



suttontools **BLACK
MAGIC**

D153 -Stub Drills - R40 VA -Sutton Tools -Black Magic

Stub Drill R40 VA Optimised geometry ensures no work hardening and high productivity
Endmill shank for greater accuracy TiAIN for longer tool life

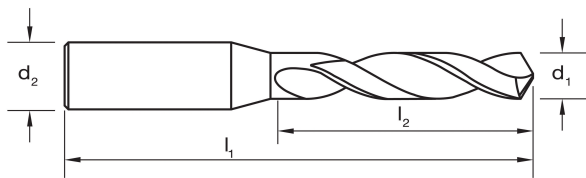
Features:

- Stub Drill R40 VA
- Optimised geometry ensures no work hardening and high productivity
- Endmill shank for greater accuracy
- TiAIN for longer tool life

Specifications:

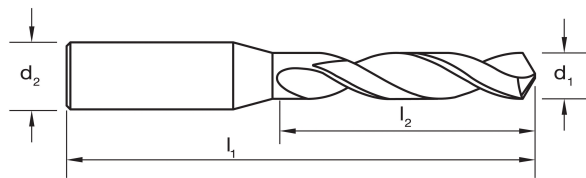
Designation:	VA
Material:	HSS Co
Finish:	TiAIN
Max Cut Depth:	3xD
Shank Form:	A
Helix Angle:	R40
Point Tolerance:	H8
Shank Tolerance:	h7
Point Angle:	120°
Point Form:	4 Facet
Cutting Edges:	ul

Range:



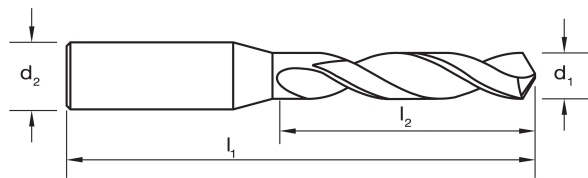
Item #	Diameter d1 (mm)	Diameter d1 (inch)	Length l1 (mm)	Length l2 (mm)	Diameter d2 (mm)
D1530318	3.18	1/8	49	18	4
D1530357	3.57	9/64	52	20	4
D1530397	3.97	5/32	55	22	4
D1530437	4.37	11/64	58	24	6
D1530476	4.76	3/16	62	26	6
D1530516	5.16	13/64	62	26	6
D1530556	5.56	7/32	66	28	6
D1530595	5.95	15/64	66	28	6
D1530635	6.35	1/4	70	31	8
D1530676	6.75	17/64	74	34	8
D1530714	7.14	9/32	74	34	8
D1530754	7.54	19/64	79	37	8
D1530794	7.94	5/16	79	37	8
D1530833	8.33	21/64	79	37	10
D1530873	8.73	11/32	84	40	10
D1530913	9.13	23/64	84	40	10
D1530953	9.52	3/8	89	43	10
D1530992	9.92	25/64	89	43	10
D1531032	10.32	13/32	89	43	10
D1531072	10.72	27/64	95	47	12
D1531111	11.11	7/16	95	47	12
D1531151	11.51	29/64	95	47	12
D1531191	11.91	15/32	102	51	12
D1531231	12.30	31/64	102	51	12
D1531269	12.70	1/2	102	51	12
D1530050	0.50	-	38	3	3
D1530060	0.60	-	38	3.5	3
D1530070	0.70	-	38	4.5	3
D1530080	0.80	-	38	5	3
D1530085	-	-	-	-	-
D1530090	0.90	-	38	5.5	3
D1530095	-	-	-	-	-
D1530098	-	-	-	-	-
D1530100	1.00	-	38	6	3
D1530110	1.10	-	39	7	3

Range:



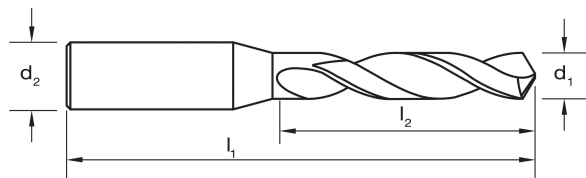
Item #	Diameter d1 (mm)	Diameter d1 (inch)	Length l1 (mm)	Length l2 (mm)	Diameter d2 (mm)
D1530120	1.20	-	40	8	3
D1530130	1.30	-	40	8	3
D1530140	1.40	-	41	9	3
D1530150	1.50	-	41	9	3
D1530160	1.60	-	42	10	3
D1530170	1.70	-	42	10	3
D1530180	1.80	-	43	11	3
D1530190	1.90	-	43	11	3
D1530200	2.00	-	44	12	3
D1530210	2.10	-	44	12	3
D1530220	2.20	-	45	13	3
D1530230	2.30	-	45	13	3
D1530240	2.40	-	46	14	3
D1530250	2.50	-	46	14	3
D1530260	2.60	-	46	14	3
D1530270	2.70	-	46	16	3
D1530280	2.80	-	46	16	3
D1530285	2.85	7/64	46	16	3
D1530290	2.90	-	46	16	3
D1530300	3.00	-	46	16	3
D1530310	3.10	-	49	18	4
D1530320	3.20	-	49	18	4
D1530330	3.30	-	49	18	4
D1530340	3.40	-	52	20	4
D1530350	3.50	-	52	20	4
D1530360	3.60	-	52	20	4
D1530370	3.70	-	52	20	4
D1530378	3.78	5/32	52	20	4
D1530380	3.80	-	55	22	4
D1530390	3.90	-	55	22	4
D1530400	4.00	-	55	22	4
D1530410	4.10	-	55	22	6
D1530420	4.20	-	55	22	6
D1530430	4.30	-	58	24	6
D1530440	4.40	-	58	24	6

Range:



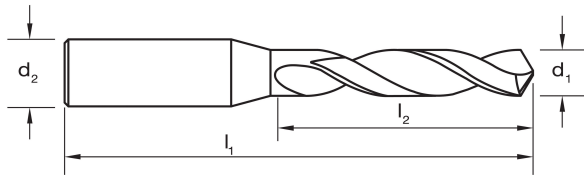
Item #	Diameter d1 (mm)	Diameter d1 (inch)	Length l1 (mm)	Length l2 (mm)	Diameter d2 (mm)
D1530450	4.50	-	58	24	6
D1530460	4.60	-	58	24	6
D1530465	4.65	-	58	24	6
D1530470	4.70	-	58	24	6
D1530478	4.78	-	62	26	6
D1530480	4.80	-	62	26	6
D1530490	4.90	-	62	26	6
D1530500	5.00	-	62	26	6
D1530505	5.05	-	62	26	6
D1530510	5.10	-	62	26	6
D1530520	5.20	-	62	26	6
D1530530	5.30	-	62	26	6
D1530540	5.40	-	66	28	6
D1530550	5.50	-	66	28	6
D1530555	5.55	-	66	28	6
D1530560	5.60	-	66	28	6
D1530565	5.65	-	66	28	6
D1530570	5.70	-	66	28	6
D1530580	5.80	-	66	28	6
D1530590	5.90	-	66	28	6
D1530600	6.00	-	66	28	6
D1530610	6.10	-	70	31	8
D1530620	6.20	-	70	31	8
D1530630	6.30	-	70	31	8
D1530640	6.40	-	70	31	8
D1530650	6.50	-	70	31	8
D1530660	6.60	-	70	31	8
D1530670	6.70	-	70	31	8
D1530680	6.80	-	74	34	8
D1530690	6.90	-	74	34	8
D1530700	7.00	-	74	34	8
D1530710	7.10	-	74	34	8
D1530720	7.20	-	74	34	8
D1530730	7.30	-	74	34	8
D1530740	7.40	-	74	34	8

Range:



Item #	Diameter d1 (mm)	Diameter d1 (inch)	Length l1 (mm)	Length l2 (mm)	Diameter d2 (mm)
D1530750	7.50	-	74	34	8
D1530755	7.55	-	79	37	8
D1530760	7.60	-	79	37	8
D1530770	7.70	-	79	37	8
D1530780	7.80	-	79	37	8
D1530790	7.90	-	79	37	8
D1530800	8.00	-	79	37	8
D1530810	8.10	-	79	37	10
D1530820	8.20	-	79	37	10
D1530830	8.30	-	79	37	10
D1530840	8.40	-	79	37	10
D1530850	8.50	-	79	37	10
D1530860	8.60	-	84	40	10
D1530870	8.70	-	84	40	10
D1530880	8.80	-	84	40	10
D1530890	8.90	-	84	40	10
D1530900	9.00	-	84	40	10
D1530910	9.10	-	84	40	10
D1530920	9.20	-	84	40	10
D1530930	9.30	-	84	40	10
D1530940	9.40	-	84	40	10
D1530950	9.50	-	84	40	10
D1530955	9.55	-	89	43	10
D1530960	9.60	-	89	43	10
D1530970	9.70	-	89	43	10
D1530980	9.80	-	89	43	10
D1530990	9.90	-	89	43	10
D1531000	10.00	-	89	43	10
D1531010	10.10	-	89	43	10
D1531020	10.20	-	89	43	10
D1531030	10.30	-	89	43	10
D1531040	10.40	-	89	43	10
D1531050	10.50	-	89	43	10
D1531060	10.60	-	89	43	12
D1531070	10.70	-	95	47	12

Range:



Item #	Diameter d1 (mm)	Diameter d1 (inch)	Length l1 (mm)	Length l2 (mm)	Diameter d2 (mm)
D1531080	10.80	-	95	47	12
D1531090	10.90	-	95	47	12
D1531100	11.00	-	95	47	12
D1531110	11.10	-	95	47	12
D1531120	11.20	-	95	47	12
D1531130	11.30	-	95	47	12
D1531140	11.40	-	95	47	12
D1531150	11.50	-	95	47	12
D1531160	11.60	-	95	47	12
D1531170	11.70	-	95	47	12
D1531180	11.80	-	95	47	12
D1531190	11.90	-	102	51	12
D1531200	12.00	-	102	51	12
D1531210	12.10	-	102	51	12
D1531220	12.20	-	102	51	12
D1531230	12.30	-	102	51	12
D1531240	12.40	-	102	51	12
D1531250	12.50	-	102	51	12
D1531260	12.60	-	102	51	12
D1531270	12.70	-	102	51	12
D1531280	12.80	-	102	51	12
D1531290	12.90	-	102	51	12
D1531300	13.00	-	102	51	12
D1531350	13.50	-	107	54	16
D1531400	14.00	-	107	54	16
D1531450	14.50	-	111	56	16
D1531500	15.00	-	111	56	16
D1531550	15.50	-	115	58	16
D1531600	16.00	-	115	58	16
D1531650	16.50	-	119	60	20
D1531700	17.00	-	119	60	20
D1531750	17.50	-	123	62	20
D1531800	18.00	-	123	62	20
D1531850	18.50	-	127	64	20
D1531900	19.00	-	127	64	20

Applications:

ISO	VDI	Description	Condition	Hardness	Strength	Optimal
P	1	Steel - Corrosion resistant & cast - Martensitic	Quenched & Tempered	240MPa	810MPa	●
P	2	Steel - Non-alloy, cast & free cutting (~ 0.75 %C)	Annealed	270MPa	910MPa	○
P	3	Steel - Low alloy & cast < 5% of alloying elements	Quenched & Tempered	275MPa	930MPa	○
P	4	Steel - Non-alloy, cast & free cutting (~ 0.15 %C)	Annealed	125MPa	440MPa	○
P	5	Steel - Non-alloy, cast & free cutting (~ 0.75 %C)	Quenched & Tempered	300HB	1010MPa	
P	6	Steel - Non-alloy, cast & free cutting (~ 0.75 %C)	Quenched & Tempered	300MPa	1010MPa	○
P	7	Steel - Low alloy & cast < 5% of alloying elements	Annealed	180MPa	610MPa	○
P	8	Steel - Low alloy & cast < 5% of alloying elements	Quenched & Tempered	300HB	1010MPa	
P	9	Steel - Low alloy & cast < 5% of alloying elements	Quenched & Tempered	350HB	1180MPa	
P	10	Steel - High alloy, cast & tool	Annealed	200HB	680MPa	
P	11	Steel - High alloy, cast & tool	Hardened & Tempered	325HB	1100MPa	
P	12	Steel - Low alloy & cast < 5% of alloying elements	Quenched & Tempered	350MPa	1180MPa	●
P	13	Steel - Non-alloy, cast & free cutting (~ 0.45 %C)	Quenched & Tempered	250MPa	840MPa	○
M	14.1	Stainless Steel - Precipitation Hardening	Age Hardened	250MPa	840MPa	●
M	14.2	Stainless Steel - Duplex		250MPa	840MPa	●
M	14.3	Stainless Steel - Austenitic	Age Hardened	180MPa	610MPa	●
K	15	Cast Iron, Grey (GG) - Ferritic / Pearlitic		180HB	610MPa	
K	16	Cast Iron, Grey (GG) - Pearlitic		260HB	880MPa	
K	17	Cast Iron, Nodular (GGG) - Ferritic		160HB	570MPa	
K	18	Cast Iron, Nodular (GGG) - Pearlitic		250HB	840MPa	
K	19	Cast Iron, Malleable - Ferritic		130HB	460MPa	
K	20	Cast Iron, Malleable - Pearlitic		230HB	780MPa	
N	21	Non-metallic - Hard rubber, wood etc.		60HB	210MPa	●
N	22	Aluminum & Magnesium, wrought alloy - Non Heat Treatable	Age Hardened	60MPa	210MPa	●
N	23	Copper & Copper alloys (Brass/Bronze) - Bronze (CuSn)		100MPa	360MPa	●
N	24	Aluminum & Magnesium, wrought alloy - Heat Treatable	Age Hardened	100MPa	360MPa	●
N	25	Aluminum & Magnesium, cast alloy >12% Si - Non Heat Treatabl		130HB	460MPa	
N	26	Aluminum & Magnesium, cast alloy ?12% Si - Non Heat Treatable		75MPa	270MPa	●
N	27	Copper & Copper alloys (Brass/Bronze) - Brass (CuZn, CuSnZn)		90HB	320MPa	
N	28	Copper & Copper alloys (Brass/Bronze) - Bronze (CuSn)		100HB	360MPa	
N	29	Aluminum & Magnesium, cast alloy >12% Si - Non Heat Treatable		130MPa	460MPa	○
N	30	Non-metallic - Hard rubber, wood etc.				
S	31	High temperature alloys - Fe based	Annealed	200HB	680MPa	
S	32	High temperature alloys - Fe based	Age Hardened	280HB	950MPa	
S	33	High temperature alloys - Ni / Co based	Annealed	250HB	840MPa	
S	34	High temperature alloys - Ni / Co based	Age Hardened	350HB	1180MPa	
S	35	High temperature alloys - Ni / Co based	Cast	320HB	1080MPa	
S	36	Titanium & Titanium alloys - CP Titanium			400MPa	
S	37.1	High temperature alloys - Fe based	Annealed	200MPa	680MPa	○
S	37.2	High temperature alloys - Fe based	Age Hardened	280MPa	950MPa	○
S	37.3	Titanium & Titanium alloys - Alpha / Beta alloys	Age Hardened		1170MPa	
S	37.4	Titanium & Titanium alloys - Alpha / Beta alloys	Annealed		960MPa	○
S	37.5	Titanium & Titanium alloys - Beta alloys	Age Hardened		1400MPa	
H	38.1	Hardened steel	Hardened & Tempered	45HRC		
H	38.2	Hardened steel	Hardened & Tempered	55HRC		

KEY

● Optimal ○ Effective | P Steel M Stainless K Cast Iron N Non-Ferous Metals S Titanium & Super Alloys H Hard Materials

Applications:

ISO	VDI	Description	Condition	Hardness	Strength	Optimal
H	39.1	Hardened steel	Hardened & Tempered	58HRC		
H	39.2	Hardened steel	Hardened & Tempered	62HRC		
H	40	Cast Iron - Chilled	Cast	400HB	1350MPa	
H	41	Cast Iron	Hardened & Tempered	55HRC		

KEY

Optimal
 Effective
 P Steel
 M Stainless
 K Cast Iron
 N Non-Ferrous Metals
 S Titanium & Super Alloys
 H Hard Materials