



RHINO DRILLS

DRILLING PRODUCTS

Diameters:

- 3mm-20mm (.118"-.787")
- Common inch and fractional diameters

Lengths

- 3xD
- 5xD
- 8xD
- 12xD **NEW**

Geometry

- 2-Flute
- 140° Split Point
- 4-Facet
- Double Margin

Grade

- IN2205: PVD-TiAlCN

Materials

- Steel
- Stainless Steel
- Titanium



New Series of Solid Carbide Drills For Steel, Stainless Steel and Titanium

Ingersoll is pleased to introduce the addition of 12xD length to the comprehensive line of solid carbide drills for general use. These 2-flute double margin drills are perfect for day to day or high production applications in ferrous materials and titanium.

Standard drills are available in 3xD, 5xD, 8xD and 12xD lengths. Diameters range from 3.0mm-20.0mm and include a large selection of inch/fractional sizes ideal for the North American market. The unique slate-blue colored PVD-TiAlCN coating provides an excellent barrier against heat and wear, and acts as a lubricant to minimize build-up on the cutting edge.

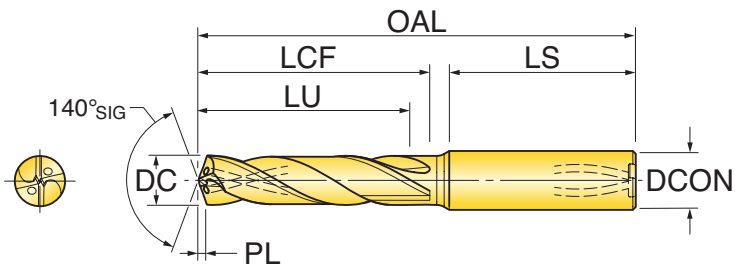
Features & Benefits:

- 140° split point, 4-facet geometry provides impressive feed rate capability and accuracy
- Double margin provides excellent stability, straightness and surface finish
- Very wide range of diameters including fractional sizes
- Available in 3xD, 5xD, 8xD and now also 12xD lengths!
- No pilot drill or pecking cycle required, even for 8xD and 12xD drills
- Grade IN2205 - Nano-layered PVD-TiAlCN features a unique slate blue color on a submicron substrate, providing impressive tool life





RHINODRILLS PART NUMBER IDENTIFICATION (AND TOLERANCES)



	Series	DC Cut Diameter	LU Usable Length	Adaption Code	Hand	Dev.
		(mm)	(mm)			
Ex. 1	DE	0635	024	T0	R	01
Ex. 2	DE	1050	098	T2	R	01



Example 1: DE0635024TOR01

- RhinoDrill DE series
- 6.35mm (.2500") Cutting Dia
- 24mm Usable Length
- 8mm Shank

Example 2: DE1050098T2R01

- RhinoDrill DE series
- 10.50mm (.4134") Cutting Dia
- 98mm Usable Length
- 12mm Shank

Adaption Code	
T7	6mm Cylindrical
T0	8mm Cylindrical
T1	10mm Cylindrical
T2	12mm Cylindrical
U8	14mm Cylindrical
T3	16mm Cylindrical
U2	18mm Cylindrical
T4	20mm Cylindrical

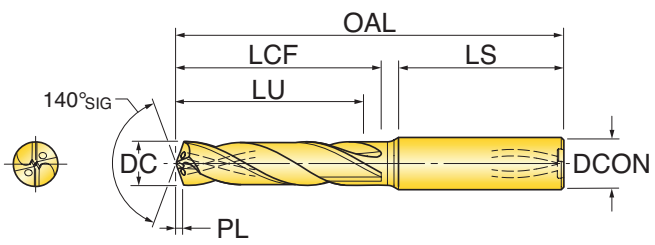
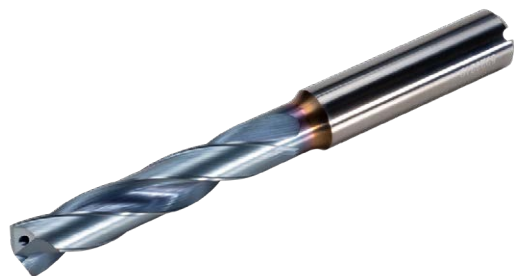
Tolerances:

Tool Diameter	DC Cut Diameter (h7)	DCON Shank Diameter (h6)
0 - 3mm	+ 0.000 / - 0.010mm	+ 0.000 / - 0.006mm
3.01 - 6mm	+ 0.000 / - 0.012mm	+ 0.000 / - 0.008mm
6.01 - 10mm	+ 0.000 / - 0.015mm	+ 0.000 / - 0.009mm
10.01 - 18mm	+ 0.000 / - 0.018mm	+ 0.000 / - 0.011mm



RHINO DRILLS SERIES DE (3XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



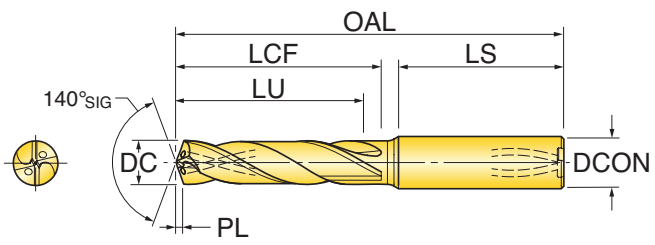
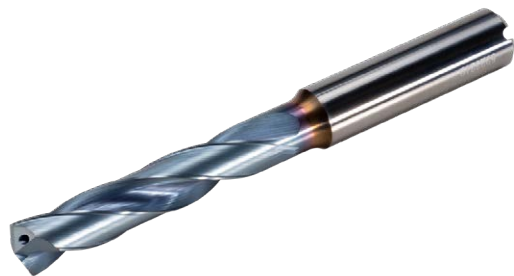
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0300015T7R01	3.00	0.1181		0.55	15.5	20	36	62	6
DE0310015T7R01	3.10	0.1220		0.56	15.4	20	36	62	6
DE0318015T7R01	3.18	0.1250	1/8"	0.58	15.2	20	36	62	6
DE0320015T7R01	3.20	0.1260		0.58	15.2	20	36	62	6
DE0330015T7R01	3.30	0.1299		0.60	15.1	20	36	62	6
DE0340014T7R01	3.40	0.1339		0.62	14.9	20	36	62	6
DE0350014T7R01	3.50	0.1378		0.64	14.7	20	36	62	6
DE0357014T7R01	3.57	0.1406	9/64"	0.65	14.6	20	36	62	6
DE0360014T7R01	3.60	0.1417		0.65	14.6	20	36	62	6
DE0370014T7R01	3.70	0.1457		0.67	14.5	20	36	62	6
DE0380018T7R01	3.80	0.1496		0.69	18.3	24	36	66	6
DE0390018T7R01	3.90	0.1535		0.71	18.2	24	36	66	6
DE0397018T7R01	3.97	0.1563	5/32"	0.72	18.0	24	36	66	6
DE0400018T7R01	4.00	0.1575		0.73	18.0	24	36	66	6
DE0410017T7R01	4.10	0.1614		0.75	17.9	24	36	66	6
DE0420017T7R01	4.20	0.1654		0.76	17.7	24	36	66	6
DE0430017T7R01	4.30	0.1693		0.78	17.6	24	36	66	6
DE0437017T7R01	4.37	0.1719	11/64"	0.79	17.5	24	36	66	6
DE0440017T7R01	4.40	0.1732		0.80	17.4	24	36	66	6
DE0450017T7R01	4.50	0.1772		0.82	17.2	24	36	66	6
DE0460017T7R01	4.60	0.1811		0.84	17.1	24	36	66	6
DE0470017T7R01	4.70	0.1850	#13	0.86	17.0	24	36	66	6
DE0476020T7R01	4.76	0.1875	3/16"	0.87	20.9	28	36	66	6
DE0480020T7R01	4.80	0.1890	#12	0.87	20.8	28	36	66	6
DE0490020T7R01	4.90	0.1929		0.89	20.7	28	36	66	6
DE0500020T7R01	5.00	0.1969		0.91	20.5	28	36	66	6
DE0510020T7R01	5.10	0.2008		0.93	20.4	28	36	66	6
DE0516020T7R01	5.16	0.2031	13/64"	0.94	20.3	28	36	66	6
DE0518020T7R01	5.18	0.2040	#6	0.94	20.2	28	36	66	6
DE0520020T7R01	5.20	0.2047		0.95	20.2	28	36	66	6

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RHINO DRILLS SERIES DE (3XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



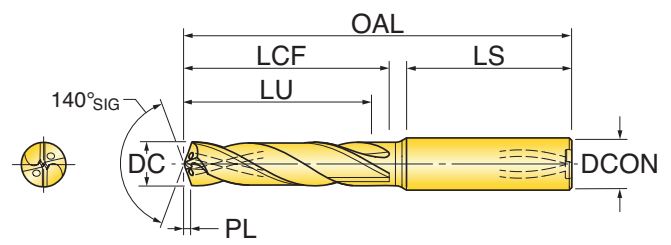
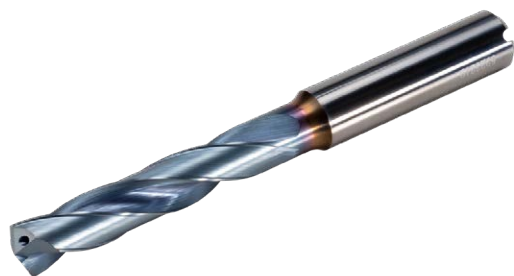
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0530020T7R01	5.30	0.2087		0.96	20.0	28	36	66	6
DE0540019T7R01	5.40	0.2126		0.98	19.9	28	36	66	6
DE0550019T7R01	5.50	0.2165		1.00	19.8	28	36	66	6
DE0555019T7R01	5.55	0.2187	7/32"	1.01	19.7	28	36	66	6
DE0560019T7R01	5.60	0.2205		1.02	19.6	28	36	66	6
DE0570019T7R01	5.70	0.2244		1.04	19.5	28	36	66	6
DE0580019T7R01	5.80	0.2283		1.06	19.3	28	36	66	6
DE0590019T7R01	5.90	0.2323		1.07	19.1	28	36	66	6
DE0595019T7R01	5.95	0.2344	15/64"	1.08	19.1	28	36	66	6
DE0600019T7R01	6.00	0.2362		1.09	19.0	28	36	66	6
DE0610024T0R01	6.10	0.2402		1.11	24.8	34	36	79	8
DE0620024T0R01	6.20	0.2441		1.13	24.7	34	36	79	8
DE0630024T0R01	6.30	0.2480		1.15	24.6	34	36	79	8
DE0635024T0R01	6.35	0.2500	1/4"	1.16	24.5	34	36	79	8
DE0640024T0R01	6.40	0.2520		1.16	24.4	34	36	79	8
DE0650024T0R01	6.50	0.2559		1.18	24.3	34	36	79	8
DE0660024T0R01	6.60	0.2598		1.20	24.1	34	36	79	8
DE0670023T0R01	6.70	0.2638		1.22	23.9	34	36	79	8
DE0675023T0R01	6.75	0.2656	17/64"	1.23	23.9	34	36	79	8
DE0680023T0R01	6.80	0.2677		1.24	23.8	34	36	79	8
DE0690030T0R01	6.90	0.2717		1.26	30.7	41	36	79	8
DE0700030T0R01	7.00	0.2756		1.27	30.5	41	36	79	8
DE0710030T0R01	7.10	0.2795		1.29	30.4	41	36	79	8
DE0715030T0R01	7.15	0.2813	9/32"	1.30	30.3	41	36	79	8
DE0720030T0R01	7.20	0.2835		1.31	30.2	41	36	79	8
DE0730030T0R01	7.30	0.2874		1.33	30.1	41	36	79	8
DE0740029T0R01	7.40	0.2913		1.35	29.9	41	36	79	8
DE0750029T0R01	7.50	0.2953		1.37	29.8	41	36	79	8
DE0754029T0R01	7.54	0.2969	19/64"	1.37	29.7	41	36	79	8
DE0770029T0R01	7.70	0.3031		1.40	29.5	41	36	79	8

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RHINO DRILLS SERIES DE (3XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



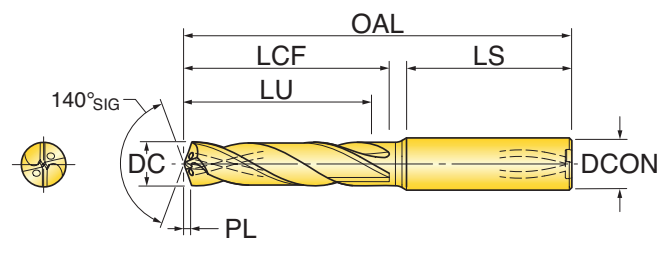
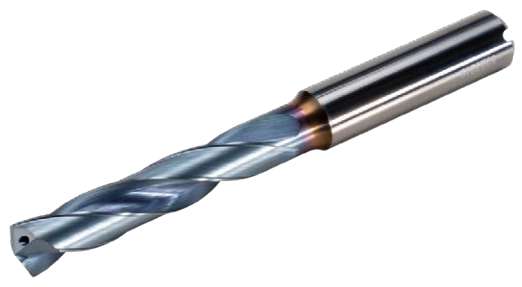
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0780029T0R01	7.80	0.3071		1.42	29.3	41	36	79	8
DE0790029T0R01	7.90	0.3110		1.44	29.2	41	36	79	8
DE0794029T0R01	7.94	0.3125	5/16"	1.44	29.1	41	36	79	8
DE0800029T0R01	8.00	0.3150		1.46	29.0	41	36	79	8
DE0810034T1R01	8.10	0.3189		1.47	34.9	47	40	89	10
DE0820034T1R01	8.20	0.3228		1.49	34.7	47	40	89	10
DE0830034T1R01	8.30	0.3268		1.51	34.5	47	40	89	10
DE0833034T1R01	8.33	0.3281	21/64"	1.52	34.5	47	40	89	10
DE0840034T1R01	8.40	0.3307		1.53	34.4	47	40	89	10
DE0850034T1R01	8.50	0.3346		1.55	34.3	47	40	89	10
DE0860034T1R01	8.60	0.3386		1.57	34.1	47	40	89	10
DE0870034T1R01	8.70	0.3425		1.58	34.0	47	40	89	10
DE0873033T1R01	8.73	0.3437	11/32"	1.59	33.9	47	40	89	10
DE0880033T1R01	8.80	0.3465		1.60	33.8	47	40	89	10
DE0900033T1R01	9.00	0.3543		1.64	33.5	47	40	89	10
DE0913033T1R01	9.13	0.3594	23/64"	1.66	33.3	47	40	89	10
DE0920033T1R01	9.20	0.3622		1.67	33.2	47	40	89	10
DE0950032T1R01	9.50	0.3740		1.73	32.8	47	40	89	10
DE0953032T1R01	9.53	0.3750	3/8"	1.73	32.7	47	40	89	10
DE0960032T1R01	9.60	0.3780		1.75	32.6	47	40	89	10
DE0980032T1R01	9.80	0.3858		1.78	32.3	47	40	89	10
DE0990032T1R01	9.90	0.3898		1.80	32.1	47	40	89	10
DE0992032T1R01	9.92	0.3906	25/64"	1.81	32.1	47	40	89	10
DE1000032T1R01	10.00	0.3937		1.82	32.0	47	40	89	10
DE1010039T2R01	10.10	0.3976		1.84	39.9	55	45	102	12
DE1020039T2R01	10.20	0.4016		1.86	39.7	55	45	102	12
DE1030039T2R01	10.30	0.4055		1.87	39.6	55	45	102	12
DE1032039T2R01	10.32	0.4063	13/32"	1.88	39.5	55	45	102	12
DE1040039T2R01	10.40	0.4094		1.89	39.4	55	45	102	12
DE1050039T2R01	10.50	0.4134		1.91	39.3	55	45	102	12

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RHINO DRILLS SERIES DE (3XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



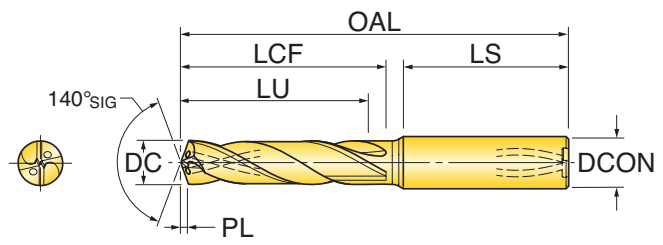
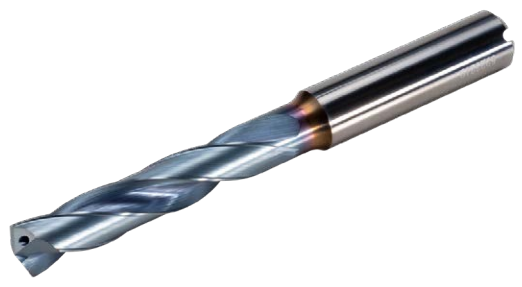
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1072038T2R01	10.72	0.4219	27/64"	1.95	38.9	55	45	102	12
DE1080038T2R01	10.80	0.4252		1.97	38.8	55	45	102	12
DE1100038T2R01	11.00	0.4331		2.00	38.3	55	45	102	12
DE1111038T2R01	11.11	0.4375	7/16"	2.02	38.3	55	45	102	12
DE1120038T2R01	11.20	0.4409		2.04	38.2	55	45	102	12
DE1150037T2R01	11.50	0.4528		2.09	37.7	55	45	102	12
DE1151037T2R01	11.51	0.4531	29/64"	2.09	37.7	55	45	102	12
DE1170037T2R01	11.70	0.4606		2.13	37.5	55	45	102	12
DE1180037T2R01	11.80	0.4646		2.15	37.3	55	45	102	12
DE1190037T2R01	11.90	0.4687	15/32"	2.17	37.1	55	45	102	12
DE1200037T2R01	12.00	0.4724		2.18	37.0	55	45	102	12
DE1210041U8R01	12.10	0.4764		2.20	41.8	60	45	107	14
DE1220041U8R01	12.20	0.4803		2.22	41.7	60	45	107	14
DE1230041U8R01	12.30	0.4843		2.24	41.5	60	45	107	14
DE1230041U8R00	12.30	0.4844	31/64"	2.24	41.5	60	45	107	14
DE1250041U8R01	12.50	0.4921		2.27	41.3	60	45	107	14
DE1260041U8R01	12.60	0.4961		2.29	41.1	60	45	107	14
DE1270040U8R01	12.70	0.5000	1/2"	2.31	40.9	60	45	107	14
DE1300040U8R01	13.00	0.5118		2.37	40.5	60	45	107	14
DE1330040U8R01	13.30	0.5236		2.42	40.1	60	45	107	14
DE1350039U8R01	13.50	0.5313	17/32"	2.46	39.8	60	45	107	14
DE1350039U8R00	13.50	0.5315		2.46	39.8	60	45	107	14
DE1400039U8R01	14.00	0.5512		2.55	39.0	60	45	107	14
DE1429043T3R01	14.29	0.5625	9/16"	2.60	43.6	65	48	115	16
DE1450043T3R01	14.50	0.5709		2.64	43.3	65	48	115	16
DE1500042T3R01	15.00	0.5906		2.73	42.5	65	48	115	16
DE1550041T3R01	15.50	0.6102		2.82	41.8	65	48	115	16
DE1588041T3R01	15.88	0.6250	5/8"	2.89	41.2	65	48	115	16
DE1600041T3R01	16.00	0.6299		2.91	41.0	65	48	115	16
DE1650048U2R01	16.50	0.6496		3.00	48.2	73	48	123	18

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RHINODRILLS SERIES DE (3XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES

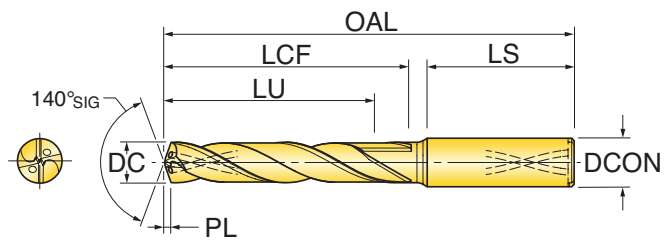


Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1700047U2R01	17.00	0.6693		3.09	47.5	73	48	123	18
DE1750046U2R01	17.50	0.6890		3.18	46.7	73	48	123	18
DE1800046U2R01	18.00	0.7087		3.28	46.0	73	48	123	18
DE1850051T4R01	18.50	0.7283		3.37	51.3	79	50	131	20
DE1905050T4R01	19.05	0.7500	3/4"	3.47	50.4	79	50	131	20
DE1950049T4R01	19.50	0.7677		3.55	49.8	79	50	131	20
DE2000049T4R01	20.00	0.7874		3.64	49.0	79	50	131	20



RHINO DRILLS SERIES DE (5XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



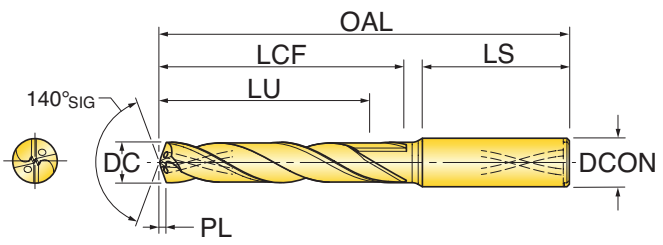
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0300023T7R01	3.00	0.1181		0.55	23.5	28	36	66	6
DE0310023T7R01	3.10	0.1220		0.56	23.4	28	36	66	6
DE0318023T7R01	3.18	0.1250	1/8"	0.58	23.2	28	36	66	6
DE0320023T7R01	3.20	0.1260		0.58	23.2	28	36	66	6
DE0330023T7R01	3.30	0.1299		0.60	23.1	28	36	66	6
DE0340022T7R01	3.40	0.1339		0.62	22.9	28	36	66	6
DE0350022T7R01	3.50	0.1378		0.64	22.8	28	36	66	6
DE0357022T7R01	3.57	0.1406	9/64"	0.65	22.6	28	36	66	6
DE0360022T7R01	3.60	0.1417		0.65	22.6	28	36	66	6
DE0370022T7R01	3.70	0.1457		0.67	22.4	28	36	66	6
DE0380030T7R01	3.80	0.1496		0.69	30.3	36	36	74	6
DE0390030T7R01	3.90	0.1535		0.71	30.2	36	36	74	6
DE0397030T7R01	3.97	0.1563	5/32"	0.72	30.0	36	36	74	6
DE0400030T7R01	4.00	0.1575		0.73	30.0	36	36	74	6
DE0410029T7R01	4.10	0.1614		0.75	29.9	36	36	74	6
DE0420029T7R01	4.20	0.1654		0.76	29.7	36	36	74	6
DE0430029T7R01	4.30	0.1693		0.78	29.6	36	36	74	6
DE0437029T7R01	4.37	0.1719	11/64"	0.79	29.5	36	36	74	6
DE0440029T7R01	4.40	0.1732		0.80	29.4	36	36	74	6
DE0450029T7R01	4.50	0.1772		0.82	29.2	36	36	74	6
DE0460029T7R01	4.60	0.1811		0.84	29.1	36	36	74	6
DE0470029T7R01	4.70	0.1850	#13	0.86	29.0	36	36	74	6
DE0476036T7R01	4.76	0.1875	3/16"	0.87	36.9	44	36	82	6
DE0480036T7R01	4.80	0.1890	#12	0.87	36.8	44	36	82	6
DE0490036T7R01	4.90	0.1929		0.89	36.7	44	36	82	6
DE0500036T7R01	5.00	0.1969		0.91	36.5	44	36	82	6
DE0510036T7R01	5.10	0.2008		0.93	36.3	44	36	82	6
DE0516036T7R01	5.16	0.2031	13/64"	0.94	36.3	44	36	82	6
DE0518036T7R01	5.18	0.2040		0.94	36.2	44	36	82	6
DE0520036T7R01	5.20	0.2047		0.95	36.2	44	36	82	6

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RHINO DRILLS SERIES DE (5XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



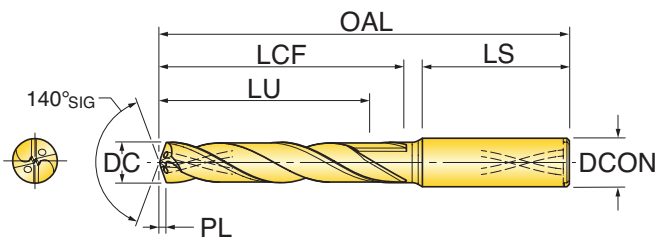
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DC ON Shank Dia. (mm)
DE0530036T7R01	5.30	0.2087		0.96	36.1	44	36	82	6
DE0540035T7R01	5.40	0.2126		0.98	35.9	44	36	82	6
DE0550035T7R01	5.50	0.2165		1.00	35.8	44	36	82	6
DE0555035T7R01	5.55	0.2187	7/32"	1.01	35.7	44	36	82	6
DE0560035T7R01	5.60	0.2205		1.02	35.6	44	36	82	6
DE0570035T7R01	5.70	0.2244		1.04	35.5	44	36	82	6
DE0580035T7R01	5.80	0.2283		1.06	35.3	44	36	82	6
DE0590035T7R01	5.90	0.2323		1.07	35.2	44	36	82	6
DE0595035T7R01	5.95	0.2344	15/64"	1.08	35.1	44	36	82	6
DE0600035T7R01	6.00	0.2362		1.09	35.0	44	36	82	6
DE0610043T0R01	6.10	0.2402		1.11	43.8	53	36	91	8
DE0620043T0R01	6.20	0.2441		1.13	43.7	53	36	91	8
DE0630043T0R01	6.30	0.2480		1.15	43.6	53	36	91	8
DE0635043T0R01	6.35	0.2500	1/4"	1.16	43.5	53	36	91	8
DE0640043T0R01	6.40	0.2520		1.16	43.4	53	36	91	8
DE0650043T0R01	6.50	0.2559		1.18	43.3	53	36	91	8
DE0660043T0R01	6.60	0.2598		1.20	43.1	53	36	91	8
DE0670042T0R01	6.70	0.2638		1.22	42.9	53	36	91	8
DE0675042T0R01	6.75	0.2656	17/64"	1.23	42.9	53	36	91	8
DE0680042T0R01	6.80	0.2677		1.24	42.8	53	36	91	8
DE0690042T0R01	6.90	0.2717		1.26	42.6	53	36	91	8
DE0700042T0R01	7.00	0.2756		1.27	42.5	53	36	91	8
DE0710042T0R01	7.10	0.2795		1.29	42.4	53	36	91	8
DE0715042T0R01	7.15	0.2813	9/32"	1.30	42.3	53	36	91	8
DE0720042T0R01	7.20	0.2835		1.31	42.2	53	36	91	8
DE0730042T0R01	7.30	0.2874		1.33	42.0	53	36	91	8
DE0740041T0R01	7.40	0.2913		1.35	41.9	53	36	91	8
DE0750041T0R01	7.50	0.2953		1.37	41.7	53	36	91	8
DE0754041T0R01	7.54	0.2969	19/64"	1.37	41.7	53	36	91	8
DE0770042T0R01	7.70	0.3031		1.40	42.5	53	36	91	8

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RHINO DRILLS SERIES DE (5XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



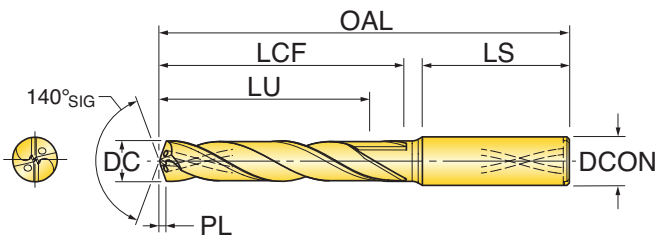
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DC ON Shank Dia. (mm)
DE0780041T0R01	7.80	0.3071		1.42	41.3	53	36	91	8
DE0790041T0R01	7.90	0.3110		1.44	41.2	53	36	91	8
DE0794041T0R01	7.94	0.3125	5/16"	1.44	41.1	53	36	91	8
DE0800041T0R01	8.00	0.3150		1.46	41.0	53	36	91	8
DE0810048T1R01	8.10	0.3189		1.47	48.9	61	40	103	10
DE0820048T1R01	8.20	0.3228		1.49	48.7	61	40	103	10
DE0830048T1R01	8.30	0.3268		1.51	48.5	61	40	103	10
DE0833048T1R01	8.33	0.3281	21/64"	1.52	48.5	61	40	103	10
DE0840048T1R01	8.40	0.3307		1.53	48.4	61	40	103	10
DE0850048T1R01	8.50	0.3346		1.55	48.3	61	40	103	10
DE0860048T1R01	8.60	0.3386		1.57	48.1	61	40	103	10
DE0870048T1R01	8.70	0.3425		1.58	48.0	61	40	103	10
DE0873047T1R01	8.73	0.3437	11/32"	1.59	47.9	61	40	103	10
DE0880047T1R01	8.80	0.3465		1.60	47.8	61	40	103	10
DE0900047T1R01	9.00	0.3543		1.64	47.5	61	40	103	10
DE0913047T1R01	9.13	0.3594	23/64"	1.66	47.3	61	40	103	10
DE0920047T1R01	9.20	0.3622		1.67	47.2	61	40	103	10
DE0950046T1R01	9.50	0.3740		1.73	46.8	61	40	103	10
DE0953046T1R01	9.53	0.3750	3/8"	1.73	46.7	61	40	103	10
DE0960046T1R01	9.60	0.3780		1.75	46.6	61	40	103	10
DE0980046T1R01	9.80	0.3858		1.78	46.3	61	40	103	10
DE0990046T1R01	9.90	0.3898		1.80	46.1	61	40	103	10
DE0992046T1R01	9.92	0.3906	25/64"	1.81	46.1	61	40	103	10
DE1000046T1R01	10.00	0.3937		1.82	46.0	61	40	103	10
DE1010055T2R01	10.10	0.3976		1.84	55.9	71	45	118	12
DE1020055T2R01	10.20	0.4016		1.86	55.7	71	45	118	12
DE1030055T2R01	10.30	0.4055		1.87	55.6	71	45	118	12
DE1032055T2R01	10.32	0.4063	13/32"	1.88	55.5	71	45	118	12
DE1040055T2R01	10.40	0.4094		1.89	55.4	71	45	118	12
DE1050055T2R01	10.50	0.4134		1.91	55.3	71	45	118	12

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RHINO DRILLS SERIES DE (5XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



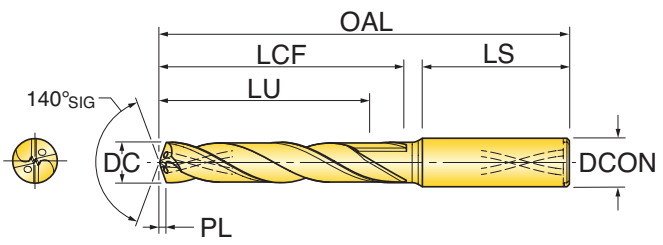
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DC ON Shank Dia. (mm)
DE1072054T2R01	10.72	0.4219	27/64"	1.95	54.9	71	45	118	12
DE1080054T2R01	10.80	0.4252		1.97	54.8	71	45	118	12
DE1100054T2R01	11.00	0.4331		2.00	54.5	71	45	118	12
DE1110054T2R01	11.10	0.4370		2.02	54.4	71	45	118	12
DE1111054T2R01	11.11	0.4375	7/16"	2.02	54.3	71	45	118	12
DE1120054T2R01	11.20	0.4409		2.04	54.2	71	45	118	12
DE1150053T2R01	11.50	0.4528		2.09	53.7	71	45	118	12
DE1151053T2R01	11.51	0.4531	29/64"	2.09	53.7	71	45	118	12
DE1170053T2R01	11.70	0.4606		2.13	53.5	71	45	118	12
DE1180053T2R01	11.80	0.4646		2.15	53.3	71	45	118	12
DE1190053T2R01	11.90	0.4687	15/32"	2.17	53.1	71	45	118	12
DE1200053T2R01	12.00	0.4724		2.18	53.0	71	45	118	12
DE1210058U8R01	12.10	0.4764		2.20	58.8	77	45	124	14
DE1220058U8R01	12.20	0.4803		2.22	58.7	77	45	124	14
DE1230058U8R01	12.30	0.4843		2.24	58.5	77	45	124	14
DE1230058U8R00	12.30	0.4844	31/64"	2.24	58.5	77	45	124	14
DE1250058U8R01	12.50	0.4921		2.27	58.3	77	45	124	14
DE1260058U8R01	12.60	0.4961		2.29	58.1	77	45	124	14
DE1270058U8R01	12.70	0.5000	1/2"	2.31	58.0	77	45	124	14
DE1300057U8R01	13.00	0.5118		2.37	57.5	77	45	124	14
DE1330057U8R01	13.30	0.5236		2.42	57.1	77	45	124	14
DE1350056U8R01	13.50	0.5313	17/32"	2.46	56.8	77	45	124	14
DE1350056U8R00	13.50	0.5315		2.46	56.8	77	45	124	14
DE1400056U8R01	14.00	0.5512		2.55	56.0	77	45	124	14
DE1429061T3R01	14.29	0.5625	9/16"	2.60	61.6	83	48	133	16
DE1450061T3R01	14.50	0.5709		2.64	61.2	83	48	133	16
DE1500060T3R01	15.00	0.5906		2.73	60.5	83	48	133	16
DE1550059T3R01	15.50	0.6102		2.82	59.8	83	48	133	16
DE1588059T3R01	15.88	0.6250	5/8"	2.89	59.2	83	48	133	16
DE1600059T3R01	16.00	0.6299		2.91	59.0	83	48	133	16

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RHINO DRILLS SERIES DE (5XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES

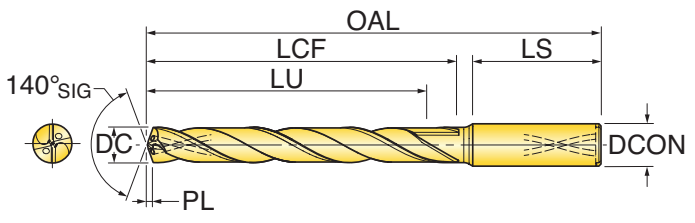


Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1650068U2R01	16.50	0.6496		3.00	68.2	93	48	143	18
DE1700067U2R01	17.00	0.6693		3.09	67.5	93	48	143	18
DE1750066U2R01	17.50	0.6890		3.18	66.7	93	48	143	18
DE1800066U2R01	18.00	0.7087		3.28	66.0	93	48	143	18
DE1850073T4R01	18.50	0.7283		3.37	73.3	101	50	153	20
DE1905072T4R01	19.05	0.7500	3/4"	3.47	72.4	101	50	153	20
DE1950071T4R01	19.50	0.7677		3.55	71.7	101	50	153	20
DE2000071T4R01	20.00	0.7874		3.64	71.0	101	50	153	20



RHINO DRILLS SERIES DE (8XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



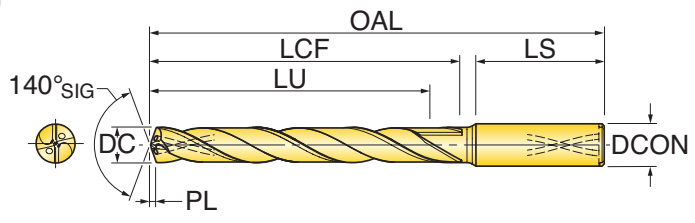
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0300029T7R01	3.00	0.1181		0.55	29.5	34	36	72	6
DE0310029T7R01	3.10	0.1220		0.56	29.4	34	36	72	6
DE0318029T7R01	3.18	0.1250	1/8"	0.58	29.2	34	36	72	6
DE0320029T7R01	3.20	0.1260		0.58	29.2	34	36	72	6
DE0330029T7R01	3.30	0.1299		0.60	29.1	34	36	72	6
DE0340028T7R01	3.40	0.1339		0.62	28.9	34	36	72	6
DE0350028T7R01	3.50	0.1378		0.64	28.8	34	36	72	6
DE0357028T7R01	3.57	0.1406	9/64"	0.65	28.6	34	36	72	6
DE0360028T7R01	3.60	0.1417		0.65	28.6	34	36	72	6
DE0370028T7R01	3.70	0.1457		0.67	28.5	34	36	72	6
DE0380037T7R01	3.80	0.1496		0.69	37.3	43	36	81	6
DE0390037T7R01	3.90	0.1535		0.71	37.2	43	36	81	6
DE0397037T7R01	3.97	0.1563	5/32"	0.72	37.0	43	36	81	6
DE0400037T7R01	4.00	0.1575		0.73	37.0	43	36	81	6
DE0410036T7R01	4.10	0.1614		0.75	36.9	43	36	81	6
DE0420036T7R01	4.20	0.1654		0.76	36.7	43	36	81	6
DE0430036T7R01	4.30	0.1693		0.78	36.6	43	36	81	6
DE0437036T7R01	4.37	0.1719	11/64"	0.79	36.5	43	36	81	6
DE0440036T7R01	4.40	0.1732		0.80	36.4	43	36	81	6
DE0450036T7R01	4.50	0.1772		0.82	36.2	43	36	81	6
DE0460036T7R01	4.60	0.1811		0.84	36.1	43	36	81	6
DE0465036T7R01	4.65	0.1831		0.85	36.0	43	36	81	6
DE0470036T7R01	4.70	0.1850	#13	0.86	36.0	43	36	81	6
DE0476049T7R01	4.76	0.1875	3/16"	0.87	49.9	57	36	95	6
DE0480049T7R01	4.80	0.1890	#12	0.87	49.8	57	36	95	6
DE0490049T7R01	4.90	0.1929		0.89	49.6	57	36	95	6
DE0500049T7R01	5.00	0.1969		0.91	49.5	57	36	95	6
DE0510049T7R01	5.10	0.2008		0.93	49.3	57	36	95	6
DE0516049T7R01	5.16	0.2031	13/64"	0.94	49.3	57	36	95	6
DE0518049T7R01	5.18	0.2040	#6	0.94	49.2	57	36	95	6

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RHINO DRILLS SERIES DE (8XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



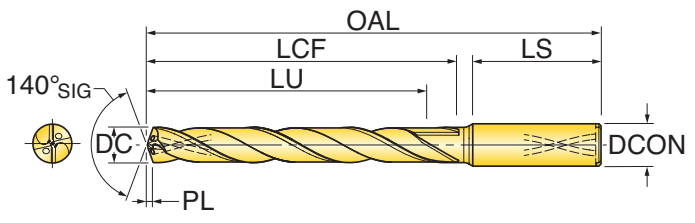
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0520049T7R01	5.20	0.2047		0.95	49.2	57	36	95	6
DE0530049T7R01	5.30	0.2087		0.96	49.0	57	36	95	6
DE0540048T7R01	5.40	0.2126		0.98	48.9	57	36	95	6
DE0550048T7R01	5.50	0.2165		1.00	48.8	57	36	95	6
DE0555048T7R00	5.55	0.2185		1.01	48.7	57	36	95	6
DE0555048T7R01	5.55	0.2187	7/32"	1.01	48.7	57	36	95	6
DE0560048T7R01	5.60	0.2205		1.02	48.6	57	36	95	6
DE0570048T7R01	5.70	0.2244		1.04	48.5	57	36	95	6
DE0580048T7R01	5.80	0.2283		1.06	48.3	57	36	95	6
DE0590048T7R01	5.90	0.2323		1.07	48.1	57	36	95	6
DE0595048T7R01	5.95	0.2344	15/64"	1.08	48.1	57	36	95	6
DE0600048T7R01	6.00	0.2362		1.09	48.0	57	36	95	6
DE0610066T0R01	6.10	0.2402		1.11	66.8	76	36	114	8
DE0620066T0R01	6.20	0.2441		1.13	66.7	76	36	114	8
DE0630066T0R01	6.30	0.2480		1.15	66.6	76	36	114	8
DE0635066T0R01	6.35	0.2500	1/4"	1.16	66.5	76	36	114	8
DE0640066T0R01	6.40	0.2520		1.16	66.4	76	36	114	8
DE0650066T0R01	6.50	0.2559		1.18	66.3	76	36	114	8
DE0660066T0R01	6.60	0.2598		1.20	66.1	76	36	114	8
DE0670065T0R01	6.70	0.2638		1.22	65.9	76	36	114	8
DE0675065T0R01	6.75	0.2656	17/64"	1.23	65.9	76	36	114	8
DE0680065T0R01	6.80	0.2677		1.24	65.8	76	36	114	8
DE0690065T0R01	6.90	0.2717		1.26	65.6	76	36	114	8
DE0700065T0R01	7.00	0.2756		1.27	65.5	76	36	114	8
DE0710065T0R01	7.10	0.2795		1.29	65.4	76	36	114	8
DE0715065T0R01	7.15	0.2813	9/32"	1.30	65.3	76	36	114	8
DE0720065T0R01	7.20	0.2835		1.31	65.2	76	36	114	8
DE0730065T0R01	7.30	0.2874		1.33	65.0	76	36	114	8
DE0740064T0R01	7.40	0.2913		1.35	64.9	76	36	114	8
DE0750064T0R01	7.50	0.2953		1.37	64.7	76	36	114	8

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RHINO DRILLS SERIES DE (8XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



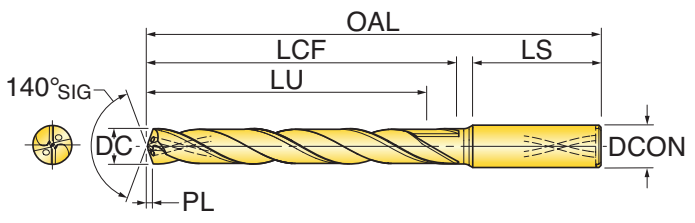
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0754064TOR01	7.54	0.2969	19/64"	1.37	64.7	76	36	114	8
DE0770064TOR01	7.70	0.3031		1.40	64.5	76	36	114	8
DE0780065TOR01	7.80	0.3071		1.42	65.3	76	36	114	8
DE0790064TOR01	7.90	0.3110		1.44	64.2	76	36	114	8
DE0794064TOR01	7.94	0.3125	5/16"	1.44	64.1	76	36	114	8
DE0800064TOR01	8.00	0.3150		1.46	64.0	76	36	114	8
DE0810082T1R01	8.10	0.3189		1.47	82.8	95	40	142	10
DE0820082T1R01	8.20	0.3228		1.49	82.7	95	40	142	10
DE0830082T1R01	8.30	0.3268		1.51	82.6	95	40	142	10
DE0833082T1R01	8.33	0.3281	21/64"	1.52	82.5	95	40	142	10
DE0840082T1R01	8.40	0.3307		1.53	82.4	95	40	142	10
DE0850082T1R01	8.50	0.3346		1.55	82.3	95	40	142	10
DE0860082T1R01	8.60	0.3386		1.57	82.1	95	40	142	10
DE0870082T1R01	8.70	0.3425		1.58	82.0	95	40	142	10
DE0873081T1R01	8.73	0.3437	11/32"	1.59	81.9	95	40	142	10
DE0880081T1R01	8.80	0.3465		1.60	81.8	95	40	142	10
DE0900081T1R01	9.00	0.3543		1.64	81.5	95	40	142	10
DE0913081T1R01	9.13	0.3594	23/64"	1.66	81.3	95	40	142	10
DE0920081T1R01	9.20	0.3622		1.67	81.2	95	40	142	10
DE0930081T1R01	9.30	0.3661		1.69	81.1	95	40	142	10
DE0950080T1R01	9.50	0.3740		1.73	80.8	95	40	142	10
DE0953080T1R01	9.53	0.3750	3/8"	1.73	80.7	95	40	142	10
DE0960080T1R01	9.60	0.3780		1.75	80.6	95	40	142	10
DE0980080T1R01	9.80	0.3858		1.78	80.3	95	40	142	10
DE0990080T1R01	9.90	0.3898		1.80	80.1	95	40	142	10
DE0992080T1R01	9.92	0.3906	25/64"	1.81	80.1	95	40	142	10
DE1000080T1R01	10.00	0.3937		1.82	80.0	95	40	142	10
DE1010098T2R01	10.10	0.3976		1.84	98.9	114	45	162	12
DE1020098T2R01	10.20	0.4016		1.86	98.7	114	45	162	12
DE1030098T2R01	10.30	0.4055		1.87	98.6	114	45	162	12

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RHINO DRILLS SERIES DE (8XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



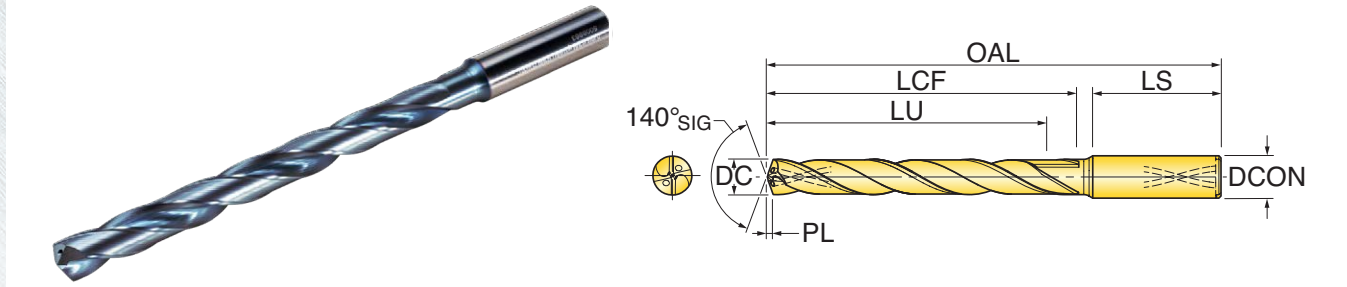
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1032098T2R01	10.32	0.4063	13/32"	1.88	98.5	114	45	162	12
DE1040098T2R01	10.40	0.4094		1.89	98.4	114	45	162	12
DE1050098T2R01	10.50	0.4134		1.91	98.2	114	45	162	12
DE1072097T2R01	10.72	0.4219	27/64"	1.95	97.9	114	45	162	12
DE1080097T2R01	10.80	0.4252		1.97	97.8	114	45	162	12
DE1100097T2R01	11.00	0.4331		2.00	97.5	114	45	162	12
DE1110097T2R01	11.10	0.4370		2.02	97.4	114	45	162	12
DE1111097T2R01	11.11	0.4375	7/16"	2.02	97.3	114	45	162	12
DE1120097T2R01	11.20	0.4409		2.04	97.2	114	45	162	12
DE1150096T2R01	11.50	0.4528		2.09	96.7	114	45	162	12
DE1151096T2R01	11.51	0.4531	29/64"	2.09	96.7	114	45	162	12
DE1170096T2R01	11.70	0.4606		2.13	96.5	114	45	162	12
DE1180096T2R01	11.80	0.4646		2.15	96.3	114	45	162	12
DE1190096T2R01	11.90	0.4687	15/32"	2.17	96.1	114	45	162	12
DE1200096T2R01	12.00	0.4724		2.18	96.0	114	45	162	12
DE1210112U8R01	12.10	0.4764		2.20	112.8	131	45	178	14
DE1220112U8R01	12.20	0.4803		2.22	112.7	131	45	178	14
DE1230112U8R01	12.30	0.4843		2.24	112.5	131	45	178	14
DE1230112U8R00	12.30	0.4844	31/64"	2.24	112.5	131	45	178	14
DE1250112U8R01	12.50	0.4921		2.27	112.3	131	45	178	14
DE1260112U8R01	12.60	0.4961		2.29	112.1	131	45	178	14
DE1270112U8R01	12.70	0.5000	1/2"	2.31	112.0	131	45	178	14
DE1300111U8R01	13.00	0.5118		2.37	111.5	131	45	178	14
DE1330111U8R01	13.30	0.5236		2.42	111.1	131	45	178	14
DE1350110U8R01	13.50	0.5313	17/32"	2.46	110.8	131	45	178	14
DE1350110U8R00	13.50	0.5315		2.46	110.8	131	45	178	14
DE1400110U8R01	14.00	0.5512		2.55	110.0	131	45	178	14
DE1429130T3R01	14.29	0.5625	9/16"	2.60	130.6	152	48	203	16
DE1450130T3R01	14.50	0.5709		2.64	130.3	152	48	203	16
DE1500129T3R01	15.00	0.5906		2.73	129.5	152	48	203	16

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RHINO DRILLS SERIES DE (8XD)

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES

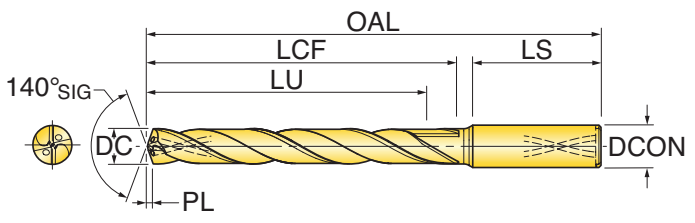


Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1550128T3R01	15.50	0.6102		2.82	128.8	152	48	203	16
DE1588128T3R01	15.88	0.6250	5/8"	2.89	128.2	152	48	203	16
DE1600128T3R01	16.00	0.6299		2.91	128.0	152	48	203	16
DE1650146U2R01	16.50	0.6496		3.00	146.3	171	48	222	18
DE1700145U2R01	17.00	0.6693		3.09	145.5	171	48	222	18
DE1750144U2R01	17.50	0.6890		3.18	144.7	171	48	222	18
DE1800144U2R01	18.00	0.7087		3.28	144.0	171	48	222	18
DE1850162T4R01	18.50	0.7283		3.37	162.3	190	50	243	20
DE1905161T4R01	19.05	0.7500	3/4"	3.47	161.4	190	50	243	20
DE1950160T4R01	19.50	0.7677		3.55	160.8	190	50	243	20
DE2000160T4R01	20.00	0.7874		3.64	160.0	190	50	243	20



RHINO DRILLS SERIES DE (12XD) **NEW**

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



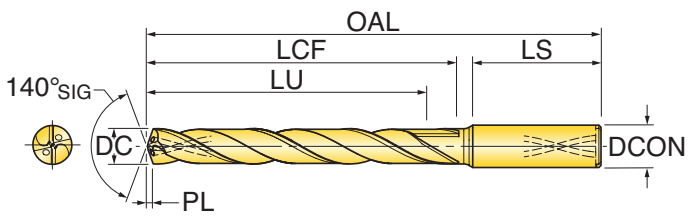
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0300049T7R01	0.1181	3.00		0.55	49.5	54	38	92	6
DE0310049T7R01	0.1220	3.10		0.56	49.4	54	38	92	6
DE0318049T7R01	0.1252	3.18	1/8"	0.58	49.2	54	38	92	6
DE0320049T7R01	0.1260	3.20		0.58	49.2	54	38	92	6
DE0330049T7R01	0.1299	3.30		0.60	49.0	54	38	92	6
DE0340049T7R01	0.1339	3.40		0.62	48.9	54	38	92	6
DE0350049T7R01	0.1378	3.50		0.64	48.8	54	38	92	6
DE0357049T7R01	0.1406	3.57	9/64"	0.65	48.6	54	38	92	6
DE0360049T7R01	0.1417	3.60		0.66	48.6	54	38	92	6
DE0370048T7R01	0.1457	3.70		0.67	48.4	54	38	92	6
DE0380058T7R01	0.1496	3.80		0.69	58.3	64	38	102	6
DE0390058T7R01	0.1535	3.90		0.71	58.2	64	38	102	6
DE0397058T7R01	0.1563	3.97	5/32"	0.72	58.0	64	38	102	6
DE0400058T7R01	0.1575	4.00		0.73	58.0	64	38	102	6
DE0410058T7R01	0.1614	4.10		0.75	57.9	64	38	102	6
DE0420058T7R01	0.1654	4.20		0.76	57.7	64	38	102	6
DE0430058T7R01	0.1693	4.30		0.78	57.6	64	38	102	6
DE0437057T7R01	0.1720	4.37	11/64"	0.80	57.5	64	38	102	6
DE0440057T7R01	0.1732	4.40		0.80	57.4	64	38	102	6
DE0450057T7R01	0.1772	4.50		0.82	57.2	64	38	102	6
DE0460057T7R01	0.1811	4.60		0.84	57.1	64	38	102	6
DE0465057T7R01	0.1831	4.65		0.85	57.0	64	38	102	6
DE0470057T7R01	0.1850	4.70	#13	0.86	57.0	64	38	102	6
DE0476071T7R01	0.1874	4.76	3/16"	0.87	70.9	78	38	116	6
DE0480071T7R01	0.1890	4.80	#12	0.87	70.8	78	38	116	6
DE0490071T7R01	0.1929	4.90		0.89	70.7	78	38	116	6
DE0500070T7R01	0.1969	5.00		0.91	70.5	78	38	116	6
DE0510070T7R01	0.2008	5.10		0.93	70.4	78	38	116	6
DE0516070T7R01	0.2031	5.16	13/64"	0.94	70.3	78	38	116	6
DE0518070T7R01	0.2039	5.18	#6	0.94	70.2	78	38	116	6

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RHINO DRILLS SERIES DE (12XD) **NEW**

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



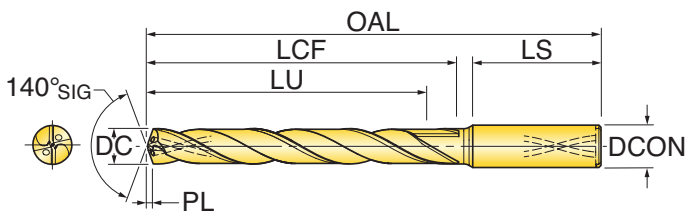
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0520070T7R01	0.2047	5.20		0.95	70.2	78	38	116	6
DE0530070T7R01	0.2087	5.30		0.97	70.0	78	38	116	6
DE0540070T7R01	0.2126	5.40		0.98	69.9	78	38	116	6
DE0550070T7R01	0.2165	5.50		1.00	69.8	78	38	116	6
DE0554070T7R01	0.2185	5.55		1.01	69.7	78	38	116	6
DE0555070T7R01	0.2185	5.55	7/32"	1.01	69.7	78	38	116	6
DE0560070T7R01	0.2205	5.60		1.02	69.6	78	38	116	6
DE0570069T7R01	0.2244	5.70		1.04	69.5	78	38	116	6
DE0580069T7R01	0.2283	5.80		1.05	69.3	78	38	116	6
DE0590069T7R01	0.2323	5.90		1.07	69.1	78	38	116	6
DE0595069T7R01	0.2343	5.95	15/64"	1.08	69.1	78	38	116	6
DE0600069T7R01	0.2362	6.00		1.09	69.0	78	38	116	6
DE0610099T0R01	0.2402	6.10		1.11	98.8	108	38	146	8
DE0620099T0R01	0.2441	6.20		1.13	98.7	108	38	146	8
DE0630099T0R01	0.2480	6.30		1.15	98.6	108	38	146	8
DE0635098T0R01	0.2500	6.35		1.16	98.5	108	38	146	8
DE0640098T0R01	0.2520	6.40		1.17	98.4	108	38	146	8
DE0650098T0R01	0.2559	6.50		1.18	98.3	108	38	146	8
DE0660098T0R01	0.2598	6.60		1.20	98.1	108	38	146	8
DE0670098T0R01	0.2638	6.70		1.22	98.0	108	38	146	8
DE0675098T0R01	0.2657	6.75	17/64"	1.23	97.9	108	38	146	8
DE0680098T0R01	0.2677	6.80		1.24	97.8	108	38	146	8
DE0690098T0R01	0.2717	6.90		1.25	97.7	108	38	146	8
DE0700098T0R01	0.2756	7.00		1.28	97.5	108	38	146	8
DE0710097T0R01	0.2795	7.10		1.29	97.4	108	38	146	8
DE0715097T0R01	0.2815	7.15	9/32"	1.30	97.3	108	38	146	8
DE0720097T0R01	0.2835	7.20		1.31	97.2	108	38	146	8
DE0730097T0R01	0.2874	7.30		1.33	97.1	108	38	146	8
DE0740097T0R01	0.2913	7.40		1.35	96.9	108	38	146	8
DE0750097T0R01	0.2953	7.50		1.36	96.7	108	38	146	8

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RHINO DRILLS SERIES DE (12XD) **NEW**

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



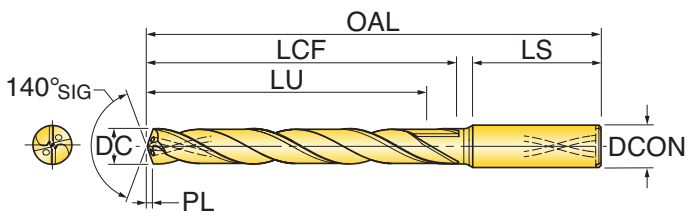
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE0754097T0R01	0.2969	7.54	19/64"	1.37	96.7	108	38	146	8
DE0770096T0R01	0.3031	7.70		1.40	96.5	108	38	146	8
DE0780096T0R01	0.3071	7.80		1.42	96.3	108	38	146	8
DE0790096T0R01	0.3110	7.90		1.44	96.2	108	38	146	8
DE0794096T0R01	0.3126	7.94	5/16"	1.45	96.1	108	38	146	8
DE0800096T0R01	0.3150	8.00		1.46	96.0	108	38	146	8
DE0810108T1R01	0.3189	8.10		1.47	107.9	120	42	162	10
DE0820108T1R01	0.3228	8.20		1.49	107.7	120	42	162	10
DE0830108T1R01	0.3268	8.30		1.51	107.5	120	42	162	10
DE0833108T1R01	0.3280	8.33	21/64"	1.52	107.5	120	42	162	10
DE0840107T1R01	0.3307	8.40		1.53	107.4	120	42	162	10
DE0850107T1R01	0.3346	8.50		1.55	107.3	120	42	162	10
DE0860107T1R01	0.3386	8.60		1.56	107.1	120	42	162	10
DE0870107T1R01	0.3425	8.70		1.58	107.0	120	42	162	10
DE0873107T1R01	0.3437	8.73	11/32"	1.59	106.9	120	42	162	10
DE0880107T1R01	0.3465	8.80		1.60	106.8	120	42	162	10
DE0900107T1R01	0.3543	9.00		1.64	106.5	120	42	162	10
DE0913106T1R01	0.3594	9.13	23/64"	1.66	106.3	120	42	162	10
DE0920106T1R01	0.3622	9.20		1.67	106.2	120	42	162	10
DE0930106T1R01	0.3661	9.30		1.69	106.1	120	42	162	10
DE0950106T1R01	0.3740	9.50		1.73	105.8	120	42	162	10
DE0953106T1R01	0.3752	9.53		1.73	105.7	120	42	162	10
DE0960106T1R01	0.3780	9.60		1.75	105.6	120	42	162	10
DE0980105T1R01	0.3858	9.80		1.78	105.3	120	42	162	10
DE0990105T1R01	0.3898	9.90		1.80	105.1	120	42	162	10
DE0992105T1R01	0.3906	9.92	25/64"	1.81	105.1	120	42	162	10
DE1000105T1R01	0.3937	10.00		1.82	105.0	120	42	162	10
DE1010141T2R01	0.3976	10.10		1.84	140.9	156	48	204	12
DE1020141T2R01	0.4016	10.20		1.86	140.7	156	48	204	12
DE1030141T2R01	0.4055	10.30		1.87	140.6	156	48	204	12

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RHINO DRILLS SERIES DE (12XD) **NEW**

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



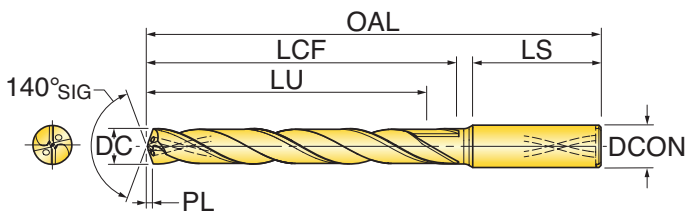
Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1032141T2R01	0.4063	10.32	13/32"	1.88	140.5	156	48	204	12
DE1040140T2R01	0.4094	10.40		1.89	140.4	156	48	204	12
DE1050140T2R01	0.4134	10.50		1.91	140.2	156	48	204	12
DE1072140T2R01	0.4220	10.72	27/64"	1.95	139.9	156	48	204	12
DE1080140T2R01	0.4252	10.80		0.01	139.8	156	48	204	12
DE1100139T2R01	0.4331	11.00		2.00	139.5	156	48	204	12
DE1110139T2R01	0.4370	11.10		2.02	139.3	156	48	204	12
DE1111139T2R01	0.4374	11.11	7/16"	2.02	139.3	156	48	204	12
DE1120139T2R01	0.4409	11.20		2.04	139.2	156	48	204	12
DE1150139T2R01	0.4528	11.50		2.09	138.7	156	48	204	12
DE1151139T2R01	0.4531	11.51	27/64"	2.10	138.7	156	48	204	12
DE1170138T2R01	0.4606	11.70		2.13	138.5	156	48	204	12
DE1180138T2R01	0.4646	11.80		2.15	138.3	156	48	204	12
DE1190138T2R01	0.4685	11.90	15/32"	2.17	138.1	156	48	204	12
DE1200138T2R01	0.4724	12.00		2.18	138.0	156	48	204	12
DE1210164U8R01	0.4764	12.10		2.20	163.9	182	48	230	14
DE1220164U8R01	0.4803	12.20		2.22	163.7	182	48	230	14
DE1230164U8R00	0.4843	12.30		2.24	163.6	182	48	230	14
DE1231164U8R01	0.4843	12.30	31/64"	2.24	163.5	182	48	230	14
DE1250163U8R01	0.4921	12.50		2.28	163.3	182	48	230	14
DE1260163U8R01	0.4961	12.60		2.29	163.1	182	48	230	14
DE1270163U8R01	0.5000	12.70	1/2"	2.31	163.0	182	48	230	14
DE1300163U8R01	0.5118	13.00		2.36	162.5	182	48	230	14
DE1330162U8R01	0.5236	13.30		2.42	162.1	182	48	230	14
DE1349162U8R00	0.5315	13.50	17/32"	2.46	161.8	182	48	230	14
DE1350162U8R01	0.5315	13.50		2.46	161.8	182	48	230	14
DE1400161U8R01	0.5512	14.00		2.55	161.0	182	48	230	14
DE1429187T3R01	0.5626	14.29	9/16"	2.60	186.6	208	52	260	16
DE1450186T3R01	0.5709	14.50		2.64	186.2	208	52	260	16
DE1500185T3R01	0.5906	15.00		2.73	185.5	208	52	260	16

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RHINO DRILLS SERIES DE (12XD) **NEW**

2-FLUTE SOLID CARBIDE DRILLS WITH COOLANT HOLES



Part Number	DC Cutting Dia. (mm)	DC Cutting Dia. (inch)	DC Cutting Dia. (Fraction)	PL Point Length (mm)	LU Useable Length (mm)	LCF Chip Flute Length (mm)	LS Shank Length (mm)	OAL Overall Length (mm)	DCON Shank Dia. (mm)
DE1550185T3R01	0.6102	15.50		2.82	184.8	208	52	260	16
DE1588184T3R01	0.6252	15.88	5/8"	2.89	184.2	208	52	260	16
DE1600184T3R01	0.6299	16.00		2.91	184.0	208	52	260	16
DE1650209U2R01	0.6496	16.50		3.00	209.3	234	51	285	18
DE1700209U2R01	0.6693	17.00		3.09	208.5	234	51	285	18
DE1750208U2R01	0.6890	17.50		3.19	207.7	234	51	285	18
DE1800207U2R01	0.7087	18.00		3.28	207.0	234	51	285	18
DE1850230T4R01	0.7283	18.50		3.37	230.3	258	52	310	20
DE1905229T4R01	0.7500	19.05	3/4"	3.47	229.4	258	52	310	20
DE1950229T4R01	0.7677	19.50		3.55	228.8	258	52	310	20
DE2000228T4R01	0.7874	20.00		3.64	228.0	258	52	310	20



RHINO DRILLS OPERATING GUIDELINES - 3XD & 5XD

ISO	Material	Condition	Tensile Strength (N/mm ²)	Hardness HB	Mtl Group No.	Cutting Speed Vc (sfm)	Cutting Diameter IPR (inches/rev)												
							3.0-6.0mm (.125-.250")	6.0-9.0mm (.250-.375")	9.0-12.0mm (.375-.500")	12.0-16.0mm (.500-.625")	16.0-19.05mm (.625-.750")	19.05-20.0mm (.750-.787")							
P	Non-alloy steel and cast steel Free cutting steel	< 0.25 %C	Annealed	420	125	1	375	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175						
		>= 0.25 %C	Annealed	650	190	2													
		< 0.55 %C	Quenched and tempered	850	250	3													
		>= 0.55 %C	Annealed	750	220	4													
		> 0.55 %C	Quenched and tempered	1000	300	5													
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	275	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175							
			930	275	7														
		Quenched and tempered	1000	300	8														
			1200	350	9														
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	275	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175							
		Quenched and tempered	1100	325	11														
M	Stainless Steel (410, 416, 420, 440)	Ferritic/Martensitic	680	200	12	230	.0023 - .0047	.0047 - .0070	.0070 - .0094	.0094 - .0126	.0126 - .0140	.0140 - .0155							
	Stainless Steel (15-5, 17-4 PH)	Martensitic	820	240	13														
	Stainless Steel (302, 303, 304)	Austenitic	600	180	14								165-180	.0023 - .0047	.0047 - .0060	.0060 - .0080	.0080 - .0110	.0110 - .0125	.0125 - .0140
	Stainless Steel (310, 316, 321)																		
	Duplex Stainless Steel (323, 329, F55, 2205)	Austenitic / Ferritic	820	240	14								140-150	.0020 - .0035	.0035 - .0045	.0045 - .0050	.0050 - .0055	.0055 - .0060	.0060 - .0075
S	Titanium Ti alloys Ti1100, Ti6AL4V		Rm 400		36	135 - 150	.002 - .003	.003 - .004	.004 - .005	.005 - .0065	.0065 - .008	.008 - .0095							
		Alpha + Beta alloys cured	Rm 1050		37														

For best results, reduce feed rate to 50% when breaking through the material.



RHINO DRILLS OPERATING GUIDELINES - 8XD

ISO	Material	Condition	Tensile Strength (N/mm ²)	Hardness HB	Mtl Group No.	Cutting Speed Vc (sfm)	Cutting Diameter IPR (inches/rev)												
							3.0-6.0mm (.125-.250")	6.0-9.0mm (.250-.375")	9.0-12.0mm (.375-.500")	12.0-16.0mm (.500-.625")	16.0-19.05mm (.625-.750")	19.05-20.0mm (.750-.787")							
P	Non-alloy steel and cast steel Free cutting steel	< 0.25 %C	Annealed	420	125	1	375	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175						
		>= 0.25 %C	Annealed	650	190	2													
		< 0.55 %C	Quenched and tempered	850	250	3													
		>= 0.55 %C	Annealed	750	220	4													
		> 0.55 %C	Quenched and tempered	1000	300	5													
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	275	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175							
			930	275	7														
		Quenched and tempered	1000	300	8														
			1200	350	9														
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	275	.003 - .005	.005 - .0075	.0075 - .010	.010 - .013	.013 - .016	.016 - .0175							
		Quenched and tempered	1100	325	11														
M	Stainless Steel (410, 416, 420, 440)	Ferritic/Martensitic	680	200	12	230	.0023 - .0047	.0047 - .0070	.0070 - .0094	.0094 - .0126	.0126 - .0140	.0140 - .0155							
	Stainless Steel (15-5, 17-4 PH)	Martensitic	820	240	13														
	Stainless Steel (302, 303, 304)	Austenitic	600	180	14								165-180	.0020 - .0038	.0038 - .0055	.0055 - .0075	.0075 - .0105	.0105 - .0120	.0120 - .0135
	Stainless Steel (310, 316, 321)																		
	Duplex Stainless Steel (323, 329, F55, 2205)	Austenitic / Ferritic	820	240	14								140-150	.0016 - .0028	.0028 - .0033	.0033 - .0038	.0038 - .0043	.0043 - .0050	.0050 - .0065
S	Titanium Ti alloys Ti1100, Ti6AL4V		Rm 400	110	36	135 - 150	.002 - .003	.003 - .004	.004 - .005	.005 - .0065	.0065 - .008	.008 - .0095							
		Alpha + Beta alloys cured	Rm 1050	310	37														

For best results, reduce feed rate to 50% when breaking through the material.
 For optimal chip evacuation, use high pressure coolant for deep holes.
 Inspect run-out and tool alignment before running 8xD drills.
 Pecking can be applied in cases where chip formation/evacuation is a problem.



RHINO DRILLS OPERATING GUIDELINES - 12XD NEW

ISO	Material	Condition	Tensile Strength (N/mm ²)	Hardness HB	Mtl Group No.	Cutting Speed Vc (sfm)	Cutting Diameter IPR (inches/rev)											
							3.0-6.0mm (.125-.250")	6.0-9.0mm (.250-.375")	9.0-12.0mm (.375-.500")	12.0-16.0mm (.500-.625")	16.0-19.05mm (.625-.750")	19.05-20.0mm (.750-.787")						
P	Non-alloy steel and cast steel Free cutting steel	< 0.25 %C	Annealed	420	125	1	375											
		>= 0.25 %C	Annealed	650	190	2												
		< 0.55 %C	Quenched and tempered	850	250	3												
		>= 0.55 %C	Annealed	750	220	4												
		> 0.55 %C	Quenched and tempered	1000	300	5												
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6													
		Quenched and tempered	930	275	7													
			1000	300	8													
			1200	350	9													
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	275												
		Quenched and tempered	1100	325	11													
M	Stainless Steel (410, 416, 420, 440)	Ferritic/Martensitic	680	200	12	220												
	Stainless Steel (15-5, 17-4 PH)	Martensitic	820	240	13													
	Stainless Steel (302, 303, 304)	Austenitic	600	180	14													
	Stainless Steel (310, 316, 321)																	
	Duplex Stainless Steel (323, 329, F55, 2205)	Austenitic / Ferritic	820	240	14								125	.0010-.0024	.0024-.0029	.0029-.0033	.0033-.0036	.0036-.0040
S	Titanium Ti alloys Ti1100, Ti6AL4V		Rm 400	110	36	125												
		Alpha + Beta alloys cured	Rm 1050	310	37								.0018-.0025	.0025-.0030	.0030-.0035	.0035-.0040	.0040-.0045	.0045-.0055

For best results, reduce feed rate to 50% when breaking through the material.
 For optimal chip evacuation, use high pressure coolant for deep holes.
 Inspect run-out and tool alignment before running 12xD drills.
 Pecking can be applied in cases where chip formation/evacuation is a problem.