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CODING SYSTEM	4		
ND2103-NHA	6	ND2105-NHA	20
ND2103-CHA	13	ND2105-CHA	28



CODING SYSTEM

ND **21** **05**



Name	Series	Drilling Depth	
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NICHE
DRILL

21 - For P/K
25 - For N
26 - For M
13 - Micro Dia
30 - For deep hole
31 - Stepped
00 - NC center drill

00 - Center drill
03 - 3*D
05 - 5*D
08 - 8*D

* Other sizes available
on request



	C	HA	0800
	↓	↓	↓
	Cooling	Shank Type	Drilling Dia

N - External Cooling
 C - Internal Cooling

HA - DIN6535HA
 HB - DIN6535HB
 HE - DIN6535HE

0080 - 0.80 mm
 0800 - 8.00 mm
 1800 - 18.00 mm

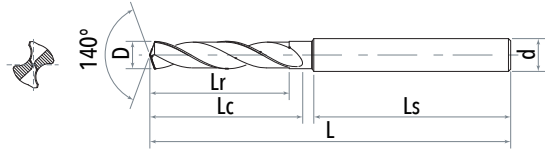
Increment:
 0.10 mm





NICHE SOLID CARBIDE DRILLS

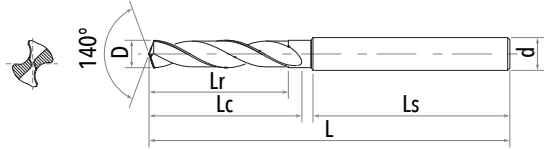
ND2103-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-0300	3.00	6	62	20	36	17
ND2103-NHA-0310	3.10	6	62	20	36	17
ND2103-NHA-0320	3.20	6	62	20	36	17
ND2103-NHA-0330	3.30	6	62	20	36	17
ND2103-NHA-0340	3.40	6	62	20	36	17
ND2103-NHA-0350	3.50	6	62	20	36	17
ND2103-NHA-0360	3.60	6	62	20	36	17
ND2103-NHA-0370	3.70	6	62	20	36	17
ND2103-NHA-0380	3.80	6	66	24	36	21
ND2103-NHA-0390	3.90	6	66	24	36	21
ND2103-NHA-0400	4.00	6	66	24	36	21
ND2103-NHA-0410	4.10	6	66	24	36	21
ND2103-NHA-0420	4.20	6	66	24	36	21
ND2103-NHA-0430	4.30	6	66	24	36	21
ND2103-NHA-0440	4.40	6	66	24	36	21
ND2103-NHA-0450	4.50	6	66	24	36	21
ND2103-NHA-0460	4.60	6	66	24	36	21
ND2103-NHA-0465	4.65	6	66	24	36	21
ND2103-NHA-0470	4.70	6	66	24	36	21
ND2103-NHA-0480	4.80	6	66	28	36	25
ND2103-NHA-0490	4.90	6	66	28	36	25
ND2103-NHA-0500	5.00	6	66	28	36	25
ND2103-NHA-0510	5.10	6	66	28	36	25
ND2103-NHA-0520	5.20	6	66	28	36	25
ND2103-NHA-0530	5.30	6	66	28	36	25
ND2103-NHA-0540	5.40	6	66	28	36	25
ND2103-NHA-0550	5.50	6	66	28	36	25



ND2103-NHA EXTERNAL COOLING

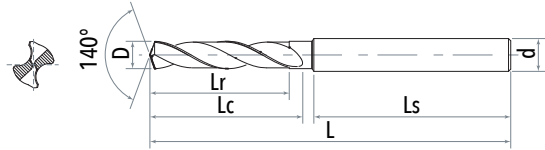


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-0555	5.55	6	66	28	36	25
ND2103-NHA-0560	5.60	6	66	28	36	25
ND2103-NHA-0570	5.70	6	66	28	36	25
ND2103-NHA-0580	5.80	6	66	28	36	25
ND2103-NHA-0590	5.90	6	66	28	36	25
ND2103-NHA-0600	6.00	6	66	28	36	25
ND2103-NHA-0610	6.10	8	79	34	36	30
ND2103-NHA-0620	6.20	8	79	34	36	30
ND2103-NHA-0630	6.30	8	79	34	36	30
ND2103-NHA-0640	6.40	8	79	34	36	30
ND2103-NHA-0650	6.50	8	79	34	36	30
ND2103-NHA-0660	6.60	8	79	34	36	30
ND2103-NHA-0670	6.70	8	79	34	36	30
ND2103-NHA-0680	6.80	8	79	34	36	30
ND2103-NHA-0690	6.90	8	79	34	36	30
ND2103-NHA-0700	7.00	8	79	34	36	30
ND2103-NHA-0710	7.10	8	79	41	36	37
ND2103-NHA-0720	7.20	8	79	41	36	37
ND2103-NHA-0730	7.30	8	79	41	36	37
ND2103-NHA-0740	7.40	8	79	41	36	37
ND2103-NHA-0750	7.50	8	79	41	36	37
ND2103-NHA-0760	7.60	8	79	41	36	37
ND2103-NHA-0770	7.70	8	79	41	36	37
ND2103-NHA-0780	7.80	8	79	41	36	37
ND2103-NHA-0790	7.90	8	79	41	36	37
ND2103-NHA-0800	8.00	8	79	41	36	37
ND2103-NHA-0810	8.10	10	89	47	40	43



NICHE SOLID CARBIDE DRILLS

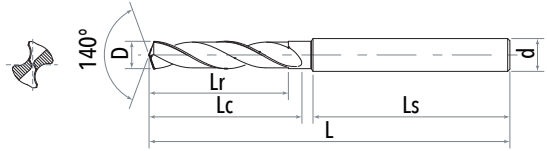
ND2103-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-0820	8.20	10	89	47	40	43
ND2103-NHA-0830	8.30	10	89	47	40	43
ND2103-NHA-0840	8.40	10	89	47	40	43
ND2103-NHA-0850	8.50	10	89	47	40	43
ND2103-NHA-0860	8.60	10	89	47	40	43
ND2103-NHA-0870	8.70	10	89	47	40	43
ND2103-NHA-0880	8.80	10	89	47	40	43
ND2103-NHA-0890	8.90	10	89	47	40	43
ND2103-NHA-0900	9.00	10	89	47	40	43
ND2103-NHA-0910	9.10	10	89	47	40	43
ND2103-NHA-0920	9.20	10	89	47	40	43
ND2103-NHA-0925	9.25	10	89	47	40	43
ND2103-NHA-0930	9.30	10	89	47	40	43
ND2103-NHA-0940	9.40	10	89	47	40	43
ND2103-NHA-0950	9.50	10	89	47	40	43
ND2103-NHA-0960	9.60	10	89	47	40	43
ND2103-NHA-0970	9.70	10	89	47	40	43
ND2103-NHA-0980	9.80	10	89	47	40	43
ND2103-NHA-0990	9.90	10	89	47	40	43
ND2103-NHA-1000	10.00	10	89	47	40	43
ND2103-NHA-1010	10.10	12	102	55	45	50
ND2103-NHA-1020	10.20	12	102	55	45	50
ND2103-NHA-1030	10.30	12	102	55	45	50
ND2103-NHA-1040	10.40	12	102	55	45	50
ND2103-NHA-1050	10.50	12	102	55	45	50
ND2103-NHA-1060	10.60	12	102	55	45	50
ND2103-NHA-1070	10.70	12	102	55	45	50



ND2103-NHA EXTERNAL COOLING

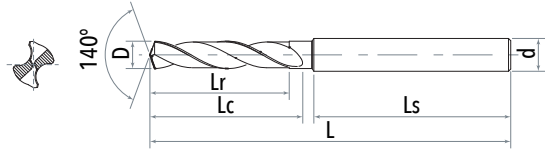


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-1080	10.80	12	102	55	45	50
ND2103-NHA-1090	10.90	12	102	55	45	50
ND2103-NHA-1100	11.00	12	102	55	45	50
ND2103-NHA-1110	11.10	12	102	55	45	50
ND2103-NHA-1120	11.20	12	102	55	45	50
ND2103-NHA-1130	11.30	12	102	55	45	50
ND2103-NHA-1140	11.40	12	102	55	45	50
ND2103-NHA-1150	11.50	12	102	55	45	50
ND2103-NHA-1160	11.60	12	102	55	45	50
ND2103-NHA-1170	11.70	12	102	55	45	50
ND2103-NHA-1180	11.80	12	102	55	45	50
ND2103-NHA-1190	11.90	12	102	55	45	50
ND2103-NHA-1200	12.00	12	102	55	45	50
ND2103-NHA-1210	12.10	14	107	60	45	54
ND2103-NHA-1220	12.20	14	107	60	45	54
ND2103-NHA-1230	12.30	14	107	60	45	54
ND2103-NHA-1240	12.40	14	107	60	45	54
ND2103-NHA-1250	12.50	14	107	60	45	54
ND2103-NHA-1260	12.60	14	107	60	45	54
ND2103-NHA-1270	12.70	14	107	60	45	54
ND2103-NHA-1280	12.80	14	107	60	45	54
ND2103-NHA-1285	12.85	14	107	60	45	54
ND2103-NHA-1290	12.90	14	107	60	45	54
ND2103-NHA-1300	13.00	14	107	60	45	54
ND2103-NHA-1310	13.10	14	107	60	45	54
ND2103-NHA-1320	13.20	14	107	60	45	54
ND2103-NHA-1330	13.30	14	107	60	45	54



NICHE SOLID CARBIDE DRILLS

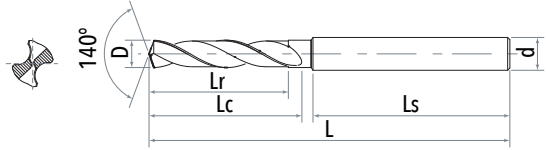
ND2103-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-1340	13.40	14	107	60	45	54
ND2103-NHA-1350	13.50	14	107	60	45	54
ND2103-NHA-1360	13.60	14	107	60	45	54
ND2103-NHA-1370	13.70	14	107	60	45	54
ND2103-NHA-1380	13.80	14	107	60	45	54
ND2103-NHA-1390	13.90	14	107	60	45	54
ND2103-NHA-1400	14.00	14	107	60	45	54
ND2103-NHA-1410	14.10	16	115	65	48	59
ND2103-NHA-1420	14.20	16	115	65	48	59
ND2103-NHA-1430	14.30	16	115	65	48	59
ND2103-NHA-1440	14.40	16	115	65	48	59
ND2103-NHA-1450	14.50	16	115	65	48	59
ND2103-NHA-1460	14.60	16	115	65	48	59
ND2103-NHA-1470	14.70	16	115	65	48	59
ND2103-NHA-1480	14.80	16	115	65	48	59
ND2103-NHA-1490	14.90	16	115	65	48	59
ND2103-NHA-1500	15.00	16	115	65	48	59
ND2103-NHA-1510	15.10	16	115	65	48	59
ND2103-NHA-1520	15.20	16	115	65	48	59
ND2103-NHA-1530	15.30	16	115	65	48	59
ND2103-NHA-1540	15.40	16	115	65	48	59
ND2103-NHA-1550	15.50	16	115	65	48	59
ND2103-NHA-1560	15.60	16	115	65	48	59
ND2103-NHA-1570	15.70	16	115	65	48	59
ND2103-NHA-1580	15.80	16	115	65	48	59
ND2103-NHA-1590	15.90	16	115	65	48	59
ND2103-NHA-1600	16.00	16	115	65	48	59



ND2103-NHA EXTERNAL COOLING

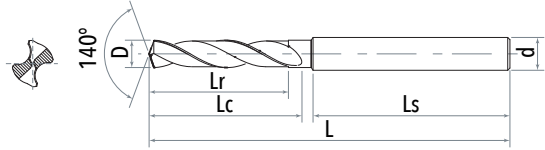


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-1610	16.10	18	123	73	48	67
ND2103-NHA-1620	16.20	18	123	73	48	67
ND2103-NHA-1630	16.30	18	123	73	48	67
ND2103-NHA-1640	16.40	18	123	73	48	67
ND2103-NHA-1650	16.50	18	123	73	48	67
ND2103-NHA-1660	16.60	18	123	73	48	67
ND2103-NHA-1670	16.70	18	123	73	48	67
ND2103-NHA-1680	16.80	18	123	73	48	67
ND2103-NHA-1690	16.90	18	123	73	48	67
ND2103-NHA-1700	17.00	18	123	73	48	67
ND2103-NHA-1710	17.10	18	123	73	48	67
ND2103-NHA-1720	17.20	18	123	73	48	67
ND2103-NHA-1730	17.30	18	123	73	48	67
ND2103-NHA-1740	17.40	18	123	73	48	67
ND2103-NHA-1750	17.50	18	123	73	48	67
ND2103-NHA-1760	17.60	18	123	73	48	67
ND2103-NHA-1770	17.70	18	123	73	48	67
ND2103-NHA-1780	17.80	18	123	73	48	67
ND2103-NHA-1790	17.90	18	123	73	48	67
ND2103-NHA-1800	18.00	18	123	73	48	67
ND2103-NHA-1810	18.10	20	131	79	50	73
ND2103-NHA-1820	18.20	20	131	79	50	73
ND2103-NHA-1830	18.30	20	131	79	50	73
ND2103-NHA-1840	18.40	20	131	79	50	73
ND2103-NHA-1850	18.50	20	131	79	50	73
ND2103-NHA-1860	18.60	20	131	79	50	73
ND2103-NHA-1870	18.70	20	131	79	50	73



NICHE SOLID CARBIDE DRILLS

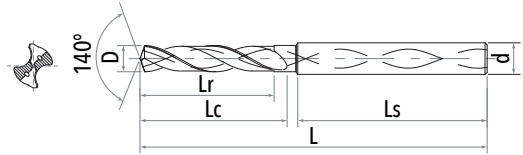
ND2103-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-NHA-1880	18.80	20	131	79	50	73
ND2103-NHA-1890	18.90	20	131	79	50	73
ND2103-NHA-1900	19.00	20	131	79	50	73
ND2103-NHA-1910	19.10	20	131	79	50	73
ND2103-NHA-1920	19.20	20	131	79	50	73
ND2103-NHA-1930	19.30	20	131	79	50	73
ND2103-NHA-1940	19.40	20	131	79	50	73
ND2103-NHA-1950	19.50	20	131	79	50	73
ND2103-NHA-1960	19.60	20	131	79	50	73
ND2103-NHA-1970	19.70	20	131	79	50	73
ND2103-NHA-1980	19.80	20	131	79	50	73
ND2103-NHA-1990	19.90	20	131	79	50	73
ND2103-NHA-2000	20.00	20	131	79	50	73



ND2103-CHA INTERNAL COOLING

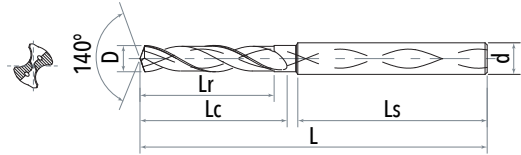


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-0340	3.40	6	62	20	36	17
ND2103-CHA-0350	3.50	6	62	20	36	17
ND2103-CHA-0360	3.60	6	62	20	36	17
ND2103-CHA-0370	3.70	6	62	20	36	17
ND2103-CHA-0380	3.80	6	66	24	36	21
ND2103-CHA-0390	3.90	6	66	24	36	21
ND2103-CHA-0400	4.00	6	66	24	36	21
ND2103-CHA-0410	4.10	6	66	24	36	21
ND2103-CHA-0420	4.20	6	66	24	36	21
ND2103-CHA-0430	4.30	6	66	24	36	21
ND2103-CHA-0440	4.40	6	66	24	36	21
ND2103-CHA-0450	4.50	6	66	24	36	21
ND2103-CHA-0460	4.60	6	66	24	36	21
ND2103-CHA-0465	4.65	6	66	24	36	21
ND2103-CHA-0470	4.70	6	66	24	36	21
ND2103-CHA-0480	4.80	6	66	28	36	25
ND2103-CHA-0490	4.90	6	66	28	36	25
ND2103-CHA-0500	5.00	6	66	28	36	25
ND2103-CHA-0510	5.10	6	66	28	36	25
ND2103-CHA-0520	5.20	6	66	28	36	25
ND2103-CHA-0530	5.30	6	66	28	36	25
ND2103-CHA-0540	5.40	6	66	28	36	25
ND2103-CHA-0550	5.50	6	66	28	36	25
ND2103-CHA-0555	5.55	6	66	28	36	25
ND2103-CHA-0560	5.60	6	66	28	36	25
ND2103-CHA-0570	5.70	6	66	28	36	25
ND2103-CHA-0580	5.80	6	66	28	36	25



NICHE SOLID CARBIDE DRILLS

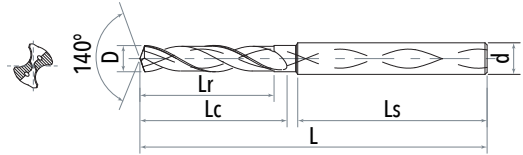
ND2103-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-0590	5.90	6	66	28	36	25
ND2103-CHA-0600	6.00	6	66	28	36	25
ND2103-CHA-0610	6.10	8	79	34	36	30
ND2103-CHA-0620	6.20	8	79	34	36	30
ND2103-CHA-0630	6.30	8	79	34	36	30
ND2103-CHA-0640	6.40	8	79	34	36	30
ND2103-CHA-0650	6.50	8	79	34	36	30
ND2103-CHA-0660	6.60	8	79	34	36	30
ND2103-CHA-0670	6.70	8	79	34	36	30
ND2103-CHA-0680	6.80	8	79	34	36	30
ND2103-CHA-0690	6.90	8	79	34	36	30
ND2103-CHA-0700	7.00	8	79	34	36	30
ND2103-CHA-0710	7.10	8	79	41	36	37
ND2103-CHA-0720	7.20	8	79	41	36	37
ND2103-CHA-0730	7.30	8	79	41	36	37
ND2103-CHA-0740	7.40	8	79	41	36	37
ND2103-CHA-0750	7.50	8	79	41	36	37
ND2103-CHA-0760	7.60	8	79	41	36	37
ND2103-CHA-0770	7.70	8	79	41	36	37
ND2103-CHA-0780	7.80	8	79	41	36	37
ND2103-CHA-0790	7.90	8	79	41	36	37
ND2103-CHA-0800	8.00	8	79	41	36	37
ND2103-CHA-0810	8.10	10	89	47	40	43
ND2103-CHA-0820	8.20	10	89	47	40	43
ND2103-CHA-0830	8.30	10	89	47	40	43
ND2103-CHA-0840	8.40	10	89	47	40	43
ND2103-CHA-0850	8.50	10	89	47	40	43



ND2103-CHA INTERNAL COOLING

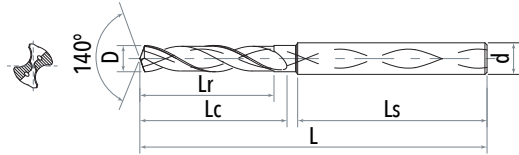


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-0860	8.60	10	89	47	40	43
ND2103-CHA-0870	8.70	10	89	47	40	43
ND2103-CHA-0880	8.80	10	89	47	40	43
ND2103-CHA-0890	8.90	10	89	47	40	43
ND2103-CHA-0900	9.00	10	89	47	40	43
ND2103-CHA-0910	9.10	10	89	47	40	43
ND2103-CHA-0920	9.20	10	89	47	40	43
ND2103-CHA-0925	9.25	10	89	47	40	43
ND2103-CHA-0930	9.30	10	89	47	40	43
ND2103-CHA-0940	9.40	10	89	47	40	43
ND2103-CHA-0950	9.50	10	89	47	40	43
ND2103-CHA-0960	9.60	10	89	47	40	43
ND2103-CHA-0970	9.70	10	89	47	40	43
ND2103-CHA-0980	9.80	10	89	47	40	43
ND2103-CHA-0990	9.90	10	89	47	40	43
ND2103-CHA-1000	10.00	10	89	47	40	43
ND2103-CHA-1010	10.10	12	102	55	45	50
ND2103-CHA-1020	10.20	12	102	55	45	50
ND2103-CHA-1030	10.30	12	102	55	45	50
ND2103-CHA-1040	10.40	12	102	55	45	50
ND2103-CHA-1050	10.50	12	102	55	45	50
ND2103-CHA-1060	10.60	12	102	55	45	50
ND2103-CHA-1070	10.70	12	102	55	45	50
ND2103-CHA-1080	10.80	12	102	55	45	50
ND2103-CHA-1090	10.90	12	102	55	45	50
ND2103-CHA-1100	11.00	12	102	55	45	50
ND2103-CHA-1110	11.10	12	102	55	45	50



NICHE SOLID CARBIDE DRILLS

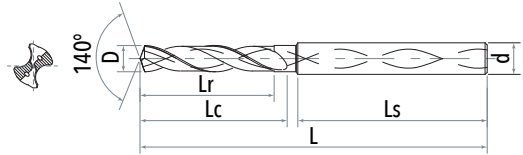
ND2103-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-1120	11.20	12	102	55	45	50
ND2103-CHA-1130	11.30	12	102	55	45	50
ND2103-CHA-1140	11.40	12	102	55	45	50
ND2103-CHA-1150	11.50	12	102	55	45	50
ND2103-CHA-1160	11.60	12	102	55	45	50
ND2103-CHA-1170	11.70	12	102	55	45	50
ND2103-CHA-1180	11.80	12	102	55	45	50
ND2103-CHA-1190	11.90	12	102	55	45	50
ND2103-CHA-1200	12.00	12	102	55	45	50
ND2103-CHA-1210	12.10	14	107	60	45	54
ND2103-CHA-1220	12.20	14	107	60	45	54
ND2103-CHA-1230	12.30	14	107	60	45	54
ND2103-CHA-1240	12.40	14	107	60	45	54
ND2103-CHA-1250	12.50	14	107	60	45	54
ND2103-CHA-1260	12.60	14	107	60	45	54
ND2103-CHA-1270	12.70	14	107	60	45	54
ND2103-CHA-1280	12.80	14	107	60	45	54
ND2103-CHA-1285	12.85	14	107	60	45	54
ND2103-CHA-1290	12.90	14	107	60	45	54
ND2103-CHA-1300	13.00	14	107	60	45	54
ND2103-CHA-1310	13.10	14	107	60	45	54
ND2103-CHA-1320	13.20	14	107	60	45	54
ND2103-CHA-1330	13.30	14	107	60	45	54
ND2103-CHA-1340	13.40	14	107	60	45	54
ND2103-CHA-1350	13.50	14	107	60	45	54
ND2103-CHA-1360	13.60	14	107	60	45	54
ND2103-CHA-1370	13.70	14	107	60	45	54



ND2103-CHA INTERNAL COOLING

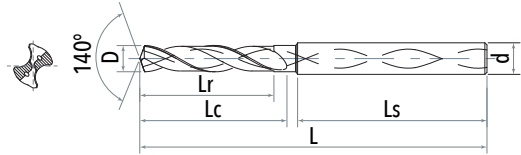


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-1380	13.80	14	107	60	45	54
ND2103-CHA-1390	13.90	14	107	60	45	54
ND2103-CHA-1400	14.00	14	107	60	45	54
ND2103-CHA-1410	14.10	16	115	65	48	59
ND2103-CHA-1420	14.20	16	115	65	48	59
ND2103-CHA-1430	14.30	16	115	65	48	59
ND2103-CHA-1440	14.40	16	115	65	48	59
ND2103-CHA-1450	14.50	16	115	65	48	59
ND2103-CHA-1460	14.60	16	115	65	48	59
ND2103-CHA-1470	14.70	16	115	65	48	59
ND2103-CHA-1480	14.80	16	115	65	48	59
ND2103-CHA-1490	14.90	16	115	65	48	59
ND2103-CHA-1500	15.00	16	115	65	48	59
ND2103-CHA-1510	15.10	16	115	65	48	59
ND2103-CHA-1520	15.20	16	115	65	48	59
ND2103-CHA-1530	15.30	16	115	65	48	59
ND2103-CHA-1540	15.40	16	115	65	48	59
ND2103-CHA-1550	15.50	16	115	65	48	59
ND2103-CHA-1560	15.60	16	115	65	48	59
ND2103-CHA-1570	15.70	16	115	65	48	59
ND2103-CHA-1580	15.80	16	115	65	48	59
ND2103-CHA-1590	15.90	16	115	65	48	59
ND2103-CHA-1600	16.00	16	115	65	48	59
ND2103-CHA-1610	16.10	18	123	73	48	67
ND2103-CHA-1620	16.20	18	123	73	48	67
ND2103-CHA-1630	16.30	18	123	73	48	67
ND2103-CHA-1640	16.40	18	123	73	48	67



NICHE SOLID CARBIDE DRILLS

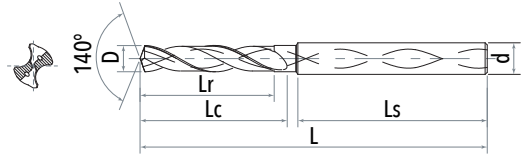
ND2103-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-1650	16.50	18	123	73	48	67
ND2103-CHA-1660	16.60	18	123	73	48	67
ND2103-CHA-1670	16.70	18	123	73	48	67
ND2103-CHA-1680	16.80	18	123	73	48	67
ND2103-CHA-1690	16.90	18	123	73	48	67
ND2103-CHA-1700	17.00	18	123	73	48	67
ND2103-CHA-1710	17.10	18	123	73	48	67
ND2103-CHA-1720	17.20	18	123	73	48	67
ND2103-CHA-1730	17.30	18	123	73	48	67
ND2103-CHA-1740	17.40	18	123	73	48	67
ND2103-CHA-1750	17.50	18	123	73	48	67
ND2103-CHA-1760	17.60	18	123	73	48	67
ND2103-CHA-1770	17.70	18	123	73	48	67
ND2103-CHA-1780	17.80	18	123	73	48	67
ND2103-CHA-1790	17.90	18	123	73	48	67
ND2103-CHA-1800	18.00	18	123	73	48	67
ND2103-CHA-1810	18.10	20	131	79	50	73
ND2103-CHA-1820	18.20	20	131	79	50	73
ND2103-CHA-1830	18.30	20	131	79	50	73
ND2103-CHA-1840	18.40	20	131	79	50	73
ND2103-CHA-1850	18.50	20	131	79	50	73
ND2103-CHA-1860	18.60	20	131	79	50	73
ND2103-CHA-1870	18.70	20	131	79	50	73
ND2103-CHA-1880	18.80	20	131	79	50	73
ND2103-CHA-1890	18.90	20	131	79	50	73
ND2103-CHA-1900	19.00	20	131	79	50	73
ND2103-CHA-1910	19.10	20	131	79	50	73



ND2103-CHA
INTERNAL COOLING

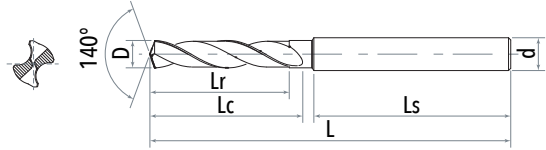


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2103-CHA-1920	19.20	20	131	79	50	73
ND2103-CHA-1930	19.30	20	131	79	50	73
ND2103-CHA-1940	19.40	20	131	79	50	73
ND2103-CHA-1950	19.50	20	131	79	50	73
ND2103-CHA-1960	19.60	20	131	79	50	73
ND2103-CHA-1970	19.70	20	131	79	50	73
ND2103-CHA-1980	19.80	20	131	79	50	73
ND2103-CHA-1990	19.90	20	131	79	50	73
ND2103-CHA-2000	20.00	20	131	79	50	73



NICHE SOLID CARBIDE DRILLS

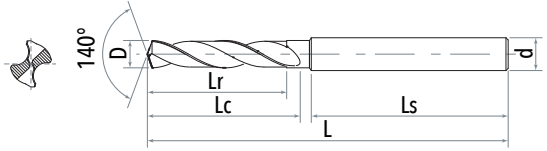
ND2105-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-0300	3.00	6	66	28	36	25
ND2105-NHA-0310	3.10	6	66	28	36	25
ND2105-NHA-0320	3.20	6	66	28	36	25
ND2105-NHA-0330	3.30	6	66	28	36	25
ND2105-NHA-0340	3.40	6	66	28	36	25
ND2105-NHA-0350	3.50	6	66	28	36	25
ND2105-NHA-0360	3.60	6	66	28	36	25
ND2105-NHA-0370	3.70	6	66	28	36	25
ND2105-NHA-0380	3.80	6	74	36	36	32
ND2105-NHA-0390	3.90	6	74	36	36	32
ND2105-NHA-0400	4.00	6	74	36	36	32
ND2105-NHA-0410	4.10	6	74	36	36	32
ND2105-NHA-0420	4.20	6	74	36	36	32
ND2105-NHA-0430	4.30	6	74	36	36	32
ND2105-NHA-0440	4.40	6	74	36	36	32
ND2105-NHA-0450	4.50	6	74	36	36	32
ND2105-NHA-0460	4.60	6	74	36	36	32
ND2105-NHA-0465	4.65	6	74	36	36	32
ND2105-NHA-0470	4.70	6	74	36	36	32
ND2105-NHA-0480	4.80	6	82	44	36	40
ND2105-NHA-0490	4.90	6	82	44	36	40
ND2105-NHA-0500	5.00	6	82	44	36	40
ND2105-NHA-0510	5.10	6	82	44	36	40
ND2105-NHA-0520	5.20	6	82	44	36	40
ND2105-NHA-0530	5.30	6	82	44	36	40
ND2105-NHA-0540	5.40	6	82	44	36	40
ND2105-NHA-0550	5.50	6	82	44	36	40



ND2105-NHA EXTERNAL COOLING

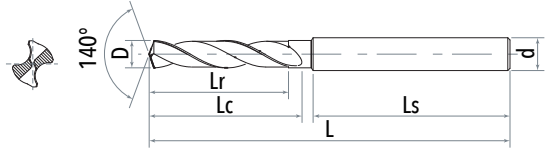


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-0555	5.55	6	82	44	36	40
ND2105-NHA-0560	5.60	6	82	44	36	40
ND2105-NHA-0570	5.70	6	82	44	36	40
ND2105-NHA-0580	5.80	6	82	44	36	40
ND2105-NHA-0590	5.90	6	82	44	36	40
ND2105-NHA-0600	6.00	6	82	44	36	40
ND2105-NHA-0610	6.10	8	91	53	36	50
ND2105-NHA-0620	6.20	8	91	53	36	50
ND2105-NHA-0630	6.30	8	91	53	36	50
ND2105-NHA-0640	6.40	8	91	53	36	50
ND2105-NHA-0650	6.50	8	91	53	36	50
ND2105-NHA-0660	6.60	8	91	53	36	50
ND2105-NHA-0670	6.70	8	91	53	36	50
ND2105-NHA-0680	6.80	8	91	53	36	50
ND2105-NHA-0690	6.90	8	91	53	36	50
ND2105-NHA-0700	7.00	8	91	53	36	50
ND2105-NHA-0710	7.10	8	91	53	36	50
ND2105-NHA-0720	7.20	8	91	53	36	50
ND2105-NHA-0730	7.30	8	91	53	36	50
ND2105-NHA-0740	7.40	8	91	53	36	50
ND2105-NHA-0750	7.50	8	91	53	36	50
ND2105-NHA-0760	7.60	8	91	53	36	50
ND2105-NHA-0770	7.70	8	91	53	36	50
ND2105-NHA-0780	7.80	8	91	53	36	50
ND2105-NHA-0790	7.90	8	91	53	36	50
ND2105-NHA-0800	8.00	8	91	53	36	50
ND2105-NHA-0810	8.10	10	103	61	40	57



NICHE SOLID CARBIDE DRILLS

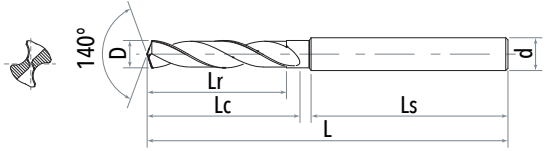
ND2105-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-0555	5.55	6	82	44	36	40
ND2105-NHA-0560	5.60	6	82	44	36	40
ND2105-NHA-0570	5.70	6	82	44	36	40
ND2105-NHA-0580	5.80	6	82	44	36	40
ND2105-NHA-0590	5.90	6	82	44	36	40
ND2105-NHA-0600	6.00	6	82	44	36	40
ND2105-NHA-0610	6.10	8	91	53	36	50
ND2105-NHA-0620	6.20	8	91	53	36	50
ND2105-NHA-0630	6.30	8	91	53	36	50
ND2105-NHA-0640	6.40	8	91	53	36	50
ND2105-NHA-0650	6.50	8	91	53	36	50
ND2105-NHA-0660	6.60	8	91	53	36	50
ND2105-NHA-0670	6.70	8	91	53	36	50
ND2105-NHA-0680	6.80	8	91	53	36	50
ND2105-NHA-0690	6.90	8	91	53	36	50
ND2105-NHA-0700	7.00	8	91	53	36	50
ND2105-NHA-0710	7.10	8	91	53	36	50
ND2105-NHA-0720	7.20	8	91	53	36	50
ND2105-NHA-0730	7.30	8	91	53	36	50
ND2105-NHA-0740	7.40	8	91	53	36	50
ND2105-NHA-0750	7.50	8	91	53	36	50
ND2105-NHA-0760	7.60	8	91	53	36	50
ND2105-NHA-0770	7.70	8	91	53	36	50
ND2105-NHA-0780	7.80	8	91	53	36	50
ND2105-NHA-0790	7.90	8	91	53	36	50
ND2105-NHA-0800	8.00	8	91	53	36	50
ND2105-NHA-0810	8.10	10	103	61	40	57



ND2105-NHA EXTERNAL COOLING

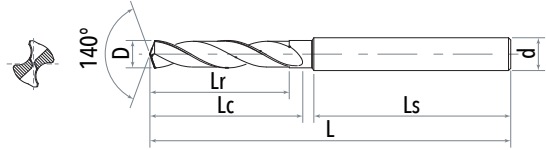


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-0820	8.20	10	103	61	40	57
ND2105-NHA-0830	8.30	10	103	61	40	57
ND2105-NHA-0840	8.40	10	103	61	40	57
ND2105-NHA-0850	8.50	10	103	61	40	57
ND2105-NHA-0860	8.60	10	103	61	40	57
ND2105-NHA-0870	8.70	10	103	61	40	57
ND2105-NHA-0880	8.80	10	103	61	40	57
ND2105-NHA-0890	8.90	10	103	61	40	57
ND2105-NHA-0900	9.00	10	103	61	40	57
ND2105-NHA-0910	9.10	10	103	61	40	57
ND2105-NHA-0920	9.20	10	103	61	40	57
ND2105-NHA-0925	9.25	10	103	61	40	57
ND2105-NHA-0930	9.30	10	103	61	40	57
ND2105-NHA-0940	9.40	10	103	61	40	57
ND2105-NHA-0950	9.50	10	103	61	40	57
ND2105-NHA-0960	9.60	10	103	61	40	57
ND2105-NHA-0970	9.70	10	103	61	40	57
ND2105-NHA-0980	9.80	10	103	61	40	57
ND2105-NHA-0990	9.90	10	103	61	40	57
ND2105-NHA-1000	10.00	10	103	61	40	57
ND2105-NHA-1010	10.10	12	118	71	45	65
ND2105-NHA-1020	10.20	12	118	71	45	65
ND2105-NHA-1030	10.30	12	118	71	45	65
ND2105-NHA-1040	10.40	12	118	71	45	65
ND2105-NHA-1050	10.50	12	118	71	45	65
ND2105-NHA-1060	10.60	12	118	71	45	65
ND2105-NHA-1070	10.70	12	118	71	45	65



NICHE SOLID CARBIDE DRILLS

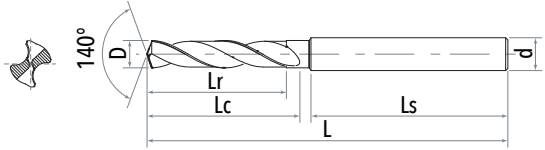
ND2105-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-1080	10.80	12	118	71	45	65
ND2105-NHA-1090	10.90	12	118	71	45	65
ND2105-NHA-1100	11.00	12	118	71	45	65
ND2105-NHA-1110	11.10	12	118	71	45	65
ND2105-NHA-1120	11.20	12	118	71	45	65
ND2105-NHA-1130	11.30	12	118	71	45	65
ND2105-NHA-1140	11.40	12	118	71	45	65
ND2105-NHA-1150	11.50	12	118	71	45	65
ND2105-NHA-1160	11.60	12	118	71	45	65
ND2105-NHA-1170	11.70	12	118	71	45	65
ND2105-NHA-1180	11.80	12	118	71	45	65
ND2105-NHA-1190	11.90	12	118	71	45	65
ND2105-NHA-1200	12.00	12	118	71	45	65
ND2105-NHA-1210	12.10	14	124	77	45	72
ND2105-NHA-1220	12.20	14	124	77	45	72
ND2105-NHA-1230	12.30	14	124	77	45	72
ND2105-NHA-1240	12.40	14	124	77	45	72
ND2105-NHA-1250	12.50	14	124	77	45	72
ND2105-NHA-1260	12.60	14	124	77	45	72
ND2105-NHA-1270	12.70	14	124	77	45	72
ND2105-NHA-1280	12.80	14	124	77	45	72
ND2105-NHA-1285	12.85	14	124	77	45	72
ND2105-NHA-1290	12.90	14	124	77	45	72
ND2105-NHA-1300	13.00	14	124	77	45	72
ND2105-NHA-1310	13.10	14	124	77	45	72
ND2105-NHA-1320	13.20	14	124	77	45	72
ND2105-NHA-1330	13.30	14	124	77	45	72



ND2105-NHA EXTERNAL COOLING

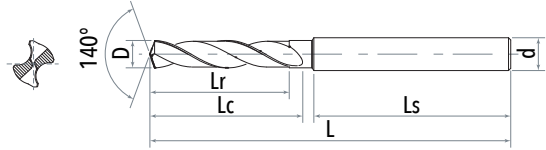


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-1340	13.40	14	124	77	45	72
ND2105-NHA-1350	13.50	14	124	77	45	72
ND2105-NHA-1360	13.60	14	124	77	45	72
ND2105-NHA-1370	13.70	14	124	77	45	72
ND2105-NHA-1380	13.80	14	124	77	45	72
ND2105-NHA-1390	13.90	14	124	77	45	72
ND2105-NHA-1400	14.00	14	124	77	45	72
ND2105-NHA-1410	14.10	16	133	83	48	77
ND2105-NHA-1420	14.20	16	133	83	48	77
ND2105-NHA-1430	14.30	16	133	83	48	77
ND2105-NHA-1440	14.40	16	133	83	48	77
ND2105-NHA-1450	14.50	16	133	83	48	77
ND2105-NHA-1460	14.60	16	133	83	48	77
ND2105-NHA-1470	14.70	16	133	83	48	77
ND2105-NHA-1480	14.80	16	133	83	48	77
ND2105-NHA-1490	14.90	16	133	83	48	77
ND2105-NHA-1500	15.00	16	133	83	48	77
ND2105-NHA-1510	15.10	16	133	83	48	77
ND2105-NHA-1520	15.20	16	133	83	48	77
ND2105-NHA-1530	15.30	16	133	83	48	77
ND2105-NHA-1540	15.40	16	133	83	48	77
ND2105-NHA-1550	15.50	16	133	83	48	77
ND2105-NHA-1560	15.60	16	133	83	48	77
ND2105-NHA-1570	15.70	16	133	83	48	77
ND2105-NHA-1580	15.80	16	133	83	48	77
ND2105-NHA-1590	15.90	16	133	83	48	77
ND2105-NHA-1600	16.00	16	133	83	48	77



NICHE SOLID CARBIDE DRILLS

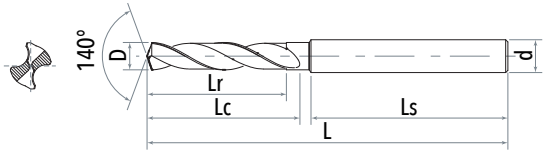
ND2105-NHA EXTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-1610	16.10	18	143	93	48	87
ND2105-NHA-1620	16.20	18	143	93	48	87
ND2105-NHA-1630	16.30	18	143	93	48	87
ND2105-NHA-1640	16.40	18	143	93	48	87
ND2105-NHA-1650	16.50	18	143	93	48	87
ND2105-NHA-1660	16.60	18	143	93	48	87
ND2105-NHA-1670	16.70	18	143	93	48	87
ND2105-NHA-1680	16.80	18	143	93	48	87
ND2105-NHA-1690	16.90	18	143	93	48	87
ND2105-NHA-1700	17.00	18	143	93	48	87
ND2105-NHA-1710	17.10	18	143	93	48	87
ND2105-NHA-1720	17.20	18	143	93	48	87
ND2105-NHA-1730	17.30	18	143	93	48	87
ND2105-NHA-1740	17.40	18	143	93	48	87
ND2105-NHA-1750	17.50	18	143	93	48	87
ND2105-NHA-1760	17.60	18	143	93	48	87
ND2105-NHA-1770	17.70	18	143	93	48	87
ND2105-NHA-1780	17.80	18	143	93	48	87
ND2105-NHA-1790	17.90	18	143	93	48	87
ND2105-NHA-1800	18.00	18	143	93	48	87
ND2105-NHA-1810	18.10	20	153	101	50	95
ND2105-NHA-1820	18.20	20	153	101	50	95
ND2105-NHA-1830	18.30	20	153	101	50	95
ND2105-NHA-1840	18.40	20	153	101	50	95
ND2105-NHA-1850	18.50	20	153	101	50	95
ND2105-NHA-1860	18.60	20	153	101	50	95
ND2105-NHA-1870	18.70	20	153	101	50	95



ND2105-NHA EXTERNAL COOLING

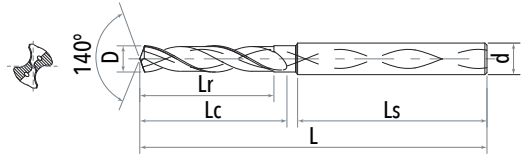


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-NHA-1880	18.80	20	153	101	50	95
ND2105-NHA-1890	18.90	20	153	101	50	95
ND2105-NHA-1900	19.00	20	153	101	50	95
ND2105-NHA-1910	19.10	20	153	101	50	95
ND2105-NHA-1920	19.20	20	153	101	50	95
ND2105-NHA-1930	19.30	20	153	101	50	95
ND2105-NHA-1940	19.40	20	153	101	50	95
ND2105-NHA-1950	19.50	20	153	101	50	95
ND2105-NHA-1960	19.60	20	153	101	50	95
ND2105-NHA-1970	19.70	20	153	101	50	95
ND2105-NHA-1980	19.80	20	153	101	50	95
ND2105-NHA-1990	19.90	20	153	101	50	95
ND2105-NHA-2000	20.00	20	153	101	50	95



NICHE SOLID CARBIDE DRILLS

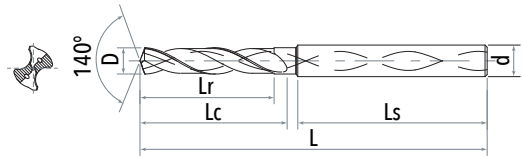
ND2105-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-0340	3.40	6	66	28	36	25
ND2105-CHA-0350	3.50	6	66	28	36	25
ND2105-CHA-0360	3.60	6	66	28	36	25
ND2105-CHA-0370	3.70	6	66	28	36	25
ND2105-CHA-0380	3.80	6	74	36	36	32
ND2105-CHA-0390	3.90	6	74	36	36	32
ND2105-CHA-0400	4.00	6	74	36	36	32
ND2105-CHA-0410	4.10	6	74	36	36	32
ND2105-CHA-0420	4.20	6	74	36	36	32
ND2105-CHA-0430	4.30	6	74	36	36	32
ND2105-CHA-0440	4.40	6	74	36	36	32
ND2105-CHA-0450	4.50	6	74	36	36	32
ND2105-CHA-0460	4.60	6	74	36	36	32
ND2105-CHA-0465	4.65	6	74	36	36	32
ND2105-CHA-0470	4.70	6	74	36	36	32
ND2105-CHA-0480	4.80	6	82	44	36	40
ND2105-CHA-0490	4.90	6	82	44	36	40
ND2105-CHA-0500	5.00	6	82	44	36	40
ND2105-CHA-0510	5.10	6	82	44	36	40
ND2105-CHA-0520	5.20	6	82	44	36	40
ND2105-CHA-0530	5.30	6	82	44	36	40
ND2105-CHA-0540	5.40	6	82	44	36	40
ND2105-CHA-0550	5.50	6	82	44	36	40
ND2105-CHA-0555	5.55	6	82	44	36	40
ND2105-CHA-0560	5.60	6	82	44	36	40
ND2105-CHA-0570	5.70	6	82	44	36	40
ND2105-CHA-0580	5.80	6	82	44	36	40



ND2105-CHA INTERNAL COOLING

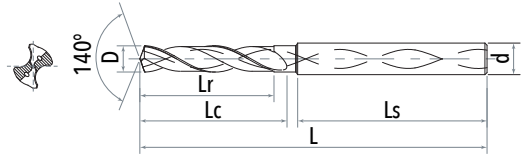


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-0590	5.90	6	82	44	36	40
ND2105-CHA-0600	6.00	6	82	44	36	40
ND2105-CHA-0610	6.10	8	91	53	36	50
ND2105-CHA-0620	6.20	8	91	53	36	50
ND2105-CHA-0630	6.30	8	91	53	36	50
ND2105-CHA-0640	6.40	8	91	53	36	50
ND2105-CHA-0650	6.50	8	91	53	36	50
ND2105-CHA-0660	6.60	8	91	53	36	50
ND2105-CHA-0670	6.70	8	91	53	36	50
ND2105-CHA-0680	6.80	8	91	53	36	50
ND2105-CHA-0690	6.90	8	91	53	36	50
ND2105-CHA-0700	7.00	8	91	53	36	50
ND2105-CHA-0710	7.10	8	91	53	36	50
ND2105-CHA-0720	7.20	8	91	53	36	50
ND2105-CHA-0730	7.30	8	91	53	36	50
ND2105-CHA-0740	7.40	8	91	53	36	50
ND2105-CHA-0750	7.50	8	91	53	36	50
ND2105-CHA-0760	7.60	8	91	53	36	50
ND2105-CHA-0770	7.70	8	91	53	36	50
ND2105-CHA-0780	7.80	8	91	53	36	50
ND2105-CHA-0790	7.90	8	91	53	36	50
ND2105-CHA-0800	8.00	8	91	53	36	50
ND2105-CHA-0810	8.10	10	103	61	40	57
ND2105-CHA-0820	8.20	10	103	61	40	57
ND2105-CHA-0830	8.30	10	103	61	40	57
ND2105-CHA-0840	8.40	10	103	61	40	57
ND2105-CHA-0850	8.50	10	103	61	40	57



NICHE SOLID CARBIDE DRILLS

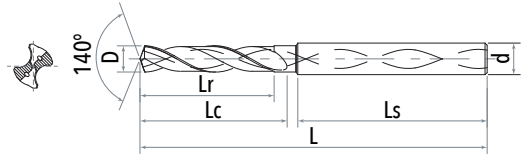
ND2105-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-0860	8.60	10	103	61	40	57
ND2105-CHA-0870	8.70	10	103	61	40	57
ND2105-CHA-0880	8.80	10	103	61	40	57
ND2105-CHA-0890	8.90	10	103	61	40	57
ND2105-CHA-0900	9.00	10	103	61	40	57
ND2105-CHA-0910	9.10	10	103	61	40	57
ND2105-CHA-0920	9.20	10	103	61	40	57
ND2105-CHA-0925	9.25	10	103	61	40	57
ND2105-CHA-0930	9.30	10	103	61	40	57
ND2105-CHA-0940	9.40	10	103	61	40	57
ND2105-CHA-0950	9.50	10	103	61	40	57
ND2105-CHA-0960	9.60	10	103	61	40	57
ND2105-CHA-0970	9.70	10	103	61	40	57
ND2105-CHA-0980	9.80	10	103	61	40	57
ND2105-CHA-0990	9.90	10	103	61	40	57
ND2105-CHA-1000	10.00	10	103	61	40	57
ND2105-CHA-1010	10.10	12	118	71	45	65
ND2105-CHA-1020	10.20	12	118	71	45	65
ND2105-CHA-1030	10.30	12	118	71	45	65
ND2105-CHA-1040	10.40	12	118	71	45	65
ND2105-CHA-1050	10.50	12	118	71	45	65
ND2105-CHA-1060	10.60	12	118	71	45	65
ND2105-CHA-1070	10.70	12	118	71	45	65
ND2105-CHA-1080	10.80	12	118	71	45	65
ND2105-CHA-1090	10.90	12	118	71	45	65
ND2105-CHA-1100	11.00	12	118	71	45	65
ND2105-CHA-1110	11.10	12	118	71	45	65



ND2105-CHA INTERNAL COOLING

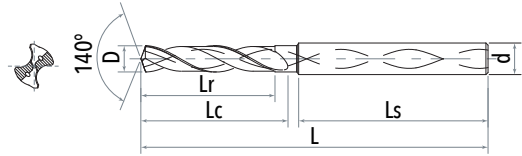


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-1120	11.20	12	118	71	45	65
ND2105-CHA-1130	11.30	12	118	71	45	65
ND2105-CHA-1140	11.40	12	118	71	45	65
ND2105-CHA-1150	11.50	12	118	71	45	65
ND2105-CHA-1160	11.60	12	118	71	45	65
ND2105-CHA-1170	11.70	12	118	71	45	65
ND2105-CHA-1180	11.80	12	118	71	45	65
ND2105-CHA-1190	11.90	12	118	71	45	65
ND2105-CHA-1200	12.00	12	118	71	45	65
ND2105-CHA-1210	12.10	14	124	77	45	72
ND2105-CHA-1220	12.20	14	124	77	45	72
ND2105-CHA-1230	12.30	14	124	77	45	72
ND2105-CHA-1240	12.40	14	124	77	45	72
ND2105-CHA-1250	12.50	14	124	77	45	72
ND2105-CHA-1260	12.60	14	124	77	45	72
ND2105-CHA-1270	12.70	14	124	77	45	72
ND2105-CHA-1280	12.80	14	124	77	45	72
ND2105-CHA-1285	12.85	14	124	77	45	72
ND2105-CHA-1290	12.90	14	124	77	45	72
ND2105-CHA-1300	13.00	14	124	77	45	72
ND2105-CHA-1310	13.10	14	124	77	45	72
ND2105-CHA-1320	13.20	14	124	77	45	72
ND2105-CHA-1330	13.30	14	124	77	45	72
ND2105-CHA-1340	13.40	14	124	77	45	72
ND2105-CHA-1350	13.50	14	124	77	45	72
ND2105-CHA-1360	13.60	14	124	77	45	72
ND2105-CHA-1370	13.70	14	124	77	45	72



NICHE SOLID CARBIDE DRILLS

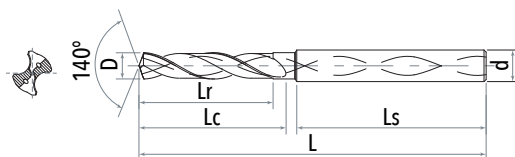
ND2105-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-1380	13.80	14	124	77	45	72
ND2105-CHA-1390	13.90	14	124	77	45	72
ND2105-CHA-1400	14.00	14	124	77	45	72
ND2105-CHA-1410	14.10	16	133	83	48	77
ND2105-CHA-1420	14.20	16	133	83	48	77
ND2105-CHA-1430	14.30	16	133	83	48	77
ND2105-CHA-1440	14.40	16	133	83	48	77
ND2105-CHA-1450	14.50	16	133	83	48	77
ND2105-CHA-1460	14.60	16	133	83	48	77
ND2105-CHA-1470	14.70	16	133	83	48	77
ND2105-CHA-1480	14.80	16	133	83	48	77
ND2105-CHA-1490	14.90	16	133	83	48	77
ND2105-CHA-1500	15.00	16	133	83	48	77
ND2105-CHA-1510	15.10	16	133	83	48	77
ND2105-CHA-1520	15.20	16	133	83	48	77
ND2105-CHA-1530	15.30	16	133	83	48	77
ND2105-CHA-1540	15.40	16	133	83	48	77
ND2105-CHA-1550	15.50	16	133	83	48	77
ND2105-CHA-1560	15.60	16	133	83	48	77
ND2105-CHA-1570	15.70	16	133	83	48	77
ND2105-CHA-1580	15.80	16	133	83	48	77
ND2105-CHA-1590	15.90	16	133	83	48	77
ND2105-CHA-1600	16.00	16	133	83	48	77
ND2105-CHA-1610	16.10	18	143	93	48	87
ND2105-CHA-1620	16.20	18	143	93	48	87
ND2105-CHA-1630	16.30	18	143	93	48	87
ND2105-CHA-1640	16.40	18	143	93	48	87



ND2105-CHA INTERNAL COOLING

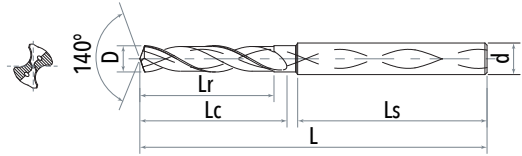


Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-1650	16.50	18	143	93	48	87
ND2105-CHA-1660	16.60	18	143	93	48	87
ND2105-CHA-1670	16.70	18	143	93	48	87
ND2105-CHA-1680	16.80	18	143	93	48	87
ND2105-CHA-1690	16.90	18	143	93	48	87
ND2105-CHA-1700	17.00	18	143	93	48	87
ND2105-CHA-1710	17.10	18	143	93	48	87
ND2105-CHA-1720	17.20	18	143	93	48	87
ND2105-CHA-1730	17.30	18	143	93	48	87
ND2105-CHA-1740	17.40	18	143	93	48	87
ND2105-CHA-1750	17.50	18	143	93	48	87
ND2105-CHA-1760	17.60	18	143	93	48	87
ND2105-CHA-1770	17.70	18	143	93	48	87
ND2105-CHA-1780	17.80	18	143	93	48	87
ND2105-CHA-1790	17.90	18	143	93	48	87
ND2105-CHA-1800	18.00	18	143	93	48	87
ND2105-CHA-1810	18.10	20	153	101	50	95
ND2105-CHA-1820	18.20	20	153	101	50	95
ND2105-CHA-1830	18.30	20	153	101	50	95
ND2105-CHA-1840	18.40	20	153	101	50	95
ND2105-CHA-1850	18.50	20	153	101	50	95
ND2105-CHA-1860	18.60	20	153	101	50	95
ND2105-CHA-1870	18.70	20	153	101	50	95
ND2105-CHA-1880	18.80	20	153	101	50	95
ND2105-CHA-1890	18.90	20	153	101	50	95
ND2105-CHA-1900	19.00	20	153	101	50	95
ND2105-CHA-1910	19.10	20	153	101	50	95



NICHE SOLID CARBIDE DRILLS

ND2105-CHA INTERNAL COOLING



Specification	Drill Dia D (m7)	Shank Dia d (h6)	Overall Length L	Flute Length Lc	Shank Length Ls	Max Drilling Depth Lr
ND2105-CHA-1920	19.20	20	153	101	50	95
ND2105-CHA-1930	19.30	20	153	101	50	95
ND2105-CHA-1940	19.40	20	153	101	50	95
ND2105-CHA-1950	19.50	20	153	101	50	95
ND2105-CHA-1960	19.60	20	153	101	50	95
ND2105-CHA-1970	19.70	20	153	101	50	95
ND2105-CHA-1980	19.80	20	153	101	50	95
ND2105-CHA-1990	19.90	20	153	101	50	95
ND2105-CHA-2000	20.00	20	153	101	50	95



MEMO

A large rectangular area filled with a fine grid of small squares, intended for writing a memo or taking notes.



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