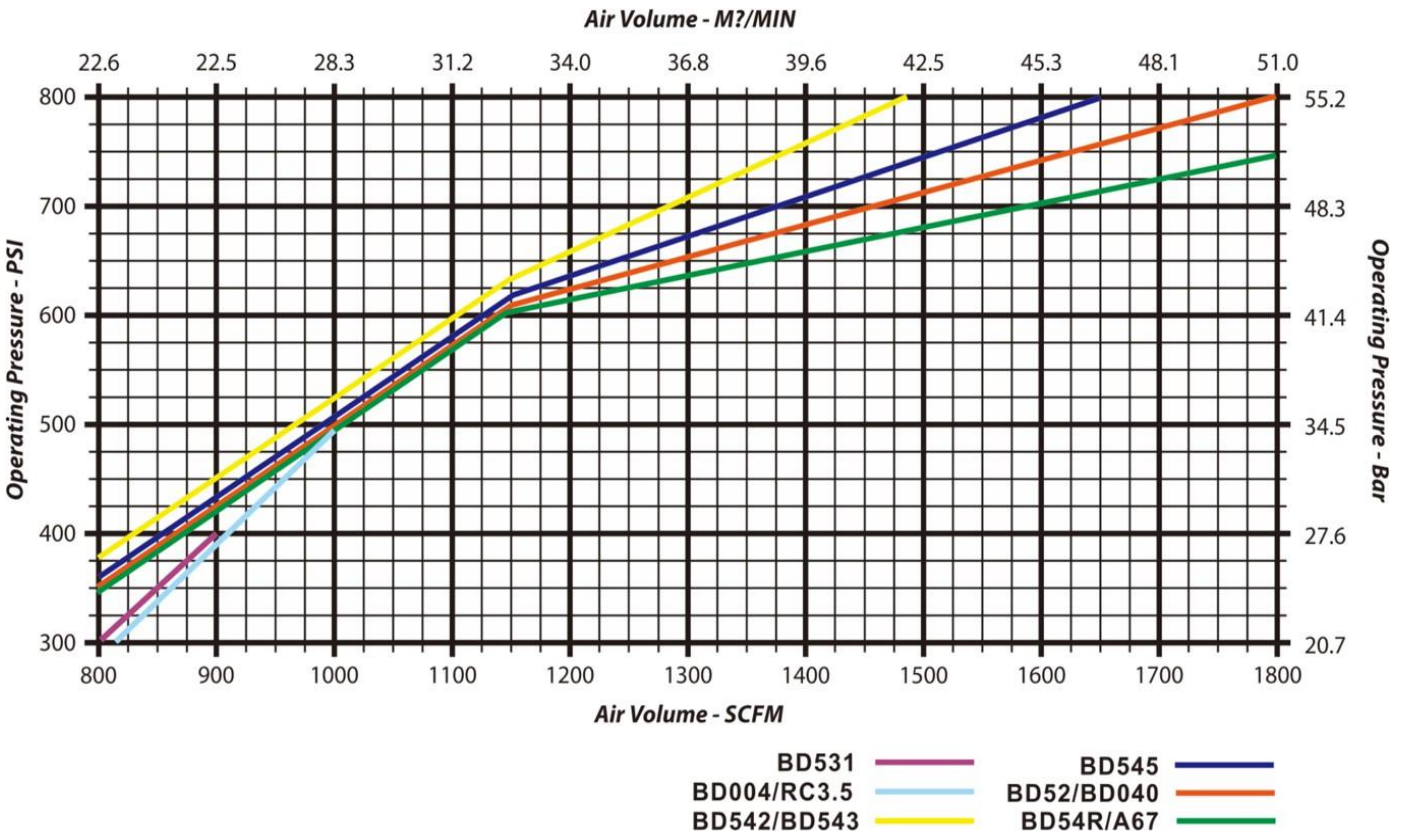
Pressure		Consumption	
psi	bar	cfm	m³/min
150	10.3	220	6.2
200	13.8	300	8.4
250	17.2	340	9.5
300	20.7	415	11.7
350	24.1	504	14.2
400	27.5	585	16.5

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)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)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

