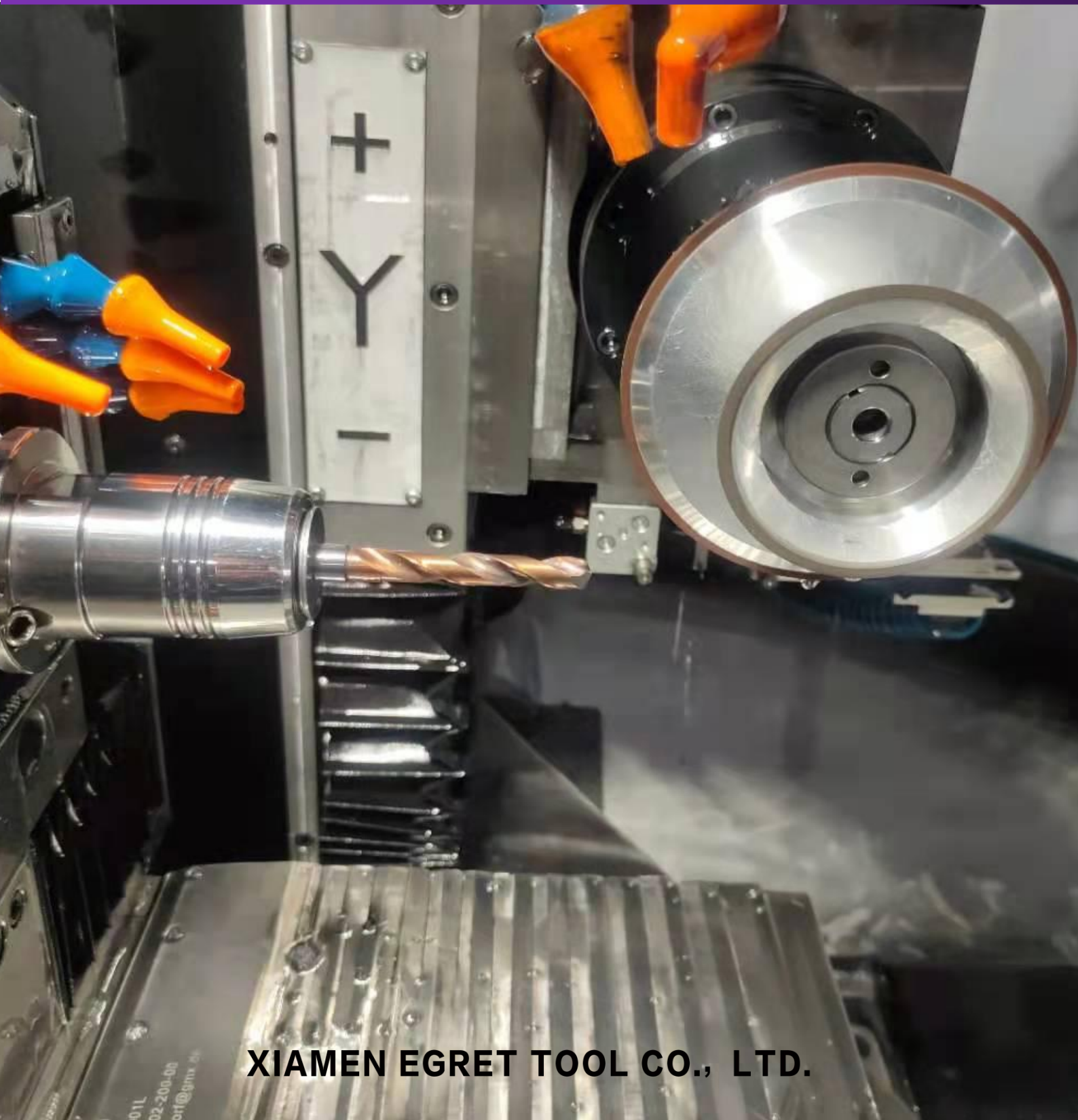


Solid Carbide Drill





Solid carbide drill

Identification rules of solid carbide drill

Application summary of solid carbide drills

New product introduction

Drill product summary

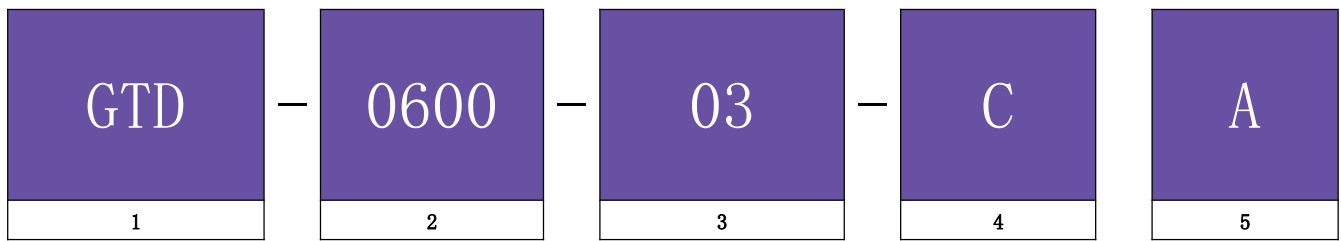
Specification of solid carbide drills

Recommended cutting data

Shank standard - DIN Standard

Cutting definitions and calculations

Identification rules of solid carbide drill



① Drill series

GTD: Twist drills for general machining

② Flute diameter

- 0600: $\Phi 6.00$
- 1200: $\Phi 12.00$

③ Drilling depth

- 03: Drilling Depth $\leq 3D$
- 05: Drilling Depth $\leq 5D$
- 08: Drilling Depth $\leq 8D$
- 12: Drilling Depth $\leq 12D$

④ Coolant type

- C: Inner cooling
- N: External cooling

⑤ Shank type

- A: DIN6535HA
- B: DIN6535HB
- E: DIN6535HE
- Y: Continuous parallel shank
- M: Mose shank

Application summary of solid carbide drills

Material		Inner cooling				External cooling	
		3D	5D	8D	12D	3D	5D
P	Carbon steel, alloy steel (<35 HRC)	GTD					
	Alloy steel (35-48 HRC)						
	PH,ferritic, martensitic steel(<35HRC)						
M	Stainless steel	GTD					
K	Grey cast iron, nodular cast iron (<32HRC)	GTD					
	High-alloy cast iron (35-45HRC)						
N	Wrought aluminium alloys, Cast aluminium alloys (Si≤12%)						
	Cast aluminium alloys (Si>12%)						
	Copper alloys (<200HB)						
	Composite						
S	Heat resistant alloys (<450HB)						
	Titanium alloys (<400HB)						
H	Hardened steel (45-55HRC)						
	Hardened steel (55-60HRC)						

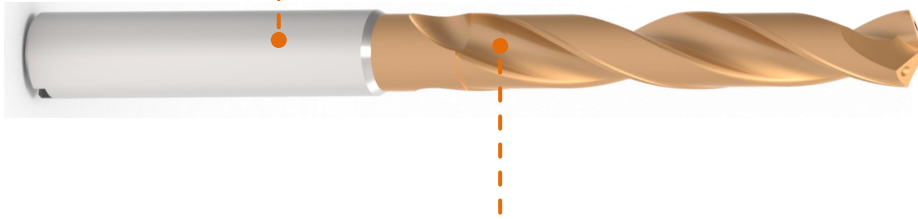
New Product Introduction

GTD series twist drills for general machining

New substrate material, mature pre-treatment and post-treatment process, super smooth coating surface and larger chip holding groove design; Mainly suitable for drilling of steel, as well as cast iron, stainless steel and other materials.

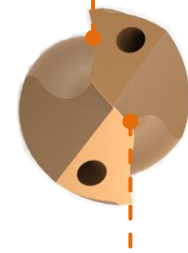
Product features

High performance substrate: Customized tool substrate, using sub-micron tungsten carbide grade, with good wear resistance and toughness, suitable for general machining.



Advanced coating and post treatment technology: The advanced TiAlCrSiN nano coating process from Balzers is applied to ensure extremely strong wear resistance of the cutting tool. The advanced groove bottom post-treatment technology is used to effectively increase surface finish of the groove and improve chip removal performance of the cutting tool.

Mature edge treatment technology: Mature passivation technic is applied to cutting edge, maintaining both the edge strength and cutting sharpness.

















Bottom blade enlarged







New groove design: Unique groove design ensures good chip breaking performance and effectively reduces cutting force.

Drill product summary

GTD

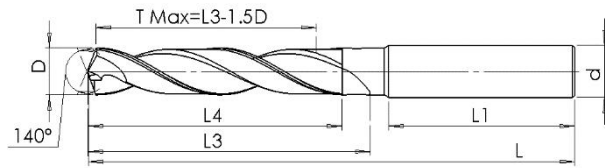
Workpiece material	Description		Point angel	Shank type
	3D External cooling twist drills		140°	
	3D Inner cooling twist drills		140°	
	5D External cooling twist drills		140°	
	5D Inner cooling twist drills		140°	
	8D Inner cooling twist drills		140°	
	12D Inner cooling twist drills		140°	

GTD

Coating	Drilling depth	Coolant type	Tool type	Dimension range	Dimension page	Cutting parameters page
TiAlCrSiN	3D		GTD-03N A	3~20		
TiAlCrSiN	3D		GTD-03C A	3~20		
TiAlCrSiN	5D		GTD-05N A	3~20		
TiAlCrSiN	5D		GTD-05C A	3~20		
TiAlCrSiN	8D		GTD-08C A	3~16		
TiAlCrSiN	12D		GTD-12C A	3~12		



GTD-03NA--3D external cooling twist drills for general machining



Tmax- Recommended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-03NA	3.00	62	36	20	6	●
GTD-0310-03NA	3.10	62	36	20	6	○
GTD-0320-03NA	3.20	62	36	20	6	○
GTD-0330-03NA	3.30	62	36	20	6	●
GTD-0340-03NA	3.40	62	36	20	6	●
GTD-0350-03NA	3.50	62	36	20	6	●
GTD-0360-03NA	3.60	62	36	20	6	○
GTD-0370-03NA	3.70	62	36	20	6	●
GTD-0380-03NA	3.80	66	36	24	6	○
GTD-0390-03NA	3.90	66	36	24	6	○
GTD-0400-03NA	4.00	66	36	24	6	●
GTD-0410-03NA	4.10	66	36	24	6	●
GTD-0420-03NA	4.20	66	36	24	6	●
GTD-0430-03NA	4.30	66	36	24	6	●
GTD-0440-03NA	4.40	66	36	24	6	○
GTD-0450-03NA	4.50	66	36	24	6	●
GTD-0460-03NA	4.60	66	36	24	6	○
GTD-0470-03NA	4.70	66	36	24	6	○
GTD-0480-03NA	4.80	66	36	28	6	○
GTD-0490-03NA	4.90	66	36	28	6	○
GTD-0500-03NA	5.00	66	36	28	6	●
GTD-0510-03NA	5.10	66	36	28	6	●
GTD-0520-03NA	5.20	66	36	28	6	●
GTD-0530-03NA	5.30	66	36	28	6	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0540-03NA	5.40	66	36	28	6	○
GTD-0550-03NA	5.50	66	36	28	6	○
GTD-0560-03NA	5.60	66	36	28	6	○
GTD-0570-03NA	5.70	66	36	28	6	○
GTD-0580-03NA	5.80	66	36	28	6	●
GTD-0590-03NA	5.90	66	36	28	6	○
GTD-0600-03NA	6.00	66	36	28	6	●
GTD-0610-03NA	6.10	79	36	34	8	●
GTD-0620-03NA	6.20	79	36	34	8	○
GTD-0630-03NA	6.30	79	36	34	8	○
GTD-0640-03NA	6.40	79	36	34	8	○
GTD-0650-03NA	6.50	79	36	34	8	○
GTD-0660-03NA	6.60	79	36	34	8	●
GTD-0670-03NA	6.70	79	36	34	8	○
GTD-0680-03NA	6.80	79	36	34	8	●
GTD-0690-03NA	6.90	79	36	34	8	○
GTD-0700-03NA	7.00	79	36	34	8	●
GTD-0710-03NA	7.10	79	36	41	8	○
GTD-0720-03NA	7.20	79	36	41	8	○
GTD-0730-03NA	7.30	79	36	41	8	○
GTD-0740-03NA	7.40	79	36	41	8	○
GTD-0750-03NA	7.50	79	36	41	8	○
GTD-0760-03NA	7.60	79	36	41	8	○
GTD-0770-03NA	7.70	79	36	41	8	○
GTD-0780-03NA	7.80	79	36	41	8	○
GTD-0790-03NA	7.90	79	36	41	8	○
GTD-0800-03NA	8.00	79	36	41	8	●
GTD-0810-03NA	8.10	89	40	47	10	○
GTD-0820-03NA	8.20	89	40	47	10	○
GTD-0830-03NA	8.30	89	40	47	10	○
GTD-0840-03NA	8.40	89	40	47	10	○
GTD-0850-03NA	8.50	89	40	47	10	☉●
GTD-0860-03NA	8.60	89	40	47	10	☉●

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0870-03NA	8.70	89	40	47	10	○
GTD-0880-03NA	8.80	89	40	47	10	○
GTD-0890-03NA	8.90	89	40	47	10	○
GTD-0900-03NA	9.00	89	40	47	10	●
GTD-0910-03NA	9.10	89	40	47	10	○
GTD-0920-03NA	9.20	89	40	47	10	○
GTD-0930-03NA	9.30	89	40	47	10	○
GTD-0940-03NA	9.40	89	40	47	10	●
GTD-0950-03NA	9.50	89	40	47	10	○
GTD-0960-03NA	9.60	89	40	47	10	○
GTD-0970-03NA	9.70	89	40	47	10	●
GTD-0980-03NA	9.80	89	40	47	10	○
GTD-0990-03NA	9.90	89	40	47	10	○
GTD-1000-03NA	10.00	89	40	47	10	●
GTD-1010-03NA	10.10	102	45	55	12	○
GTD-1020-03NA	10.20	102	45	55	12	○
GTD-1030-03NA	10.30	102	45	55	12	●
GTD-1040-03NA	10.40	102	45	55	12	○
GTD-1050-03NA	10.50	102	45	55	12	●
GTD-1060-03NA	10.60	102	45	55	12	○
GTD-1070-03NA	10.70	102	45	55	12	○
GTD-1080-03NA	10.80	102	45	55	12	●
GTD-1090-03NA	10.90	102	45	55	12	○
GTD-1100-03NA	11.00	102	45	55	12	●
GTD-1110-03NA	11.10	102	45	55	12	○
GTD-1120-03NA	11.20	102	45	55	12	○
GTD-1130-03NA	11.30	102	45	55	12	○
GTD-1140-03NA	11.40	102	45	55	12	○
GTD-1150-03NA	11.50	102	45	55	12	○
GTD-1160-03NA	11.60	102	45	55	12	○
GTD-1170-03NA	11.70	102	45	55	12	○
GTD-1180-03NA	11.80	102	45	55	12	○
GTD-1190-03NA	11.90	102	45	55	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1200-03NA	12.00	102	45	55	12	●
GTD-1210-03NA	12.10	107	45	60	14	○
GTD-1220-03NA	12.20	107	45	60	14	○
GTD-1230-03NA	12.30	107	45	60	14	○
GTD-1240-03NA	12.40	107	45	60	14	○
GTD-1250-03NA	12.50	107	45	60	14	●
GTD-1260-03NA	12.60	107	45	60	14	○
GTD-1270-03NA	12.70	107	45	60	14	○
GTD-1280-03NA	12.80	107	45	60	14	○
GTD-1290-03NA	12.90	107	45	60	14	○
GTD-1300-03NA	13.00	107	45	60	14	●
GTD-1310-03NA	13.10	107	45	60	14	○
GTD-1320-03NA	13.20	107	45	60	14	○
GTD-1330-03NA	13.30	107	45	60	14	○
GTD-1340-03NA	13.40	107	45	60	14	○
GTD-1350-03NA	13.50	107	45	60	14	○
GTD-1360-03NA	13.60	107	45	60	14	○
GTD-1370-03NA	13.70	107	45	60	14	○
GTD-1380-03NA	13.80	107	45	60	14	○
GTD-1390-03NA	13.90	107	45	60	14	○
GTD-1400-03NA	14.00	107	45	60	14	●
GTD-1410-03NA	14.10	115	48	65	16	○
GTD-1420-03NA	14.20	115	48	65	16	○
GTD-1430-03NA	14.30	115	48	65	16	○
GTD-1440-03NA	14.40	115	48	65	16	○
GTD-1450-03NA	14.50	115	48	65	16	○
GTD-1460-03NA	14.60	115	48	65	16	○
GTD-1470-03NA	14.70	115	48	65	16	○
GTD-1480-03NA	14.80	115	48	65	16	○
GTD-1490-03NA	14.90	115	48	65	16	○
GTD-1500-03NA	15.00	115	48	65	16	○
GTD-1510-03NA	15.10	115	48	65	16	○
GTD-1520-03NA	15.20	115	48	65	16	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1530-03NA	15.30	115	48	65	16	●
GTD-1540-03NA	15.40	115	48	65	16	○
GTD-1550-03NA	15.50	115	48	65	16	○
GTD-1560-03NA	15.60	115	48	65	16	○
GTD-1570-03NA	15.70	115	48	65	16	○
GTD-1580-03NA	15.80	115	48	65	16	○
GTD-1590-03NA	15.90	115	48	65	16	○
GTD-1600-03NA	16.00	115	48	65	16	○
GTD-1610-03NA	16.10	123	48	73	18	○
GTD-1620-03NA	16.20	123	48	73	18	○
GTD-1630-03NA	16.30	123	48	73	18	○
GTD-1640-03NA	16.40	123	48	73	18	○
GTD-1650-03NA	16.50	123	48	73	18	○
GTD-1660-03NA	16.60	123	48	73	18	○
GTD-1670-03NA	16.70	123	48	73	18	○
GTD-1680-03NA	16.80	123	48	73	18	○
GTD-1690-03NA	16.90	123	48	73	18	○
GTD-1700-03NA	17.00	123	48	73	18	○
GTD-1710-03NA	17.10	123	48	73	18	○
GTD-1720-03NA	17.20	123	48	73	18	○
GTD-1730-03NA	17.30	123	48	73	18	○
GTD-1740-03NA	17.40	123	48	73	18	○
GTD-1750-03NA	17.50	123	48	73	18	○
GTD-1760-03NA	17.60	123	48	73	18	○
GTD-1770-03NA	17.70	123	48	73	18	○
GTD-1780-03NA	17.80	123	48	73	18	○
GTD-1790-03NA	17.90	123	48	73	18	○
GTD-1800-03NA	18.00	123	48	73	18	○
GTD-1810-03NA	18.10	131	50	79	20	○
GTD-1820-03NA	18.20	131	50	79	20	○
GTD-1830-03NA	18.30	131	50	79	20	○
GTD-1840-03NA	18.40	131	50	79	20	○
GTD-1850-03NA	18.50	131	50	79	20	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1860-03NA	18.60	131	50	79	20	○
GTD-1870-03NA	18.70	131	50	79	20	○
GTD-1880-03NA	18.80	131	50	79	20	○
GTD-1890-03NA	18.90	131	50	79	20	○
GTD-1900-03NA	19.00	131	50	79	20	○
GTD-1910-03NA	19.10	131	50	79	20	○
GTD-1920-03NA	19.20	131	50	79	20	○
GTD-1930-03NA	19.30	131	50	79	20	○
GTD-1940-03NA	19.40	131	50	79	20	○
GTD-1950-03NA	19.50	131	50	79	20	○
GTD-1960-03NA	19.60	131	50	79	20	○
GTD-1970-03NA	19.70	131	50	79	20	○
GTD-1980-03NA	19.80	131	50	79	20	○
GTD-1990-03NA	19.90	131	50	79	20	○
GTD-2000-03NA	20.00	131	50	79	20	○

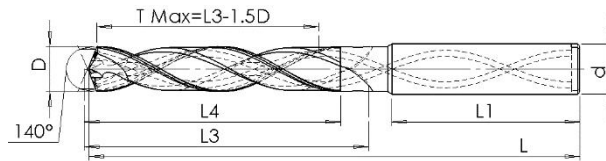
Note: accept non-standard customization from D3 to D20.

Nominal size range	D (m7)	d (h6)
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

unit (mm)



GTD-03CA-3D inner cooling twist drills for general machining



Tmax- Recommended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-03CA	3.00	62	36	20	6	●
GTD-0310-03CA	3.10	62	36	20	6	○
GTD-0320-03CA	3.20	62	36	20	6	○
GTD-0330-03CA	3.30	62	36	20	6	○
GTD-0340-03CA	3.40	62	36	20	6	○
GTD-0350-03CA	3.50	62	36	20	6	○
GTD-0360-03CA	3.60	62	36	20	6	○
GTD-0370-03CA	3.70	62	36	20	6	○
GTD-0380-03CA	3.80	66	36	24	6	●
GTD-0390-03CA	3.90	66	36	24	6	○
GTD-0400-03CA	4.00	66	36	24	6	●
GTD-0410-03CA	4.10	66	36	24	6	○
GTD-0420-03CA	4.20	66	36	24	6	○
GTD-0430-03CA	4.30	66	36	24	6	○
GTD-0440-03CA	4.40	66	36	24	6	○
GTD-0450-03CA	4.50	66	36	24	6	○
GTD-0460-03CA	4.60	66	36	24	6	○
GTD-0470-03CA	4.70	66	36	24	6	○
GTD-0480-03CA	4.80	66	36	28	6	○
GTD-0490-03CA	4.90	66	36	28	6	○
GTD-0500-03CA	5.00	66	36	28	6	●
GTD-0510-03CA	5.10	66	36	28	6	○
GTD-0520-03CA	5.20	66	36	28	6	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0530-03CA	5.30	66	36	28	6	○
GTD-0540-03CA	5.40	66	36	28	6	○
GTD-0550-03CA	5.50	66	36	28	6	●
GTD-0560-03CA	5.60	66	36	28	6	○
GTD-0570-03CA	5.70	66	36	28	6	○
GTD-0580-03CA	5.80	66	36	28	6	●
GTD-0590-03CA	5.90	66	36	28	6	○
GTD-0600-03CA	6.00	66	36	28	6	●
GTD-0610-03CA	6.10	79	36	34	8	●
GTD-0620-03CA	6.20	79	36	34	8	○
GTD-0630-03CA	6.30	79	36	34	8	○
GTD-0640-03CA	6.40	79	36	34	8	○
GTD-0650-03CA	6.50	79	36	34	8	○
GTD-0660-03CA	6.60	79	36	34	8	○
GTD-0670-03CA	6.70	79	36	34	8	○
GTD-0680-03CA	6.80	79	36	34	8	●
GTD-0690-03CA	6.90	79	36	34	8	○
GTD-0700-03CA	7.00	79	36	34	8	○
GTD-0710-03CA	7.10	79	36	41	8	○
GTD-0720-03CA	7.20	79	36	41	8	○
GTD-0730-03CA	7.30	79	36	41	8	○
GTD-0740-03CA	7.40	79	36	41	8	●
GTD-0750-03CA	7.50	79	36	41	8	○
GTD-0760-03CA	7.60	79	36	41	8	○
GTD-0770-03CA	7.70	79	36	41	8	○
GTD-0780-03CA	7.80	79	36	41	8	○
GTD-0790-03CA	7.90	79	36	41	8	○
GTD-0800-03CA	8.00	79	36	41	8	○
GTD-0810-03CA	8.10	89	40	47	10	○
GTD-0820-03CA	8.20	89	40	47	10	○
GTD-0830-03CA	8.30	89	40	47	10	○
GTD-0840-03CA	8.40	89	40	47	10	○
GTD-0850-03CA	8.50	89	40	47	10	●

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0860-03CA	8.60	89	40	47	10	○
GTD-0870-03CA	8.70	89	40	47	10	○
GTD-0880-03CA	8.80	89	40	47	10	○
GTD-0890-03CA	8.90	89	40	47	10	○
GTD-0900-03CA	9.00	89	40	47	10	○
GTD-0910-03CA	9.10	89	40	47	10	○
GTD-0920-03CA	9.20	89	40	47	10	○
GTD-0930-03CA	9.30	89	40	47	10	○
GTD-0940-03CA	9.40	89	40	47	10	○
GTD-0950-03CA	9.50	89	40	47	10	○
GTD-0960-03CA	9.60	89	40	47	10	○
GTD-0970-03CA	9.70	89	40	47	10	○
GTD-0980-03CA	9.80	89	40	47	10	○
GTD-0990-03CA	9.90	89	40	47	10	○
GTD-1000-03CA	10.00	89	40	47	10	○
GTD-1010-03CA	10.10	102	45	55	12	○
GTD-1020-03CA	10.20	102	45	55	12	○
GTD-1030-03CA	10.30	102	45	55	12	○
GTD-1040-03CA	10.40	102	45	55	12	○
GTD-1050-03CA	10.50	102	45	55	12	○
GTD-1060-03CA	10.60	102	45	55	12	○
GTD-1070-03CA	10.70	102	45	55	12	○
GTD-1080-03CA	10.80	102	45	55	12	○
GTD-1090-03CA	10.90	102	45	55	12	○
GTD-1100-03CA	11.00	102	45	55	12	○
GTD-1110-03CA	11.10	102	45	55	12	○
GTD-1120-03CA	11.20	102	45	55	12	○
GTD-1130-03CA	11.30	102	45	55	12	○
GTD-1140-03CA	11.40	102	45	55	12	○
GTD-1150-03CA	11.50	102	45	55	12	○
GTD-1160-03CA	11.60	102	45	55	12	○
GTD-1170-03CA	11.70	102	45	55	12	○
GTD-1180-03CA	11.80	102	45	55	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1190-03CA	11.90	102	45	55	12	○
GTD-1200-03CA	12.00	102	45	55	12	○
GTD-1210-03CA	12.10	107	45	60	14	○
GTD-1220-03CA	12.20	107	45	60	14	○
GTD-1230-03CA	12.30	107	45	60	14	○
GTD-1240-03CA	12.40	107	45	60	14	○
GTD-1250-03CA	12.50	107	45	60	14	○
GTD-1260-03CA	12.60	107	45	60	14	○
GTD-1270-03CA	12.70	107	45	60	14	○
GTD-1280-03CA	12.80	107	45	60	14	○
GTD-1290-03CA	12.90	107	45	60	14	○
GTD-1300-03CA	13.00	107	45	60	14	○
GTD-1310-03CA	13.10	107	45	60	14	○
GTD-1320-03CA	13.20	107	45	60	14	○
GTD-1330-03CA	13.30	107	45	60	14	○
GTD-1340-03CA	13.40	107	45	60	14	○
GTD-1350-03CA	13.50	107	45	60	14	○
GTD-1360-03CA	13.60	107	45	60	14	○
GTD-1370-03CA	13.70	107	45	60	14	○
GTD-1380-03CA	13.80	107	45	60	14	○
GTD-1390-03CA	13.90	107	45	60	14	○
GTD-1400-03CA	14.00	107	45	60	14	○
GTD-1410-03CA	14.10	115	48	65	16	○
GTD-1420-03CA	14.20	115	48	65	16	○
GTD-1430-03CA	14.30	115	48	65	16	○
GTD-1440-03CA	14.40	115	48	65	16	○
GTD-1450-03CA	14.50	115	48	65	16	○
GTD-1460-03CA	14.60	115	48	65	16	○
GTD-1470-03CA	14.70	115	48	65	16	○
GTD-1480-03CA	14.80	115	48	65	16	○
GTD-1490-03CA	14.90	115	48	65	16	○
GTD-1500-03CA	15.00	115	48	65	16	○
GTD-1510-03CA	15.10	115	48	65	16	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1520-03CA	15.20	115	48	65	16	○
GTD-1530-03CA	15.30	115	48	65	16	○
GTD-1540-03CA	15.40	115	48	65	16	○
GTD-1550-03CA	15.50	115	48	65	16	○
GTD-1560-03CA	15.60	115	48	65	16	○
GTD-1570-03CA	15.70	115	48	65	16	○
GTD-1580-03CA	15.80	115	48	65	16	○
GTD-1590-03CA	15.90	115	48	65	16	○
GTD-1600-03CA	16.00	115	48	65	16	○
GTD-1610-03CA	16.10	123	48	73	18	○
GTD-1620-03CA	16.20	123	48	73	18	○
GTD-1630-03CA	16.30	123	48	73	18	○
GTD-1640-03CA	16.40	123	48	73	18	○
GTD-1650-03CA	16.50	123	48	73	18	○
GTD-1660-03CA	16.60	123	48	73	18	○
GTD-1670-03CA	16.70	123	48	73	18	○
GTD-1680-03CA	16.80	123	48	73	18	○
GTD-1690-03CA	16.90	123	48	73	18	○
GTD-1700-03CA	17.00	123	48	73	18	○
GTD-1710-03CA	17.10	123	48	73	18	○
GTD-1720-03CA	17.20	123	48	73	18	○
GTD-1730-03CA	17.30	123	48	73	18	○
GTD-1740-03CA	17.40	123	48	73	18	○
GTD-1750-03CA	17.50	123	48	73	18	○
GTD-1760-03CA	17.60	123	48	73	18	○
GTD-1770-03CA	17.70	123	48	73	18	○
GTD-1780-03CA	17.80	123	48	73	18	○
GTD-1790-03CA	17.90	123	48	73	18	○
GTD-1800-03CA	18.00	123	48	73	18	○
GTD-1810-03CA	18.10	131	50	79	20	○
GTD-1820-03CA	18.20	131	50	79	20	○
GTD-1830-03CA	18.30	131	50	79	20	○
GTD-1840-03CA	18.40	131	50	79	20	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1850-03CA	18.50	131	50	79	20	○
GTD-1860-03CA	18.60	131	50	79	20	○
GTD-1870-03CA	18.70	131	50	79	20	○
GTD-1880-03CA	18.80	131	50	79	20	○
GTD-1890-03CA	18.90	131	50	79	20	○
GTD-1900-03CA	19.00	131	50	79	20	○
GTD-1910-03CA	19.10	131	50	79	20	○
GTD-1920-03CA	19.20	131	50	79	20	○
GTD-1930-03CA	19.30	131	50	79	20	○
GTD-1940-03CA	19.40	131	50	79	20	○
GTD-1950-03CA	19.50	131	50	79	20	○
GTD-1960-03CA	19.60	131	50	79	20	○
GTD-1970-03CA	19.70	131	50	79	20	○
GTD-1980-03CA	19.80	131	50	79	20	○
GTD-1990-03CA	19.90	131	50	79	20	○
GTD-2000-03CA	20.00	131	50	79	20	○

unit (mm)

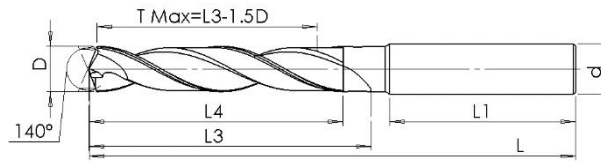
Note: accept non-standard customization from D3 to D20.

Nominal size range	D (m7)	d (h6)
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

单位 unit (mm)



GTD-05NA--5D external cooling twist drills for general machining



Tmax-最大推荐钻深 Recommended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-05NA	3.00	66	36	28	6	○
GTD-0310-05NA	3.10	66	36	28	6	○
GTD-0320-05NA	3.20	66	36	28	6	○
GTD-0330-05NA	3.30	66	36	28	6	○
GTD-0340-05NA	3.40	66	36	28	6	○
GTD-0350-05NA	3.50	66	36	28	6	●
GTD-0360-05NA	3.60	66	36	28	6	○
GTD-0370-05NA	3.70	66	36	28	6	○
GTD-0380-05NA	3.80	74	36	36	6	○
GTD-0390-05NA	3.90	74	36	36	6	○
GTD-0400-05NA	4.00	74	36	36	6	○
GTD-0410-05NA	4.10	74	36	36	6	○
GTD-0420-05NA	4.20	74	36	36	6	○
GTD-0430-05NA	4.30	74	36	36	6	●
GTD-0440-05NA	4.40	74	36	36	6	○
GTD-0450-05NA	4.50	74	36	36	6	○
GTD-0460-05NA	4.60	74	36	36	6	○
GTD-0470-05NA	4.70	74	36	36	6	○
GTD-0480-05NA	4.80	82	36	44	6	○
GTD-0490-05NA	4.90	82	36	44	6	○
GTD-0500-05NA	5.00	82	36	44	6	●
GTD-0510-05NA	5.10	82	36	44	6	●
GTD-0520-05NA	5.20	82	36	44	6	○
GTD-0530-05NA	5.30	82	36	44	6	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0540-05NA	5.40	82	36	44	6	○
GTD-0550-05NA	5.50	82	36	44	6	○
GTD-0560-05NA	5.60	82	36	44	6	○
GTD-0570-05NA	5.70	82	36	44	6	○
GTD-0580-05NA	5.80	82	36	44	6	○
GTD-0590-05NA	5.90	82	36	44	6	○
GTD-0600-05NA	6.00	82	36	44	6	●
GTD-0610-05NA	6.10	91	36	53	8	○
GTD-0620-05NA	6.20	91	36	53	8	○
GTD-0630-05NA	6.30	91	36	53	8	○
GTD-0640-05NA	6.40	91	36	53	8	○
GTD-0650-05NA	6.50	91	36	53	8	○
GTD-0660-05NA	6.60	91	36	53	8	○
GTD-0670-05NA	6.70	91	36	53	8	○
GTD-0680-05NA	6.80	91	36	53	8	●
GTD-0690-05NA	6.90	91	36	53	8	○
GTD-0700-05NA	7.00	91	36	53	8	○
GTD-0710-05NA	7.10	91	36	53	8	○
GTD-0720-05NA	7.20	91	36	53	8	○
GTD-0730-05NA	7.30	91	36	53	8	○
GTD-0740-05NA	7.40	91	36	53	8	○
GTD-0750-05NA	7.50	91	36	53	8	○
GTD-0760-05NA	7.60	91	36	53	8	○
GTD-0770-05NA	7.70	91	36	53	8	○
GTD-0780-05NA	7.80	91	36	53	8	●
GTD-0790-05NA	7.90	91	36	53	8	○
GTD-0800-05NA	8.00	91	36	53	8	●
GTD-0810-05NA	8.10	103	40	61	10	○
GTD-0820-05NA	8.20	103	40	61	10	○
GTD-0830-05NA	8.30	103	40	61	10	○
GTD-0840-05NA	8.40	103	40	61	10	○
GTD-0850-05NA	8.50	103	40	61	10	●
GTD-0860-05NA	8.60	103	40	61	10	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0870-05NA	8.70	103	40	61	10	○
GTD-0880-05NA	8.80	103	40	61	10	○
GTD-0890-05NA	8.90	103	40	61	10	○
GTD-0900-05NA	9.00	103	40	61	10	●
GTD-0910-05NA	9.10	103	40	61	10	○
GTD-0920-05NA	9.20	103	40	61	10	○
GTD-0930-05NA	9.30	103	40	61	10	○
GTD-0940-05NA	9.40	103	40	61	10	○
GTD-0950-05NA	9.50	103	40	61	10	○
GTD-0960-05NA	9.60	103	40	61	10	○
GTD-0970-05NA	9.70	103	40	61	10	○
GTD-0980-05NA	9.80	103	40	61	10	○
GTD-0990-05NA	9.90	103	40	61	10	○
GTD-1000-05NA	10.00	103	40	61	10	●
GTD-1010-05NA	10.10	118	45	71	12	○
GTD-1020-05NA	10.20	118	45	71	12	○
GTD-1030-05NA	10.30	118	45	71	12	○
GTD-1040-05NA	10.40	118	45	71	12	○
GTD-1050-05NA	10.50	118	45	71	12	○
GTD-1060-05NA	10.60	118	45	71	12	○
GTD-1070-05NA	10.70	118	45	71	12	○
GTD-1080-05NA	10.80	118	45	71	12	○
GTD-1090-05NA	10.90	118	45	71	12	○
GTD-1100-05NA	11.00	118	45	71	12	○
GTD-1110-05NA	11.10	118	45	71	12	○
GTD-1120-05NA	11.20	118	45	71	12	○
GTD-1130-05NA	11.30	118	45	71	12	○
GTD-1140-05NA	11.40	118	45	71	12	○
GTD-1150-05NA	11.50	118	45	71	12	○
GTD-1160-05NA	11.60	118	45	71	12	○
GTD-1170-05NA	11.70	118	45	71	12	○
GTD-1180-05NA	11.80	118	45	71	12	○
GTD-1190-05NA	11.90	118	45	71	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1200-05NA	12.00	118	45	71	12	●
GTD-1210-05NA	12.10	124	45	77	14	○
GTD-1220-05NA	12.20	124	45	77	14	○
GTD-1230-05NA	12.30	124	45	77	14	○
GTD-1240-05NA	12.40	124	45	77	14	○
GTD-1250-05NA	12.50	124	45	77	14	○
GTD-1260-05NA	12.60	124	45	77	14	○
GTD-1270-05NA	12.70	124	45	77	14	○
GTD-1280-05NA	12.80	124	45	77	14	○
GTD-1290-05NA	12.90	124	45	77	14	○
GTD-1300-05NA	13.00	124	45	77	14	○
GTD-1310-05NA	13.10	124	45	77	14	○
GTD-1320-05NA	13.20	124	45	77	14	○
GTD-1330-05NA	13.30	124	45	77	14	○
GTD-1340-05NA	13.40	124	45	77	14	○
GTD-1350-05NA	13.50	124	45	77	14	○
GTD-1360-05NA	13.60	124	45	77	14	○
GTD-1370-05NA	13.70	124	45	77	14	○
GTD-1380-05NA	13.80	124	45	77	14	○
GTD-1390-05NA	13.90	124	45	77	14	○
GTD-1400-05NA	14.00	124	45	77	14	○
GTD-1410-05NA	14.10	133	48	83	16	○
GTD-1420-05NA	14.20	133	48	83	16	○
GTD-1430-05NA	14.30	133	48	83	16	○
GTD-1440-05NA	14.40	133	48	83	16	○
GTD-1450-05NA	14.50	133	48	83	16	○
GTD-1460-05NA	14.60	133	48	83	16	○
GTD-1470-05NA	14.70	133	48	83	16	○
GTD-1480-05NA	14.80	133	48	83	16	○
GTD-1490-05NA	14.90	133	48	83	16	○
GTD-1500-05NA	15.00	133	48	83	16	○
GTD-1510-05NA	15.10	133	48	83	16	○
GTD-1520-05NA	15.20	133	48	83	16	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1530-05NA	15.30	133	48	83	16	○
GTD-1540-05NA	15.40	133	48	83	16	○
GTD-1550-05NA	15.50	133	48	83	16	○
GTD-1560-05NA	15.60	133	48	83	16	○
GTD-1570-05NA	15.70	133	48	83	16	○
GTD-1580-05NA	15.80	133	48	83	16	○
GTD-1590-05NA	15.90	133	48	83	16	○
GTD-1600-05NA	16.00	133	48	83	16	○
GTD-1610-05NA	16.10	143	48	93	18	○
GTD-1620-05NA	16.20	143	48	93	18	○
GTD-1630-05NA	16.30	143	48	93	18	○
GTD-1640-05NA	16.40	143	48	93	18	○
GTD-1650-05NA	16.50	143	48	93	18	○
GTD-1660-05NA	16.60	143	48	93	18	○
GTD-1670-05NA	16.70	143	48	93	18	○
GTD-1680-05NA	16.80	143	48	93	18	○
GTD-1690-05NA	16.90	143	48	93	18	○
GTD-1700-05NA	17.00	143	48	93	18	○
GTD-1710-05NA	17.10	143	48	93	18	○
GTD-1720-05NA	17.20	143	48	93	18	○
GTD-1730-05NA	17.30	143	48	93	18	○
GTD-1740-05NA	17.40	143	48	93	18	○
GTD-1750-05NA	17.50	143	48	93	18	○
GTD-1760-05NA	17.60	143	48	93	18	○
GTD-1770-05NA	17.70	143	48	93	18	○
GTD-1780-05NA	17.80	143	48	93	18	○
GTD-1790-05NA	17.90	143	48	93	18	○
GTD-1800-05NA	18.00	143	48	93	18	○
GTD-1810-05NA	18.10	153	50	101	20	○
GTD-1820-05NA	18.20	153	50	101	20	○
GTD-1830-05NA	18.30	153	50	101	20	○
GTD-1840-05NA	18.40	153	50	101	20	○
GTD-1850-05NA	18.50	153	50	101	20	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1860-05NA	18.60	153	50	101	20	○
GTD-1870-05NA	18.70	153	50	101	20	○
GTD-1880-05NA	18.80	153	50	101	20	○
GTD-1890-05NA	18.90	153	50	101	20	○
GTD-1900-05NA	19.00	153	50	101	20	○
GTD-1910-05NA	19.10	153	50	101	20	○
GTD-1920-05NA	19.20	153	50	101	20	○
GTD-1930-05NA	19.30	153	50	101	20	○
GTD-1940-05NA	19.40	153	50	101	20	○
GTD-1950-05NA	19.50	153	50	101	20	○
GTD-1960-05NA	19.60	153	50	101	20	○
GTD-1970-05NA	19.70	153	50	101	20	○
GTD-1980-05NA	19.80	153	50	101	20	○
GTD-1990-05NA	19.90	153	50	101	20	○
GTD-2000-05NA	20.00	153	50	101	20	○

unit (mm)

Note: accept non-standard customization from D3 to D20.

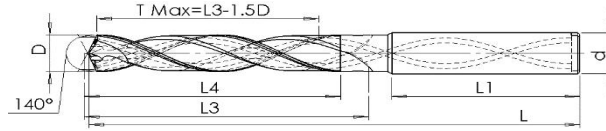
Nominal size range	D(m7)	d(h6)
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

单

unit (mm)



GTD-05CA-5D inner cooling twist drills for general machining



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Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-05CA	3.00	66	36	28	6	●
GTD-0310-05CA	3.10	66	36	28	6	○
GTD-0320-05CA	3.20	66	36	28	6	○
GTD-0330-05CA	3.30	66	36	28	6	●
GTD-0340-05CA	3.40	66	36	28	6	●
GTD-0350-05CA	3.50	66	36	28	6	●
GTD-0360-05CA	3.60	66	36	28	6	○
GTD-0370-05CA	3.70	66	36	28	6	○
GTD-0380-05CA	3.80	74	36	36	6	○
GTD-0390-05CA	3.90	74	36	36	6	○
GTD-0400-05CA	4.00	74	36	36	6	●
GTD-0410-05CA	4.10	74	36	36	6	○
GTD-0420-05CA	4.20	74	36	36	6	●
GTD-0430-05CA	4.30	74	36	36	6	●
GTD-0440-05CA	4.40	74	36	36	6	○
GTD-0450-05CA	4.50	74	36	36	6	○
GTD-0460-05CA	4.60	74	36	36	6	○
GTD-0470-05CA	4.70	74	36	36	6	○
GTD-0480-05CA	4.80	82	36	44	6	●
GTD-0490-05CA	4.90	82	36	44	6	○
GTD-0500-05CA	5.00	82	36	44	6	●
GTD-0510-05CA	5.10	82	36	44	6	●
GTD-0520-05CA	5.20	82	36	44	6	●
GTD-0530-05CA	5.30	82	36	44	6	○

ended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0540-05CA	5.40	82	36	44	6	○
GTD-0550-05CA	5.50	82	36	44	6	●
GTD-0560-05CA	5.60	82	36	44	6	●
GTD-0570-05CA	5.70	82	36	44	6	○
GTD-0580-05CA	5.80	82	36	44	6	●
GTD-0590-05CA	5.90	82	36	44	6	○
GTD-0600-05CA	6.00	82	36	44	6	●
GTD-0610-05CA	6.10	91	36	53	8	○
GTD-0620-05CA	6.20	91	36	53	8	○
GTD-0630-05CA	6.30	91	36	53	8	○
GTD-0640-05CA	6.40	91	36	53	8	○
GTD-0650-05CA	6.50	91	36	53	8	●
GTD-0660-05CA	6.60	91	36	53	8	○
GTD-0670-05CA	6.70	91	36	53	8	○
GTD-0680-05CA	6.80	91	36	53	8	●
GTD-0690-05CA	6.90	91	36	53	8	●
GTD-0700-05CA	7.00	91	36	53	8	○
GTD-0710-05CA	7.10	91	36	53	8	○
GTD-0720-05CA	7.20	91	36	53	8	○
GTD-0730-05CA	7.30	91	36	53	8	○
GTD-0740-05CA	7.40	91	36	53	8	●
GTD-0750-05CA	7.50	91	36	53	8	○
GTD-0760-05CA	7.60	91	36	53	8	○
GTD-0770-05CA	7.70	91	36	53	8	○
GTD-0780-05CA	7.80	91	36	53	8	○
GTD-0790-05CA	7.90	91	36	53	8	○
GTD-0800-05CA	8.00	91	36	53	8	●
GTD-0810-05CA	8.10	103	40	61	10	○
GTD-0820-05CA	8.20	103	40	61	10	○
GTD-0830-05CA	8.30	103	40	61	10	○
GTD-0840-05CA	8.40	103	40	61	10	○
GTD-0850-05CA	8.50	103	40	61	10	●
GTD-0860-05CA	8.60	103	40	61	10	●

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0870-05CA	8.70	103	40	61	10	○
GTD-0880-05CA	8.80	103	40	61	10	○
GTD-0890-05CA	8.90	103	40	61	10	○
GTD-0900-05CA	9.00	103	40	61	10	●
GTD-0910-05CA	9.10	103	40	61	10	○
GTD-0920-05CA	9.20	103	40	61	10	○
GTD-0930-05CA	9.30	103	40	61	10	○
GTD-0940-05CA	9.40	103	40	61	10	○
GTD-0950-05CA	9.50	103	40	61	10	○
GTD-0960-05CA	9.60	103	40	61	10	○
GTD-0970-05CA	9.70	103	40	61	10	○
GTD-0980-05CA	9.80	103	40	61	10	●
GTD-0990-05CA	9.90	103	40	61	10	○
GTD-1000-05CA	10.00	103	40	61	10	●
GTD-1010-05CA	10.10	118	45	71	12	○
GTD-1020-05CA	10.20	118	45	71	12	●
GTD-1030-05CA	10.30	118	45	71	12	○
GTD-1040-05CA	10.40	118	45	71	12	○
GTD-1050-05CA	10.50	118	45	71	12	●
GTD-1060-05CA	10.60	118	45	71	12	○
GTD-1070-05CA	10.70	118	45	71	12	○
GTD-1080-05CA	10.80	118	45	71	12	○
GTD-1090-05CA	10.90	118	45	71	12	○
GTD-1100-05CA	11.00	118	45	71	12	●
GTD-1110-05CA	11.10	118	45	71	12	○
GTD-1120-05CA	11.20	118	45	71	12	○
GTD-1130-05CA	11.30	118	45	71	12	○
GTD-1140-05CA	11.40	118	45	71	12	○
GTD-1150-05CA	11.50	118	45	71	12	○
GTD-1160-05CA	11.60	118	45	71	12	○
GTD-1170-05CA	11.70	118	45	71	12	○
GTD-1180-05CA	11.80	118	45	71	12	○
GTD-1190-05CA	11.90	118	45	71	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1200-05CA	12.00	118	45	71	12	●
GTD-1210-05CA	12.10	124	45	77	14	○
GTD-1220-05CA	12.20	124	45	77	14	○
GTD-1230-05CA	12.30	124	45	77	14	○
GTD-1240-05CA	12.40	124	45	77	14	○
GTD-1250-05CA	12.50	124	45	77	14	○
GTD-1260-05CA	12.60	124	45	77	14	○
GTD-1270-05CA	12.70	124	45	77	14	○
GTD-1280-05CA	12.80	124	45	77	14	○
GTD-1290-05CA	12.90	124	45	77	14	○
GTD-1300-05CA	13.00	124	45	77	14	○
GTD-1310-05CA	13.10	124	45	77	14	○
GTD-1320-05CA	13.20	124	45	77	14	○
GTD-1330-05CA	13.30	124	45	77	14	○
GTD-1340-05CA	13.40	124	45	77	14	○
GTD-1350-05CA	13.50	124	45	77	14	○
GTD-1360-05CA	13.60	124	45	77	14	○
GTD-1370-05CA	13.70	124	45	77	14	○
GTD-1380-05CA	13.80	124	45	77	14	○
GTD-1390-05CA	13.90	124	45	77	14	○
GTD-1400-05CA	14.00	124	45	77	14	●
GTD-1410-05CA	14.10	133	48	83	16	○
GTD-1420-05CA	14.20	133	48	83	16	○
GTD-1430-05CA	14.30	133	48	83	16	○
GTD-1440-05CA	14.40	133	48	83	16	○
GTD-1450-05CA	14.50	133	48	83	16	○
GTD-1460-05CA	14.60	133	48	83	16	○
GTD-1470-05CA	14.70	133	48	83	16	○
GTD-1480-05CA	14.80	133	48	83	16	○
GTD-1490-05CA	14.90	133	48	83	16	○
GTD-1500-05CA	15.00	133	48	83	16	○
GTD-1510-05CA	15.10	133	48	83	16	○
GTD-1520-05CA	15.20	133	48	83	16	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1530-05CA	15.30	133	48	83	16	○
GTD-1540-05CA	15.40	133	48	83	16	○
GTD-1550-05CA	15.50	133	48	83	16	○
GTD-1560-05CA	15.60	133	48	83	16	○
GTD-1570-05CA	15.70	133	48	83	16	○
GTD-1580-05CA	15.80	133	48	83	16	○
GTD-1590-05CA	15.90	133	48	83	16	○
GTD-1600-05CA	16.00	133	48	83	16	●
GTD-1610-05CA	16.10	143	48	93	18	○
GTD-1620-05CA	16.20	143	48	93	18	○
GTD-1630-05CA	16.30	143	48	93	18	○
GTD-1640-05CA	16.40	143	48	93	18	○
GTD-1650-05CA	16.50	143	48	93	18	○
GTD-1660-05CA	16.60	143	48	93	18	○
GTD-1670-05CA	16.70	143	48	93	18	○
GTD-1680-05CA	16.80	143	48	93	18	○
GTD-1690-05CA	16.90	143	48	93	18	○
GTD-1700-05CA	17.00	143	48	93	18	○
GTD-1710-05CA	17.10	143	48	93	18	○
GTD-1720-05CA	17.20	143	48	93	18	○
GTD-1730-05CA	17.30	143	48	93	18	○
GTD-1740-05CA	17.40	143	48	93	18	○
GTD-1750-05CA	17.50	143	48	93	18	○
GTD-1760-05CA	17.60	143	48	93	18	○
GTD-1770-05CA	17.70	143	48	93	18	○
GTD-1780-05CA	17.80	143	48	93	18	○
GTD-1790-05CA	17.90	143	48	93	18	○
GTD-1800-05CA	18.00	143	48	93	18	○
GTD-1810-05CA	18.10	153	50	101	20	○
GTD-1820-05CA	18.20	153	50	101	20	○
GTD-1830-05CA	18.30	153	50	101	20	○
GTD-1840-05CA	18.40	153	50	101	20	○
GTD-1850-05CA	18.50	153	50	101	20	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1860-05CA	18.60	153	50	101	20	○
GTD-1870-05CA	18.70	153	50	101	20	○
GTD-1880-05CA	18.80	153	50	101	20	○
GTD-1890-05CA	18.90	153	50	101	20	○
GTD-1900-05CA	19.00	153	50	101	20	○
GTD-1910-05CA	19.10	153	50	101	20	○
GTD-1920-05CA	19.20	153	50	101	20	○
GTD-1930-05CA	19.30	153	50	101	20	○
GTD-1940-05CA	19.40	153	50	101	20	○
GTD-1950-05CA	19.50	153	50	101	20	○
GTD-1960-05CA	19.60	153	50	101	20	○
GTD-1970-05CA	19.70	153	50	101	20	○
GTD-1980-05CA	19.80	153	50	101	20	○
GTD-1990-05CA	19.90	153	50	101	20	○
GTD-2000-05CA	20.00	153	50	101	20	○

unit (mm)

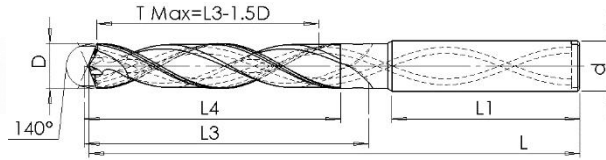
Note: accept non-standard customization from D3 to D20.

Nominal size range	D (m7)	d (h6)
$\geq 2-3$	+0.002/+0.012	0.000/-0.006
$> 3-6$	+0.004/+0.016	0.000/-0.008
$> 6-10$	+0.006/+0.021	0.000/-0.009
$> 10-18$	+0.007/+0.025	0.000/-0.011
$> 18-20$	+0.008/+0.029	0.000/-0.013

unit (mm)



GTD-08CA8D inner cooling twist drills for general machining



Tax- Recommended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-08CA	3.00	72	36	34	6	○
GTD-0310-08CA	3.10	72	36	34	6	○
GTD-0320-08CA	3.20	72	36	34	6	○
GTD-0330-08CA	3.30	72	36	34	6	○
GTD-0340-08CA	3.40	72	36	34	6	○
GTD-0350-08CA	3.50	72	36	34	6	○
GTD-0360-08CA	3.60	72	36	34	6	○
GTD-0370-08CA	3.70	72	36	34	6	○
GTD-0380-08CA	3.80	81	36	43	6	○
GTD-0390-08CA	3.90	81	36	43	6	○
GTD-0400-08CA	4.00	81	36	43	6	○
GTD-0410-08CA	4.10	81	36	43	6	○
GTD-0420-08CA	4.20	81	36	43	6	○
GTD-0430-08CA	4.30	81	36	43	6	○
GTD-0440-08CA	4.40	81	36	43	6	○
GTD-0450-08CA	4.50	81	36	43	6	○
GTD-0460-08CA	4.60	81	36	43	6	○
GTD-0470-08CA	4.70	81	36	43	6	○
GTD-0480-08CA	4.80	95	36	57	6	○
GTD-0490-08CA	4.90	95	36	57	6	○
GTD-0500-08CA	5.00	95	36	57	6	●
GTD-0510-08CA	5.10	95	36	57	6	○
GTD-0520-08CA	5.20	95	36	57	6	○
GTD-0530-08CA	5.30	95	36	57	6	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0540-08CA	5.40	95	36	57	6	○
GTD-0550-08CA	5.50	95	36	57	6	○
GTD-0560-08CA	5.60	95	36	57	6	○
GTD-0570-08CA	5.70	95	36	57	6	○
GTD-0580-08CA	5.80	95	36	57	6	○
GTD-0590-08CA	5.90	95	36	57	6	○
GTD-0600-08CA	6.00	95	36	57	6	●
GTD-0610-08CA	6.10	114	36	76	8	○
GTD-0620-08CA	6.20	114	36	76	8	○
GTD-0630-08CA	6.30	114	36	76	8	○
GTD-0640-08CA	6.40	114	36	76	8	○
GTD-0650-08CA	6.50	114	36	76	8	○
GTD-0660-08CA	6.60	114	36	76	8	○
GTD-0670-08CA	6.70	114	36	76	8	○
GTD-0680-08CA	6.80	114	36	76	8	○
GTD-0690-08CA	6.90	114	36	76	8	○
GTD-0700-08CA	7.00	114	36	76	8	○
GTD-0710-08CA	7.10	114	36	76	8	○
GTD-0720-08CA	7.20	114	36	76	8	○
GTD-0730-08CA	7.30	114	36	76	8	○
GTD-0740-08CA	7.40	114	36	76	8	○
GTD-0750-08CA	7.50	114	36	76	8	○
GTD-0760-08CA	7.60	114	36	76	8	○
GTD-0770-08CA	7.70	114	36	76	8	○
GTD-0780-08CA	7.80	114	36	76	8	○
GTD-0790-08CA	7.90	114	36	76	8	○
GTD-0800-08CA	8.00	114	36	76	8	○
GTD-0810-08CA	8.10	142	40	95	10	○
GTD-0820-08CA	8.20	142	40	95	10	○
GTD-0830-08CA	8.30	142	40	95	10	○
GTD-0840-08CA	8.40	142	40	95	10	○
GTD-0850-08CA	8.50	142	40	95	10	○
GTD-0860-08CA	8.60	142	40	95	10	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0870-08CA	8.70	142	40	95	10	○
GTD-0880-08CA	8.80	142	40	95	10	○
GTD-0890-08CA	8.90	142	40	95	10	○
GTD-0900-08CA	9.00	142	40	95	10	○
GTD-0910-08CA	9.10	142	40	95	10	○
GTD-0920-08CA	9.20	142	40	95	10	○
GTD-0930-08CA	9.30	142	40	95	10	○
GTD-0940-08CA	9.40	142	40	95	10	○
GTD-0950-08CA	9.50	142	40	95	10	○
GTD-0960-08CA	9.60	142	40	95	10	○
GTD-0970-08CA	9.70	142	40	95	10	○
GTD-0980-08CA	9.80	142	40	95	10	○
GTD-0990-08CA	9.90	142	40	95	10	○
GTD-1000-08CA	10.00	142	40	95	10	○
GTD-1010-08CA	10.10	162	45	114	12	○
GTD-1020-08CA	10.20	162	45	114	12	○
GTD-1030-08CA	10.30	162	45	114	12	○
GTD-1040-08CA	10.40	162	45	114	12	○
GTD-1050-08CA	10.50	162	45	114	12	○
GTD-1060-08CA	10.60	162	45	114	12	○
GTD-1070-08CA	10.70	162	45	114	12	○
GTD-1080-08CA	10.80	162	45	114	12	○
GTD-1090-08CA	10.90	162	45	114	12	○
GTD-1100-08CA	11.00	162	45	114	12	○
GTD-1110-08CA	11.10	162	45	114	12	○
GTD-1120-08CA	11.20	162	45	114	12	○
GTD-1130-08CA	11.30	162	45	114	12	○
GTD-1140-08CA	11.40	162	45	114	12	○
GTD-1150-08CA	11.50	162	45	114	12	○
GTD-1160-08CA	11.60	162	45	114	12	○
GTD-1170-08CA	11.70	162	45	114	12	○
GTD-1180-08CA	11.80	162	45	114	12	○
GTD-1190-08CA	11.90	162	45	114	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1200-08CA	12.00	162	45	114	12	○
GTD-1210-08CA	12.10	182	45	133	14	○
GTD-1220-08CA	12.20	182	45	133	14	○
GTD-1230-08CA	12.30	182	45	133	14	○
GTD-1240-08CA	12.40	182	45	133	14	○
GTD-1250-08CA	12.50	182	45	133	14	○
GTD-1260-08CA	12.60	182	45	133	14	○
GTD-1270-08CA	12.70	182	45	133	14	○
GTD-1280-08CA	12.80	182	45	133	14	○
GTD-1290-08CA	12.90	182	45	133	14	○
GTD-1300-08CA	13.00	182	45	133	14	○
GTD-1310-08CA	13.10	182	45	133	14	○
GTD-1320-08CA	13.20	182	45	133	14	○
GTD-1330-08CA	13.30	182	45	133	14	○
GTD-1340-08CA	13.40	182	45	133	14	○
GTD-1350-08CA	13.50	182	45	133	14	○
GTD-1360-08CA	13.60	182	45	133	14	○
GTD-1370-08CA	13.70	182	45	133	14	○
GTD-1380-08CA	13.80	182	45	133	14	○
GTD-1390-08CA	13.90	182	45	133	14	○
GTD-1400-08CA	14.00	182	45	133	14	○
GTD-1410-08CA	14.10	203	48	152	16	○
GTD-1420-08CA	14.20	203	48	152	16	○
GTD-1430-08CA	14.30	203	48	152	16	○
GTD-1440-08CA	14.40	203	48	152	16	○
GTD-1450-08CA	14.50	203	48	152	16	○
GTD-1460-08CA	14.60	203	48	152	16	○
GTD-1470-08CA	14.70	203	48	152	16	○
GTD-1480-08CA	14.80	203	48	152	16	○
GTD-1490-08CA	14.90	203	48	152	16	○
GTD-1500-08CA	15.00	203	48	152	16	○
GTD-1510-08CA	15.10	203	48	152	16	○
GTD-1520-08CA	15.20	203	48	152	16	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1530-08CA	15.30	203	48	152	16	○
GTD-1540-08CA	15.40	203	48	152	16	○
GTD-1550-08CA	15.50	203	48	152	16	○
GTD-1560-08CA	15.60	203	48	152	16	○
GTD-1570-08CA	15.70	203	48	152	16	○
GTD-1580-08CA	15.80	203	48	152	16	○
GTD-1590-08CA	15.90	203	48	152	16	○
GTD-1600-08CA	16.00	203	48	152	16	○

unit(mm)

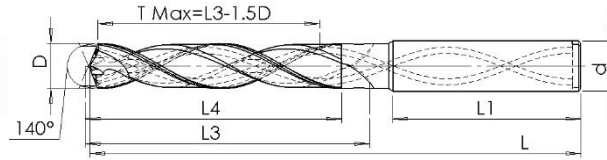
Note: accept non-standard customization from D3 to D16.

Nominal size range	D(m7)	d(h6)
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—16	+0.007/+0.025	0.000/-0.011

unit(mm)



GTD-12CA-12D inner cooling twist drills for general machining



Tax- Recommended Maximum Depth

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0300-12CA	3.00	92	36	54	6	○
GTD-0310-12CA	3.10	92	36	54	6	○
GTD-0320-12CA	3.20	92	36	54	6	○
GTD-0330-12CA	3.30	92	36	54	6	○
GTD-0340-12CA	3.40	92	36	54	6	○
GTD-0350-12CA	3.50	92	36	54	6	○
GTD-0360-12CA	3.60	92	36	54	6	○
GTD-0370-12CA	3.70	92	36	54	6	○
GTD-0380-12CA	3.80	102	36	64	6	○
GTD-0390-12CA	3.90	102	36	64	6	○
GTD-0400-12CA	4.00	102	36	64	6	○
GTD-0410-12CA	4.10	102	36	64	6	○
GTD-0420-12CA	4.20	102	36	64	6	○
GTD-0430-12CA	4.30	102	36	64	6	○
GTD-0440-12CA	4.40	102	36	64	6	○
GTD-0450-12CA	4.50	102	36	64	6	○
GTD-0460-12CA	4.60	102	36	64	6	○
GTD-0470-12CA	4.70	102	36	64	6	○
GTD-0480-12CA	4.80	121	36	83	6	○
GTD-0490-12CA	4.90	121	36	83	6	○
GTD-0500-12CA	5.00	121	36	83	6	○
GTD-0510-12CA	5.10	121	36	83	6	○
GTD-0520-12CA	5.20	121	36	83	6	○
GTD-0530-12CA	5.30	121	36	83	6	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0540-12CA	5.40	121	36	83	6	○
GTD-0550-12CA	5.50	121	36	83	6	○
GTD-0560-12CA	5.60	121	36	83	6	○
GTD-0570-12CA	5.70	121	36	83	6	○
GTD-0580-12CA	5.80	121	36	83	6	○
GTD-0590-12CA	5.90	121	36	83	6	○
GTD-0600-12CA	6.00	121	36	83	6	○
GTD-0610-12CA	6.10	148	36	110	8	○
GTD-0620-12CA	6.20	148	36	110	8	○
GTD-0630-12CA	6.30	148	36	110	8	○
GTD-0640-12CA	6.40	148	36	110	8	○
GTD-0650-12CA	6.50	148	36	110	8	○
GTD-0660-12CA	6.60	148	36	110	8	○
GTD-0670-12CA	6.70	148	36	110	8	○
GTD-0680-12CA	6.80	148	36	110	8	○
GTD-0690-12CA	6.90	148	36	110	8	○
GTD-0700-12CA	7.00	148	36	110	8	○
GTD-0710-12CA	7.10	148	36	110	8	○
GTD-0720-12CA	7.20	148	36	110	8	○
GTD-0730-12CA	7.30	148	36	110	8	○
GTD-0740-12CA	7.40	148	36	110	8	○
GTD-0750-12CA	7.50	148	36	110	8	○
GTD-0760-12CA	7.60	148	36	110	8	○
GTD-0770-12CA	7.70	148	36	110	8	○
GTD-0780-12CA	7.80	148	36	110	8	○
GTD-0790-12CA	7.90	148	36	110	8	○
GTD-0800-12CA	8.00	148	36	110	8	○
GTD-0810-12CA	8.10	180	40	138	10	○
GTD-0820-12CA	8.20	180	40	138	10	○
GTD-0830-12CA	8.30	180	40	138	10	○
GTD-0840-12CA	8.40	180	40	138	10	○
GTD-0850-12CA	8.50	180	40	138	10	○
GTD-0860-12CA	8.60	180	40	138	10	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-0870-12CA	8.70	180	40	138	10	○
GTD-0880-12CA	8.80	180	40	138	10	○
GTD-0890-12CA	8.90	180	40	138	10	○
GTD-0900-12CA	9.00	180	40	138	10	○
GTD-0910-12CA	9.10	180	40	138	10	○
GTD-0920-12CA	9.20	180	40	138	10	○
GTD-0930-12CA	9.30	180	40	138	10	○
GTD-0940-12CA	9.40	180	40	138	10	○
GTD-0950-12CA	9.50	180	40	138	10	○
GTD-0960-12CA	9.60	180	40	138	10	○
GTD-0970-12CA	9.70	180	40	138	10	○
GTD-0980-12CA	9.80	180	40	138	10	○
GTD-0990-12CA	9.90	180	40	138	10	○
GTD-1000-12CA	10.00	180	40	138	10	○
GTD-1010-12CA	10.10	206	45	158	12	○
GTD-1020-12CA	10.20	206	45	158	12	○
GTD-1030-12CA	10.30	206	45	158	12	○
GTD-1040-12CA	10.40	206	45	158	12	○
GTD-1050-12CA	10.50	206	45	158	12	○
GTD-1060-12CA	10.60	206	45	158	12	○
GTD-1070-12CA	10.70	206	45	158	12	○
GTD-1080-12CA	10.80	206	45	158	12	○
GTD-1090-12CA	10.90	206	45	158	12	○
GTD-1100-12CA	11.00	206	45	158	12	○
GTD-1110-12CA	11.10	206	45	158	12	○
GTD-1120-12CA	11.20	206	45	158	12	○
GTD-1130-12CA	11.30	206	45	158	12	○
GTD-1140-12CA	11.40	206	45	158	12	○
GTD-1150-12CA	11.50	206	45	158	12	○
GTD-1160-12CA	11.60	206	45	158	12	○
GTD-1170-12CA	11.70	206	45	158	12	○
GTD-1180-12CA	11.80	206	45	158	12	○
GTD-1190-12CA	11.90	206	45	158	12	○

Ordering Code	Dia.(D)	Total length (L)	Shank length (L1)	Groove length (L3)	Shank dia. (h6)	stock
GTD-1200-12CA	12.00	206	45	158	12	○

unit (mm)






Note: accept non-standard customization from D3 to D12.

Nominal size range	D(m7)	d(h6)
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—12	+0.007/+0.025	0.000/-0.011

unit (mm)

GTD 3D/5D twist drills for general machining

Recommended cutting data-3D/5D

Workpiece material		Vc (m/min)		Fn(mm/rev)				
				D3	D4	D6	D8	D10
	Low-carbon steels (<125HB)	50~120	60~140	0.10~ 0.20	0.10~ 0.20	0.15~ 0.25	0.16~ 0.32	0.16~ 0.32
	High-carbon steels, midium-carbon steels (<25HRC)	45~120	60~120	0.10~ 0.20	0.10~ 0.20	0.15~ 0.25	0.16~ 0.32	0.16~ 0.32
	Alloy steels, tool steels. (<35HRC)	45~100	60~110	0.09~ 0.16	0.09~ 0.16	0.12~ 0.23	0.14~ 0.28	0.14~ 0.30
	Alloy steels, tool steels. (35-48HRC)	35~80	35~90	0.08~ 0.14	0.08~ 0.14	0.08~ 0.20	0.09~ 0.25	0.09~ 0.28
	PH and ferrite/martensitic steels (<35HRC)	30~70	30~90	0.05~ 0.11	0.05~ 0.11	0.07~ 0.17	0.08~ 0.20	0.08~ 0.23
	Ferrite/martensitic steels (35-48HRC)	25~70	30~80	0.04~ 0.08	0.04~ 0.08	0.06~ 0.14	0.08~ 0.18	0.08~ 0.20
	Austenitic stainless steels(130- 200HB)	40~60	40~60	0.04~ 0.08	0.04~ 0.08	0.06~ 0.12	0.06~ 0.12	0.08~ 0.16
	Duplex stainless steels (<30HRC)	30~50	30~50	0.04~ 0.08	0.04~ 0.08	0.06~ 0.10	0.06~ 0.10	0.08~ 0.12
	Grey cast iron (<32HRC)	60~140	60~160	0.13~ 0.20	0.15~ 0.23	0.17~ 0.30	0.20~ 0.35	0.23~ 0.40
	Alloy cast iron, nodular cast iron (<28HRC)	60~120	60~140	0.11~ 0.18	0.13~ 0.20	0.15~ 0.25	0.17~ 0.32	0.20~ 0.36
	Alloy cast iron, nodular cast iron (28~45HRC)	50~100	50~100	0.06~ 0.11	0.08~ 0.13	0.10~ 0.16	0.12~ 0.20	0.14~ 0.26

GTD 3D/5D twist drills for general machining

Recommended Cutting Data-3D/5D

Workpiece material		Vc (m/min)		Fn(mm/rev)				
				D12	D14	D16	D18	D20
	Low-carbon steels (<125HB)	50~ 120	60~ 140	0.18~ 0.40	0.22~ 0.45	0.22~ 0.45	0.25~ 0.50	0.25~0.50
	High-carbon steels, medium-carbon steels (<25HRC)	45~ 120	60~ 120	0.18~ 0.40	0.22~ 0.45	0.22~ 0.45	0.25~ 0.50	0.25~0.50
	Alloy steels, tool steels. (<35HRC)	45~ 100	60~ 110	0.15~ 0.34	0.18~ 0.38	0.18~ 0.38	0.20~ 0.40	0.20~0.40
	Alloy steels, tool steels. (35~48HRC)	35~80	35~90	0.11~ 0.30	0.12~ 0.32	0.12~ 0.32	0.14~ 0.34	0.14~0.34
	PH and ferrite/martensitic steels (<35HRC)	30~70	30~90	0.10~ 0.28	0.12~ 0.30	0.12~ 0.30	0.14~ 0.32	0.14~0.32
	Ferrite/martensitic steels (35~48HRC)	25~70	30~80	0.10~ 0.28	0.12~ 0.30	0.12~ 0.30	0.14~ 0.32	0.14~0.32
	Austenitic stainless steels(130- 200HB)	40~60	40~60	0.10~ 0.24	0.10~ 0.24	0.10~ 0.20	0.12~ 0.20	0.12~0.20
	Duplex stainless steels (<30HRC)	30~50	30~50	0.10~ 0.20	0.10~ 0.20	0.10~ 0.16	0.12~ 0.16	0.12~0.16
	Grey cast iron (<32HRC)	60~ 140	60~ 160	0.25~ 0.45	0.28~ 0.48	0.30~ 0.50	0.32~ 0.52	0.35~0.55
	Alloy cast iron, nodular cast iron (<28HRC)	60~ 120	60~ 140	0.22~ 0.42	0.24~ 0.45	0.25~ 0.48	0.28~ 0.48	0.30~0.50
	Alloy cast iron, nodular cast iron (28~45HRC)	50~ 100	50~ 100	0.16~ 0.28	0.18~ 0.30	0.20~ 0.32	0.22~ 0.34	0.25~0.35

GTD 8D/12D twist drills for general machining

Recommended Cutting Data-8D/12D

Workpiece material		Vc (m/min)	Fn (mm/rev)			
			D3	D4	D6	D8
	Low-carbon steels (<125HB)	60~140	0.10~0.20	0.10~0.20	0.14~0.25	0.16~0.32
	High-carbon steels, medium-carbon steels (<25HRC)	60~120	0.10~0.20	0.10~0.20	0.14~0.25	0.16~0.30
	Alloy steels, tool steels. (<35HRC)	60~110	0.09~0.16	0.09~0.16	0.12~0.23	0.14~0.28
	Alloy steels, tool steels. (35~48HRC)	35~90	0.08~0.14	0.08~0.14	0.08~0.20	0.09~0.25
	PH and ferrite/martensitic steels (<35HRC)	30~90	0.05~0.11	0.05~0.11	0.07~0.17	0.08~0.20
	Ferrite/martensitic steels (35~48HRC)	30~80	0.04~0.08	0.04~0.08	0.06~0.14	0.08~0.18
	Austenitic stainless steels (130~200HB)	40~60	0.04~0.10	0.04~0.10	0.06~0.12	0.06~0.12
	Duplex stainless steels (<30HRC)	30~50	0.04~0.08	0.04~0.08	0.06~0.10	0.06~0.10
	Grey cast iron (<32HRC)	60~160	0.13~0.20	0.15~0.23	0.17~0.30	0.20~0.35
	Alloy cast iron, nodular cast iron (<28HRC)	60~140	0.11~0.18	0.13~0.20	0.15~0.25	0.17~0.32
	Alloy cast iron, nodular cast iron (28~45HRC)	50~100	0.06~0.11	0.08~0.13	0.10~0.16	0.12~0.20

GTD 8D/12D twist drills for general machining

Recommended Cutting Data-8D/12D

Workpiece material ¹⁾		Vc (m/min)	Fn (mm/rev)			
			D3	D4	D6	D8
	Low-carbon steels (<125HB)	60~140	0.10~0.20	0.10~0.20	0.14~0.25	0.16~0.32
	High-carbon steels, midium-carbon steels (<25HRC)	60~120	0.10~0.20	0.10~0.20	0.14~0.25	0.16~0.30
	Alloy steels, tool steels. (<35HRC)	60~110	0.09~0.16	0.09~0.16	0.12~0.23	0.14~0.28
	Alloy steels, tool steels. (35~48HRC)	35~90	0.08~0.14	0.08~0.14	0.08~0.20	0.09~0.25
	PH and ferrite/martensitic steels (<35HRC)	30~90	0.05~0.11	0.05~0.11	0.07~0.17	0.08~0.20
	Ferrite/martensitic steels (35~48HRC)	30~80	0.04~0.08	0.04~0.08	0.06~0.14	0.08~0.18
	Austenitic stainless steels(130- 200HB)	40~60	0.04~0.10	0.04~0.10	0.06~0.12	0.06~0.12
	Duplex stainless steels (<30HRC)	30~50	0.04~0.08	0.04~0.08	0.06~0.10	0.06~0.10
	Grey cast iron (<32HRC)	60~160	0.13~0.20	0.15~0.23	0.17~0.30	0.20~0.35
	Alloy cast iron, nodular cast iron (<28HRC)	60~140	0.11~0.18	0.13~0.20	0.15~0.25	0.17~0.32
	Alloy cast iron, nodular cast iron (28~45HRC)	50~100	0.06~0.11	0.08~0.13	0.10~0.16	0.12~0.20

GTD 8D/12D twist drills for general machining

Recommended Cutting Data-8D/12D

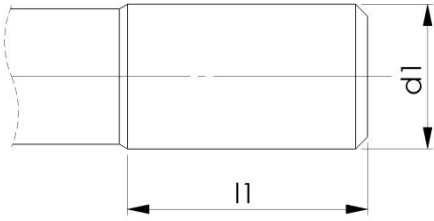
Workpiece material		Vc (m/min)	Fn (mm/rev)			
			D10	D12	D14	D16
	Low-carbon steels (<125HB)	60~140	0.16~0.35	0.18~0.40	0.22~0.45	0.22~0.45
	High-carbon steels, midium-carbon steels (<25HRC)	60~120	0.16~0.32	0.18~0.38	0.22~0.45	0.22~0.45
	Alloy steels, tool steels. (<35HRC)	60~110	0.14~0.30	0.15~0.34	0.18~0.38	0.18~0.38
	Alloy steels, tool steels. (35~48HRC)	35~90	0.09~0.28	0.11~0.30	0.12~0.32	0.12~0.32
	PH and ferrite/martensitic steels (<35HRC)	30~90	0.08~0.23	0.10~0.28	0.12~0.30	0.12~0.30
	Ferrite/martensitic steels (35~48HRC)	30~80	0.08~0.20	0.10~0.28	0.12~0.30	0.12~0.30
	Austenitic stainless steels(130-200HB)	40~60	0.08~0.16	0.08~0.16	0.10~0.18	0.10~0.18
	Duplex stainless steels (<30HRC)	30~50	0.08~0.12	0.08~0.12	0.10~0.14	0.10~0.14
	Grey cast iron (<32HRC)	60~160	0.23~0.40	0.25~0.45	0.28~0.48	0.30~0.50
	Alloy cast iron, nodular cast iron (<28HRC)	60~140	0.20~0.36	0.22~0.42	0.24~0.45	0.25~0.48
	Alloy cast iron, nodular cast iron (28~45HRC)	50~100	0.14~0.26	0.16~0.28	0.18~0.30	0.20~0.32

1. Please use machines with high rigidity. Use hydraulic holder, heat-rising holder, and strong holder with collet with spring.
2. Make sure radial run-out (TIR) is less than 0.02mm while installing the drills.
3. The Recommended Cutting Parameter is suitable for water based coolant.
4. If tool size is not in the table, please refer to data of the closest item, and adjust cutting parameters according to actual working conditions during processing.

Shank standard - DIN Standard

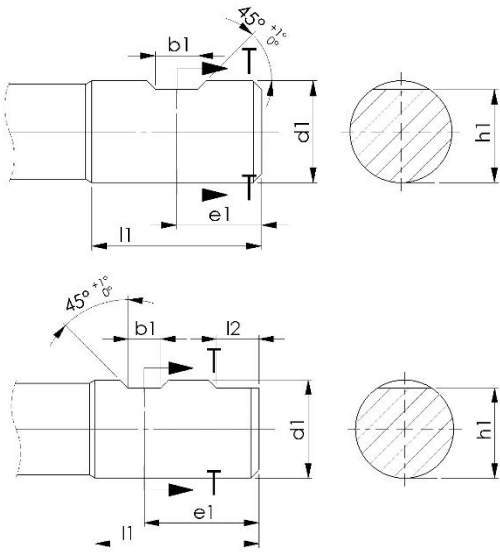
The structure of shank

DIN6535-HA



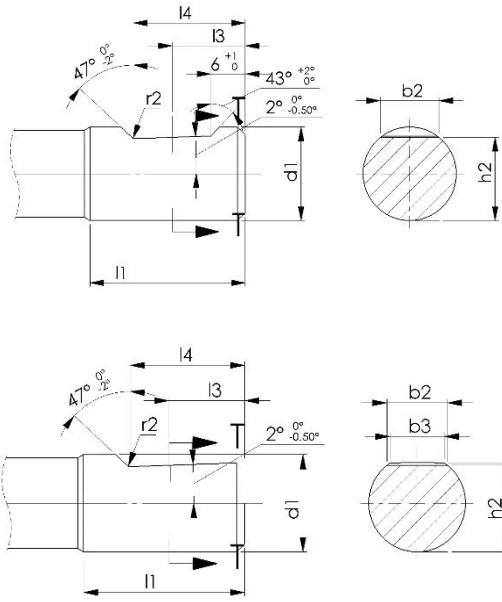
d1h6	2	3	4	5	6	8	10	12	14	16	18	20	25	32
11 ⁺² ₀	28				36		40	45		48		50	56	60

DIN6535-HB



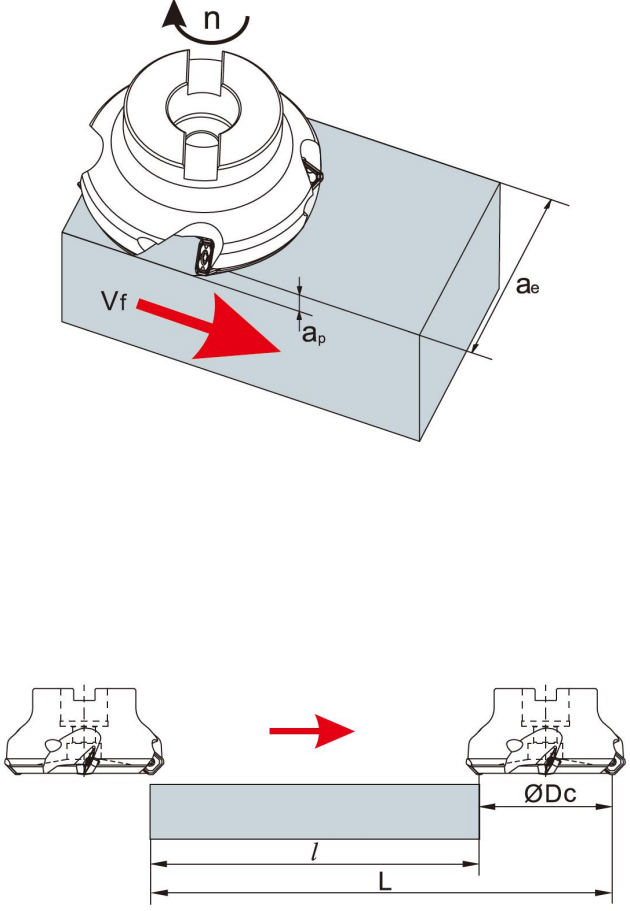
d1h6	b1 ^{+0.05} ₀	e1 ⁰ ₋₁	h1h11	11 ⁺² ₀	12 ⁺¹ ₀
6	4.2	18	5.1	36	
8	5.5		6.9		
10	7	20	8.5	40	
12	8	22.5	10.4	45	
14			12.7		
16	10	24	14.2	48	
18			16.2		
20	11	25	18.2	50	
25	12	32	23	56	17
32	14	36	30	60	19

DIN6535-HE



d1	b2	b3	h2	h3	11	13	14	r2
6	4.3		5.1		36	18	25	1.2
8	4.5		6.9					
10	7.1		8.5		40	20	28	
12	8.2		10.4		45	22.5	33	
14	8.1		12.7					
16	10.1		14.2		48	24	36	1.6
18	10.8		16.2					
20	11.4		18.2		50	25	38	
25	13.6	9.3	23	24.1	56	32	44	
32	15.5	9.9	30	31.2	60	35	48	

Cutting definitions and calculations

<p>◆ Cutting Speed</p> $V_c = \frac{\pi \times D_c \times n}{1000} \text{ (m/min)}$		
<p>◆ Spindle Speed</p> $n = \frac{1000 \times V_c}{\pi \times D_c} \text{ (rev/min)}$		
<p>◆ Table Feed Speed</p> $V_f = f_z \times n \times z_n \text{ (mm/min)}$		
<p>◆ Feed Per Tooth</p> $f_z = \frac{V_f}{n \times Z_n} \text{ (mm/z)}$		
<p>◆ Feed Per Revolution</p> $f_n = \frac{V_f}{n} \text{ (mm/rev)}$		
<p>◆ Processing Time</p> $T_c = \frac{L}{V_f} \text{ (min)}$		
<p>◆ Metal Removal Rate</p> $Q = \frac{a_p \times a_e \times V_f}{1000} \text{ (cm}^3\text{/min)}$		
<p>V_c : Cutting Speed (m/min) f_z : Feed Per Tooth(mm/z) z_n : Number of cutter teeth, f_n: Feed Per Revolution(mm/rev)</p>	<p>V_f : Table Feed Speed(mm/min) n : Spindle Speed (rev/min) T_c : Processing Time(min) L : Actual cutting distance(mm)</p>	<p>D_c : Cutter diameter,(mm) π : PI≈3.14 Q : Metal Removal Rate (cm3/min)</p>



HONGJIANG

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