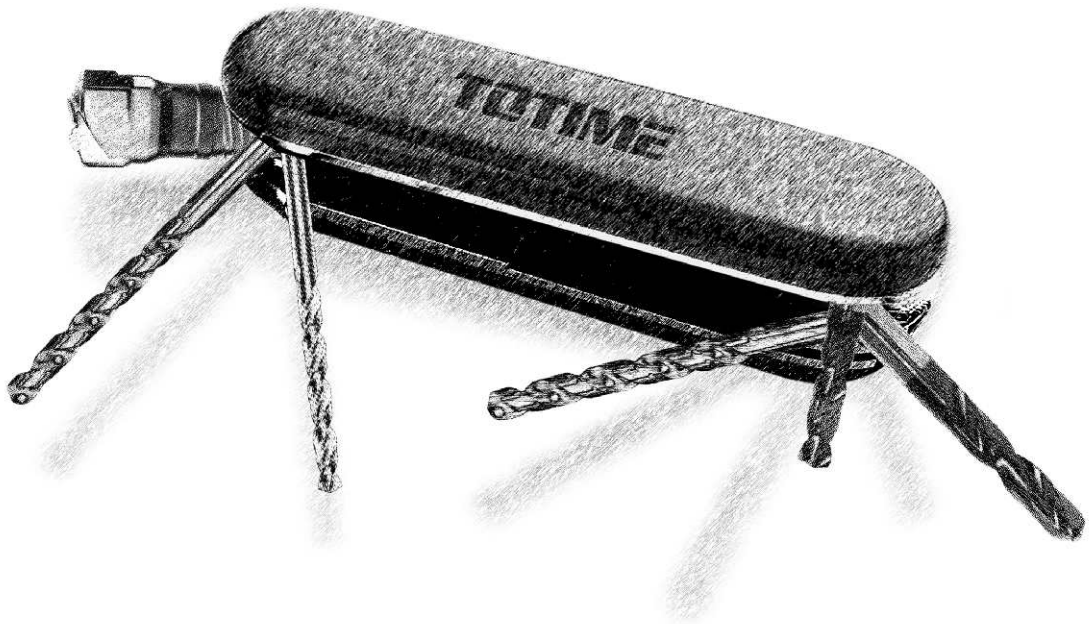


Make it Simple



TO TIME

Catalog of Drilling Solution 2020

INTRODUCTION

TOTIME is an original Japanese brand created by Deriku Hirosaka and it is meant to bring the finest quality cutting tools under TOTIME brand for all customers. TOTIME has been gradually accepted both in Japan and other countries for its great quality and reasonable prices.

TOTIME offers you below tools:

1. Totime Carbide End Mills
2. Totime Carbide Drills
3. Totime Carbide Inserts
4. Totime Milling Tools
5. Totime Measuring Tools
6. Totime Other Cutting Tools



Index

Carbide Drills

P1 - P39

- 3D&5D TTW&TTS Drills For General Purpose
- 3D&5D CTW&CTS Drills For General Steel
- 3D&5D DTW&DTS Drills For Stainless Steel
- FSD High Efficiency Flat Drill For General Purpose

P	M	K
P		
	M	
P	M	K

Hss Drills

P40 - P49

- GS HSS Drill (Straight Shank Drill for Steel&Cast Iron)
- SD HSS-E Drill (Straight Shank Drill for Stainless Steel)
- DT HSS-TIN Drill (Straight Shank Drill for Steel&Cast Iron)
- SD HSS-E With Cobalt Drill (Taper Shank Drill for Stainless Steel)

P		K
	M	
P		K
	M	

U Drills

P50 - P59

- 2D,3D,4D,5D Drill Body
- SPMX05-14 For General Purpose
- SPGT05-14 For Aluminium Purpose

P	M	K
N		

DTT Exchangable Head Drills

P60 - P63

- 3D,5D,8D Drill Body
- DTT Drill Insert Range 12.0-30.5mm

P		K
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Deep Hole Drills

P64 - P70

- Brazed Type BTA Drills 16.XX, 19.XX, 25.XX
- Indexable Drill Inserts Equivalent to Sandvik 800 Series

P	M	K
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CDR 45° Chamfer Cutter

P71 - P72

- SPMX05-14 For General Purpose

P	M	K
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Non-Standard Drills

P73

TTW, CTW, DTW Drills

(mm)

Flute Dia.	Dia. Tolerance(m7)
=2-3	+0.002/+0.012
>3-6	+0.004/+0.016
>6-10	+0.006/+0.021
>10-18	+0.007/+0.025
>18-20	+0.008/+0.029

Shank Dia.	Shank Tolerance(h6)
=2-3	0.000/-0.006
>3-6	0.000/-0.008
>6-10	0.000/-0.009
>10-18	0.000/-0.011
>18-20	0.000/-0.013

TTS, CTS, DTS Drills

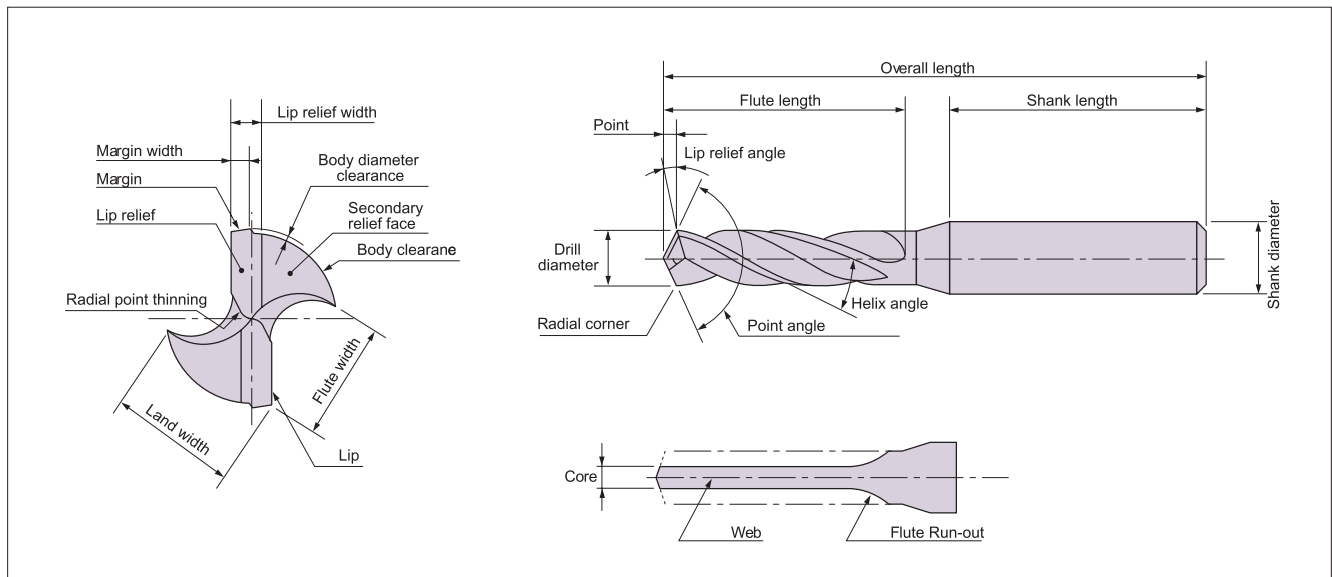
(mm)

Flute Dia.	Dia. Tolerance(m7)
=2-3	+0.002/+0.012
>3-6	+0.004/+0.016
>6-10	+0.006/+0.021
>10-18	+0.007/+0.025
>18-20	+0.008/+0.029

Shank Dia.	Shank Tolerance(h6)
=2-3	0.000/-0.006
>3-6	0.000/-0.008
>6-10	0.000/-0.009
>10-18	0.000/-0.011
>18-20	0.000/-0.013

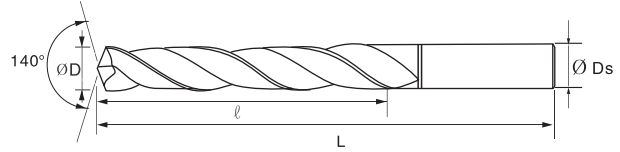
INFORMATION FOR THE USER

■ TERMINOLOGY



TTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

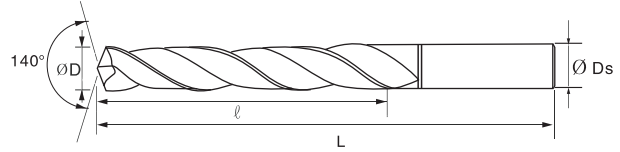


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW030D6	3.0	20	6	62	\$30.6
TTW031D6	3.1	20	6	62	\$30.6
TTW032D6	3.2	20	6	62	\$30.6
TTW033D6	3.3	20	6	62	\$30.6
TTW034D6	3.4	20	6	62	\$30.6
TTW035D6	3.5	20	6	62	\$30.6
TTW036D6	3.6	20	6	62	\$30.6
TTW037D6	3.7	20	6	62	\$30.6
TTW038D6	3.8	24	6	66	\$35.0
TTW039D6	3.9	24	6	66	\$35.0
TTW040D6	4.0	24	6	66	\$35.0
TTW041D6	4.1	24	6	66	\$35.0
TTW042D6	4.2	24	6	66	\$35.0
TTW043D6	4.3	24	6	66	\$35.0
TTW044D6	4.4	24	6	66	\$35.0
TTW045D6	4.5	24	6	66	\$35.0
TTW046D6	4.6	26	6	66	\$35.0
TTW047D6	4.7	26	6	66	\$35.0
TTW048D6	4.8	28	6	66	\$35.0
TTW049D6	4.9	28	6	66	\$35.0
TTW050D6	5.0	28	6	66	\$35.0
TTW051D6	5.1	28	6	66	\$35.0
TTW052D6	5.2	28	6	66	\$35.0
TTW055D6	5.5	28	6	66	\$35.0
TTW058D6	5.8	28	6	66	\$35.0
TTW059D6	5.9	28	6	66	\$35.0
TTW060D6	6.0	28	6	66	\$35.0
TTW065D8	6.5	34	8	79	\$45.6
TTW066D8	6.6	34	8	79	\$45.6
TTW068D8	6.8	34	8	79	\$45.6
TTW069D8	6.9	34	8	79	\$45.6
TTW070D8	7.0	34	8	79	\$45.6
TTW075D8	7.5	41	8	79	\$45.6
TTW078D8	7.8	41	8	79	\$45.6

TTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW079D8	7.9	41	8	79	\$45.6
TTW080D8	8.0	41	8	79	\$45.6
TTW082D10	8.2	47	10	89	\$60.8
TTW085D10	8.5	47	10	89	\$60.8
TTW087D10	8.7	47	10	89	\$60.8
TTW088D10	8.8	47	10	89	\$60.8
TTW089D10	8.9	47	10	89	\$60.8
TTW090D10	9.0	47	10	89	\$60.8
TTW095D10	9.5	47	10	89	\$60.8
TTW098D10	9.8	47	10	89	\$60.8
TTW099D10	9.9	47	10	89	\$60.8
TTW100D10	10.0	47	10	89	\$60.8
TTW102D12	10.2	55	12	102	\$85.3
TTW104D12	10.4	55	12	102	\$85.3
TTW105D12	10.5	55	12	102	\$85.3
TTW108D12	10.8	55	12	102	\$85.3
TTW110D12	11.0	55	12	102	\$85.3
TTW115D12	11.5	55	12	102	\$85.3
TTW118D12	11.8	55	12	102	\$85.3
TTW120D12	12.0	55	12	102	\$85.3
TTW123D14	12.3	60	14	107	\$112.3
TTW125D14	12.5	60	14	107	\$112.3
TTW128D14	12.8	60	14	107	\$112.3
TTW130D14	13.0	60	14	107	\$112.3
TTW135D14	13.5	60	14	107	\$112.3
TTW138D14	13.8	60	14	107	\$112.3
TTW140D14	14.0	60	14	107	\$112.3
TTW142D16	14.2	65	16	115	\$144.8
TTW145D16	14.5	65	16	115	\$144.8
TTW148D16	14.8	65	16	115	\$144.8
TTW150D16	15.0	65	16	115	\$144.8
TTW155D16	15.5	65	16	115	\$144.8
TTW158D16	15.8	65	16	115	\$144.8
TTW160D16	16.0	65	16	115	\$144.8

Carbide Drills

Hss Drills

U Drills

Head Exchangable Drills

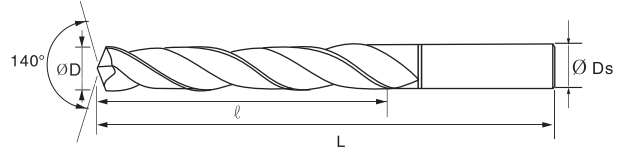
Deep Hole Drills

CDR 45° Chamfer Cutter

Non-standard Drill made

TTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



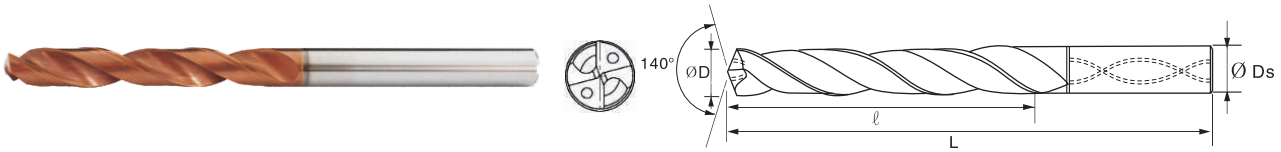
Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW165D18	16.5	73	18	123	\$192.1
TTW168D18	16.8	73	18	123	\$192.1
TTW170D18	17.0	73	18	123	\$192.1
TTW175D18	17.5	73	18	123	\$192.1
TTW178D18	17.8	73	18	123	\$192.1
TTW180D18	18.0	73	18	123	\$192.1
TTW185D20	18.5	79	20	131	\$232.7
TTW188D20	18.8	79	20	131	\$232.7
TTW190D20	19.0	79	20	131	\$232.7
TTW195D20	19.5	79	20	131	\$232.7
TTW198D20	19.8	79	20	131	\$232.7
TTW200D20	20.0	79	20	131	\$232.7

Notice: Drills' cutting diameter is over 12mm, the MOQ is 5pcs.(if there is no stock)

TTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



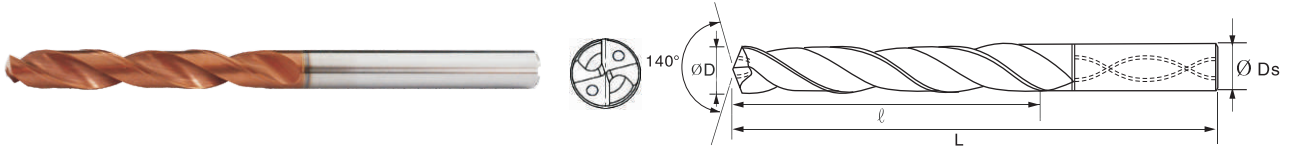
Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTS030D6	3.0	20	6	62	\$42.7
TTS034D6	3.4	20	6	62	\$42.7
TTS035D6	3.5	20	6	62	\$42.7
TTS038D6	3.8	24	6	66	\$42.7
TTS039D6	3.9	24	6	66	\$42.7
TTS040D6	4.0	24	6	66	\$42.7
TTS042D6	4.2	24	6	66	\$42.7
TTS043D6	4.3	24	6	66	\$42.7
TTS045D6	4.5	24	6	66	\$42.7
TTS048D6	4.8	28	6	66	\$42.7
TTS049D6	4.9	28	6	66	\$42.7
TTS050D6	5.0	28	6	66	\$42.7
TTS051D6	5.1	28	6	66	\$42.7
TTS052D6	5.2	28	6	66	\$42.7
TTS055D6	5.5	28	6	66	\$42.7
TTS058D6	5.8	28	6	66	\$42.7
TTS059D6	5.9	28	6	66	\$42.7
TTS060D6	6.0	28	6	66	\$42.7
TTS065D8	6.5	34	8	79	\$72.0
TTS066D8	6.6	34	8	79	\$72.0
TTS068D8	6.8	34	8	79	\$72.0
TTS069D8	6.9	34	8	79	\$72.0
TTS070D8	7.0	34	8	79	\$72.0
TTS075D8	7.5	41	8	79	\$72.0
TTS078D8	7.8	41	8	79	\$72.0
TTS079D8	7.9	41	8	79	\$72.0
TTS080D8	8.0	41	8	79	\$72.0
TTS081D10	8.1	47	10	89	\$104.8
TTS082D10	8.2	47	10	89	\$104.8
TTS085D10	8.5	47	10	89	\$104.8
TTS086D10	8.6	47	10	89	\$104.8
TTS087D10	8.7	47	10	89	\$104.8
TTS088D10	8.8	47	10	89	\$104.8

Carbide Drills
Hss Drills
U Drills
Head Exchangable Drills
Deep Hole Drills
CDR 45° Chamfer Cutter
Non-standard Drill made

TTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

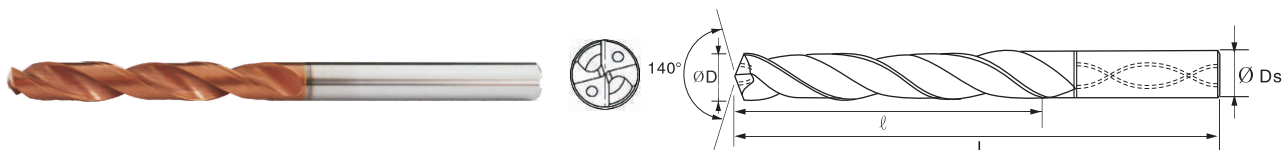


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTS089D10	8.9	47	10	89	\$104.8
TTS090D10	9.0	47	10	89	\$104.8
TTS095D10	9.5	47	10	89	\$104.8
TTS098D10	9.8	47	10	89	\$104.8
TTS099D10	9.9	47	10	89	\$104.8
TTS100D10	10.0	47	10	89	\$104.8
TTS102D12	10.2	55	12	102	\$147.8
TTS104D12	10.4	55	12	102	\$147.8
TTS105D12	10.5	55	12	102	\$147.8
TTS108D12	10.8	55	12	102	\$147.8
TTS110D12	11.0	55	12	102	\$147.8
TTS115D12	11.5	55	12	102	\$147.8
TTS118D12	11.8	55	12	102	\$147.8
TTS120D12	12.0	55	12	102	\$147.8
TTS123D14	12.3	60	14	107	\$194.6
TTS125D14	12.5	60	14	107	\$194.6
TTS128D14	12.8	60	14	107	\$194.6
TTS130D14	13.0	60	14	107	\$194.6
TTS135D14	13.5	60	14	107	\$194.6
TTS138D14	13.8	60	14	107	\$194.6
TTS140D14	14.0	60	14	107	\$194.6
TTS145D16	14.5	65	16	115	\$246.2
TTS148D16	14.8	65	16	115	\$246.2
TTS150D16	15.0	65	16	115	\$246.2
TTS155D16	15.5	65	16	115	\$246.2
TTS158D16	15.8	65	16	115	\$246.2
TTS160D16	16.0	65	16	115	\$246.2
TTS165D18	16.5	73	18	123	\$327.7
TTS168D18	16.8	73	18	123	\$327.7
TTS170D18	17.0	73	18	123	\$327.7
TTS175D18	17.5	73	18	123	\$327.7
TTS178D18	17.8	73	18	123	\$327.7
TTS180D18	18.0	73	18	123	\$327.7

TTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



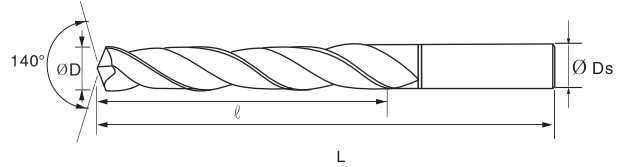
Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	ℓ	Ds	L	
TTS185D20	18.5	79	20	131	\$399.8
TTS188D20	18.8	79	20	131	\$399.8
TTS190D20	19.0	79	20	131	\$399.8
TTS195D20	19.5	79	20	131	\$399.8
TTS198D20	19.8	79	20	131	\$399.8
TTS200D20	20.0	79	20	131	\$399.8

Notice: Drills' cutting diameter is over 12mm, the MOQ is 5pcs.(if there is no stock)

TTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



Unit(mm)

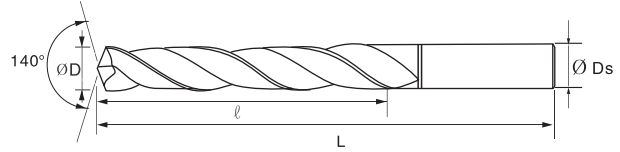
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW05030D6	3.0	26	6	66	\$34.6
TTW05031D6	3.1	26	6	66	\$34.6
TTW05032D6	3.2	26	6	66	\$34.6
TTW05033D6	3.3	26	6	66	\$34.6
TTW05034D6	3.4	26	6	66	\$34.6
TTW05035D6	3.5	26	6	66	\$34.6
TTW05036D6	3.6	26	6	66	\$34.6
TTW05037D6	3.7	26	6	66	\$34.6
TTW05038D6	3.8	34	6	74	\$37.4
TTW05039D6	3.9	34	6	74	\$37.4
TTW05040D6	4.0	34	6	74	\$37.4
TTW05041D6	4.1	34	6	74	\$37.4
TTW05042D6	4.2	34	6	74	\$37.4
TTW05043D6	4.3	34	6	74	\$37.4
TTW05044D6	4.4	34	6	74	\$37.4
TTW05045D6	4.5	34	6	74	\$37.4
TTW05046D6	4.6	34	6	74	\$37.4
TTW05047D6	4.7	34	6	74	\$37.4
TTW05048D6	4.8	44	6	82	\$39.7
TTW05049D6	4.9	44	6	82	\$39.7
TTW05050D6	5.0	44	6	82	\$39.7
TTW05051D6	5.1	44	6	82	\$39.7
TTW05052D6	5.2	44	6	82	\$39.7
TTW05053D6	5.3	44	6	82	\$39.7
TTW05054D6	5.4	44	6	82	\$39.7
TTW05055D6	5.5	44	6	82	\$39.7
TTW05056D6	5.6	44	6	82	\$39.7
TTW05057D6	5.7	44	6	82	\$39.7
TTW05058D6	5.8	44	6	82	\$39.7
TTW05059D6	5.9	44	6	82	\$39.7
TTW05060D6	6.0	44	6	82	\$39.7
TTW05061D8	6.1	44	8	82	\$49.1

High Performance Carbide Drill for General Purpose (TTW TTS 3D&5D)



TTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

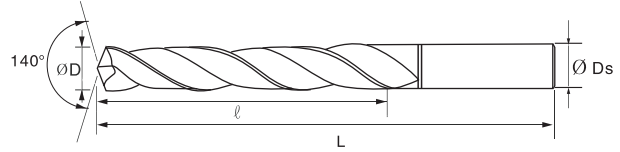


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW05062D8	6.2	53	8	91	\$49.1
TTW05063D8	6.3	53	8	91	\$49.1
TTW05064D8	6.4	53	8	91	\$49.1
TTW05065D8	6.5	53	8	91	\$49.1
TTW05066D8	6.6	53	8	91	\$49.1
TTW05067D8	6.7	53	8	91	\$49.1
TTW05068D8	6.8	53	8	91	\$49.1
TTW05069D8	6.9	53	8	91	\$49.1
TTW05070D8	7.0	53	8	91	\$49.1
TTW05071D8	7.1	53	8	91	\$49.1
TTW05072D8	7.2	53	8	91	\$49.1
TTW05073D8	7.3	53	8	91	\$49.1
TTW05074D8	7.4	53	8	91	\$49.1
TTW05075D8	7.5	53	8	91	\$49.1
TTW05076D8	7.6	53	8	91	\$49.1
TTW05077D8	7.7	53	8	91	\$49.1
TTW05078D8	7.8	53	8	91	\$49.1
TTW05079D8	7.9	53	8	91	\$49.1
TTW05080D8	8.0	53	8	91	\$49.1
TTW05081D10	8.1	61	10	103	\$65.6
TTW05082D10	8.2	61	10	103	\$65.6
TTW05083D10	8.3	61	10	103	\$65.6
TTW05084D10	8.4	61	10	103	\$65.6
TTW05085D10	8.5	61	10	103	\$65.6
TTW05086D10	8.6	61	10	103	\$65.6
TTW05087D10	8.7	61	10	103	\$65.6
TTW05088D10	8.8	61	10	103	\$65.6
TTW05089D10	8.9	61	10	103	\$65.6
TTW05090D10	9.0	61	10	103	\$65.6
TTW05091D10	9.1	61	10	103	\$65.6
TTW05092D10	9.2	61	10	103	\$65.6
TTW05093D10	9.3	61	10	103	\$65.6
TTW05094D10	9.4	61	10	103	\$65.6

TTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



Unit(mm)

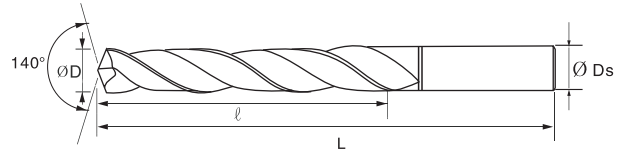
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW05095D10	9.5	61	10	103	\$65.6
TTW05096D10	9.6	61	10	103	\$65.6
TTW05097D10	9.7	61	10	103	\$65.6
TTW05098D10	9.8	61	10	103	\$65.6
TTW05099D10	9.9	61	10	103	\$65.6
TTW05100D10	10.0	61	10	103	\$65.6
TTW05102D12	10.2	71	12	118	\$91.9
TTW05104D12	10.4	71	12	118	\$91.9
TTW05105D12	10.5	71	12	118	\$91.9
TTW05107D12	10.7	71	12	118	\$91.9
TTW05108D12	10.8	71	12	118	\$91.9
TTW05110D12	11.0	71	12	118	\$91.9
TTW05111D12	11.1	71	12	118	\$91.9
TTW05112D12	11.2	71	12	118	\$91.9
TTW05113D12	11.3	71	12	118	\$91.9
TTW05115D12	11.5	71	12	118	\$91.9
TTW05117D12	11.7	71	12	118	\$91.9
TTW05118D12	11.8	71	12	118	\$91.9
TTW05120D12	12.0	71	12	118	\$91.9
TTW05123D14	12.3	77	14	124	\$121.1
TTW05125D14	12.5	77	14	124	\$121.1
TTW05128D14	12.8	77	14	124	\$121.1
TTW05130D14	13.0	77	14	124	\$121.1
TTW05131D14	13.1	77	14	124	\$121.1
TTW05133D14	13.3	77	14	124	\$121.1
TTW05135D14	13.5	77	14	124	\$121.1
TTW05137D14	13.7	77	14	124	\$121.1
TTW05138D14	13.8	77	14	124	\$121.1
TTW05140D14	14.0	77	14	124	\$121.1
TTW05142D16	14.2	83	16	133	\$159.8
TTW05145D16	14.5	83	16	133	\$159.8
TTW05147D16	14.7	83	16	133	\$159.8
TTW05148D16	14.8	83	16	133	\$159.8

High Performance Carbide Drill for General Purpose (TTW TTS 3D&5D)



TTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTW05150D16	15.0	83	16	133	\$159.8
TTW05155D16	15.5	83	16	133	\$159.8
TTW05157D16	15.7	83	16	133	\$159.8
TTW05158D16	15.8	83	16	133	\$159.8
TTW05160D16	16.0	83	16	133	\$159.8
TTW05165D18	16.5	93	18	143	\$212.5
TTW05167D18	16.7	93	18	143	\$212.5
TTW05168D18	16.8	93	18	143	\$212.5
TTW05170D18	17.0	93	18	143	\$212.5
TTW05175D18	17.5	93	18	143	\$212.5
TTW05178D18	17.8	93	18	143	\$212.5
TTW05180D18	18.0	93	18	143	\$212.5
TTW05185D20	18.5	101	20	153	\$264.3
TTW05188D20	18.8	101	20	153	\$264.3
TTW05190D20	19.0	101	20	153	\$264.3
TTW05195D20	19.5	101	20	153	\$264.3
TTW05198D20	19.8	101	20	153	\$264.3
TTW05200D20	20.0	101	20	153	\$264.3

Notice: Drills' cutting diameter is over 12mm, the MOQ is 5pcs.(if there is no stock)

Carbide Drills

Hss Drills

U Drills

Head Exchangable Drills

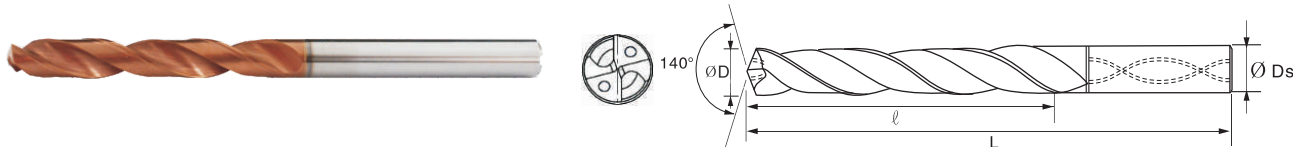
Deep Hole Drills

CDR 45° Chamfer Cutter

Non-standard Drill made

TTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

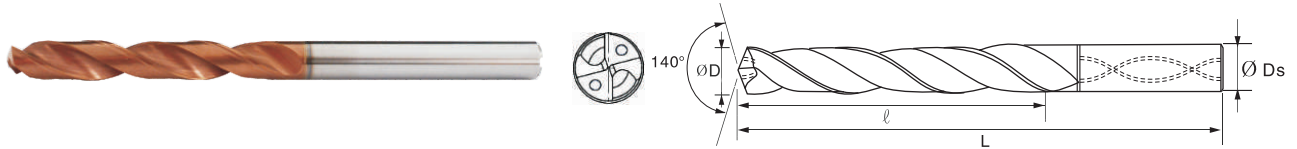


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTS05030D6	3.0	26	6	66	\$45.8
TTS05031D6	3.1	26	6	66	\$45.8
TTS05032D6	3.2	26	6	66	\$45.8
TTS05033D6	3.3	26	6	66	\$45.8
TTS05034D6	3.4	26	6	66	\$45.8
TTS05035D6	3.5	26	6	66	\$45.8
TTS05036D6	3.6	26	6	66	\$45.8
TTS05037D6	3.7	26	6	66	\$45.8
TTS05038D6	3.8	34	6	74	\$45.8
TTS05039D6	3.9	34	6	74	\$49.0
TTS05040D6	4.0	34	6	74	\$49.0
TTS05041D6	4.1	34	6	74	\$49.0
TTS05042D6	4.2	34	6	74	\$49.0
TTS05043D6	4.3	34	6	74	\$49.0
TTS05044D6	4.4	34	6	74	\$49.0
TTS05045D6	4.5	34	6	74	\$49.0
TTS05046D6	4.6	34	6	74	\$49.0
TTS05047D6	4.7	34	6	74	\$49.0
TTS05048D6	4.8	44	6	82	\$49.0
TTS05049D6	4.9	44	6	82	\$52.4
TTS05050D6	5.0	44	6	82	\$52.4
TTS05051D6	5.1	44	6	82	\$52.4
TTS05052D6	5.2	44	6	82	\$52.4
TTS05053D6	5.3	44	6	82	\$52.4
TTS05054D6	5.4	44	6	82	\$52.4
TTS05055D6	5.5	44	6	82	\$52.4
TTS05056D6	5.6	44	6	82	\$52.4
TTS05057D6	5.7	44	6	82	\$52.4
TTS05058D6	5.8	44	6	82	\$52.4
TTS05059D6	5.9	44	6	82	\$52.4
TTS05060D6	6.0	44	6	82	\$52.4
TTS05061D8	6.1	44	8	82	\$79.2
TTS05062D8	6.2	53	8	91	\$79.2
TTS05063D8	6.3	53	8	91	\$79.2
TTS05064D8	6.4	53	8	91	\$79.2
TTS05065D8	6.5	53	8	91	\$79.2

TTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

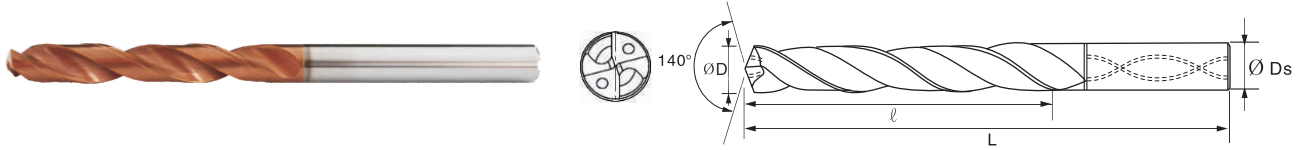


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	ℓ	Ds	L	
TTS05066D8	6.6	53	8	91	\$79.2
TTS05067D8	6.7	53	8	91	\$79.2
TTS05068D8	6.8	53	8	91	\$79.2
TTS05069D8	6.9	53	8	91	\$79.2
TTS05070D8	7.0	53	8	91	\$79.2
TTS05071D8	7.1	53	8	91	\$79.2
TTS05072D8	7.2	53	8	91	\$79.2
TTS05073D8	7.3	53	8	91	\$79.2
TTS05074D8	7.4	53	8	91	\$79.2
TTS05075D8	7.5	53	8	91	\$79.2
TTS05076D8	7.6	53	8	91	\$79.2
TTS05077D8	7.7	53	8	91	\$79.2
TTS05078D8	7.8	53	8	91	\$79.2
TTS05079D8	7.9	53	8	91	\$79.2
TTS05080D8	8.0	53	8	91	\$79.2
TTS05081D10	8.1	61	10	103	\$106.4
TTS05082D10	8.2	61	10	103	\$106.4
TTS05083D10	8.3	61	10	103	\$106.4
TTS05084D10	8.4	61	10	103	\$106.4
TTS05085D10	8.5	61	10	103	\$106.4
TTS05086D10	8.6	61	10	103	\$106.4
TTS05087D10	8.7	61	10	103	\$106.4
TTS05088D10	8.8	61	10	103	\$106.4
TTS05089D10	8.9	61	10	103	\$106.4
TTS05090D10	9.0	61	10	103	\$106.4
TTS05091D10	9.1	61	10	103	\$106.4
TTS05092D10	9.2	61	10	103	\$106.4
TTS05093D10	9.3	61	10	103	\$106.4
TTS05094D10	9.4	61	10	103	\$106.4
TTS05095D10	9.5	61	10	103	\$106.4
TTS05096D10	9.6	61	10	103	\$106.4
TTS05097D10	9.7	61	10	103	\$106.4
TTS05098D10	9.8	61	10	103	\$106.4
TTS05099D10	9.9	61	10	103	\$106.4
TTS05100D10	10.0	61	10	103	\$106.4
TTS05102D12	10.2	71	12	118	\$155.2
TTS05104D12	10.4	71	12	118	\$155.2

TTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		

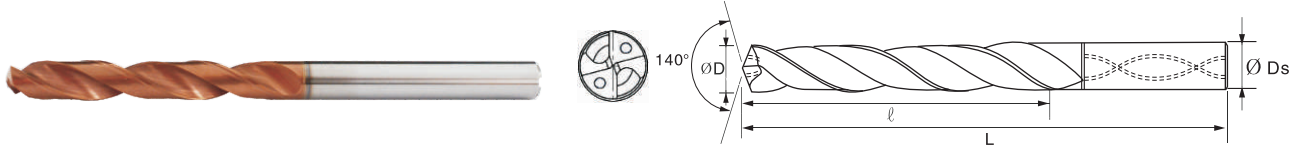


Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	l	Ds	L	
TTS05105D12	10.5	71	12	118	\$155.2
TTS05107D12	10.7	71	12	118	\$155.2
TTS05108D12	10.8	71	12	118	\$155.2
TTS05110D12	11.0	71	12	118	\$155.2
TTS05111D12	11.1	71	12	118	\$155.2
TTS05112D12	11.2	71	12	118	\$155.2
TTS05113D12	11.3	71	12	118	\$155.2
TTS05115D12	11.5	71	12	118	\$155.2
TTS05117D12	11.7	71	12	118	\$155.2
TTS05118D12	11.8	71	12	118	\$155.2
TTS05120D12	12.0	71	12	118	\$155.2
TTS05123D14	12.3	77	14	124	\$204.2
TTS05125D14	12.5	77	14	124	\$204.2
TTS05128D14	12.8	77	14	124	\$204.2
TTS05130D14	13.0	77	14	124	\$204.2
TTS05131D14	13.1	77	14	124	\$204.2
TTS05133D14	13.3	77	14	124	\$204.2
TTS05135D14	13.5	77	14	124	\$204.2
TTS05137D14	13.7	77	14	124	\$204.2
TTS05138D14	13.8	77	14	124	\$204.2
TTS05140D14	14.0	77	14	124	\$204.2
TTS05142D16	14.2	83	16	133	\$263.5
TTS05145D16	14.5	83	16	133	\$263.5
TTS05147D16	14.7	83	16	133	\$263.5
TTS05148D16	14.8	83	16	133	\$263.5
TTS05150D16	15.0	83	16	133	\$263.5
TTS05155D16	15.5	83	16	133	\$263.5
TTS05157D16	15.7	83	16	133	\$263.5
TTS05158D16	15.8	83	16	133	\$263.5
TTS05160D16	16.0	83	16	133	\$263.5
TTS05165D18	16.5	93	18	143	\$348.4
TTS05167D18	16.7	93	18	143	\$348.4
TTS05168D18	16.8	93	18	143	\$348.4
TTS05170D18	17.0	93	18	143	\$348.4
TTS05175D18	17.5	93	18	143	\$348.4
TTS05178D18	17.8	93	18	143	\$348.4
TTS05180D18	18.0	93	18	143	\$348.4

TTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	6537A
Coating	TiAlN	Suitable for processing	Steel/Stainless steel/Cast iron		



Unit(mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	USD List
	D	ℓ	Ds	L	
TTS05185D20	18.5	101	20	153	\$420.7
TTS05188D20	18.8	101	20	153	\$420.7
TTS05190D20	19.0	101	20	153	\$420.7
TTS05195D20	19.5	101	20	153	\$420.7
TTS05198D20	19.8	101	20	153	\$420.7
TTS05200D20	20.0	101	20	153	\$420.7

Notice: Drills' cutting diameter is over 12mm, the MOQ is 5pcs.(if there is no stock)

STANDARD CUTTING CONDITIONS

TTW Series 3D 5D (External Coolant)

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc(m/min)				Feed: f (mm/rev)					
			ø0.5 ~ ø3	ø3 ~ ø6	ø6 ~ ø10	ø10 ~ ø16	ø0.5 ~ ø1	ø1 ~ ø2	ø2 ~ ø3	ø3 ~ ø6	ø6 ~ ø10	ø10 ~ ø16
P	Low carbon steel (C < 0.3) C15E4, E275A, E355D, etc.	~ 180	25~60	40~100	60~120	60~130	0.005~0.05	0.03~0.09	0.05~0.1	0.15~0.3	0.15~0.35	0.2~0.5
	Carbon steel (C > 0.3) C45, C55, etc.	180 ~ 300	25~55	40~90	50~120	60~130	0.005~0.05	0.03~0.08	0.05~0.09	0.15~0.3	0.15~0.35	0.2~0.4
	High alloy steel 42CrMo4, etc.	250 ~ 350	25~50	40~80	50~100	50~100	0.005~0.04	0.03~0.07	0.05~0.08	0.1~0.2	0.15~0.3	0.15~0.35
M	Stainless steel X5CrNi18-9, etc.	~ 200	10~20	20~40	30~50	30~60	0.005~0.03	0.01~0.04	0.02~0.05	0.05~0.2	0.1~0.25	0.1~0.3
K	Grey cast iron 250, etc.	~ 200	20~50	40~90	50~95	50~100	0.005~0.03	0.01~0.06	0.03~0.12	0.15~0.3	0.2~0.4	0.2~0.5
	Ductile cast iron 450-10S, etc.	~ 300	20~50	30~80	40~90	45~90	0.005~0.02	0.01~0.05	0.03~0.1	0.1~0.3	0.2~0.4	0.2~0.4
N	Aluminium alloy AlSi11Cu3, etc.		20~50	40~90	50~100	50~100	0.01~0.05	0.04~0.15	0.06~0.2	0.15~0.3	0.2~0.4	0.2~0.5

TTS Series 3D 5D (Internal Coolant)

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc(m/min)			Feed: f (mm/rev)		
			ø3 ~ ø6	ø6 ~ ø10	ø10 ~ ø12	ø3 ~ ø6	ø6 ~ ø10	ø10 ~ ø12
P	Low carbon steel (C < 0.3) C15E4, E275A, E355D, etc.	~ 180	70~140	80~160	90~190	0.15~0.3	0.15~0.35	0.2~0.5
	Carbon steel (C > 0.3) C45, C55, etc.	180 ~ 300	50~130	70~160	80~170	0.15~0.3	0.15~0.35	0.2~0.4
	High alloy steel 42CrMo4, etc.	250 ~ 350	40~100	60~140	60~160	0.1~0.2	0.15~0.3	0.15~0.35
M	Stainless steel X5CrNi18-9, etc.	~ 200	25~75	50~100	50~120	0.05~0.2	0.1~0.25	0.1~0.3
K	Grey cast iron 250, etc.	~ 200	80~140	100~160	100~180	0.15~0.3	0.2~0.4	0.2~0.5
	Ductile cast iron 450-10S, etc.	~ 300	70~140	80~150	80~170	0.1~0.3	0.2~0.4	0.2~0.4
N	Aluminium alloy AlSi11Cu3, etc.		60~200	60~200	60~200	0.15~0.3	0.2~0.4	0.2~0.5

Carbide Drills

Hss Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45 Chamfer Cutter

Non-standard Drill made

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)

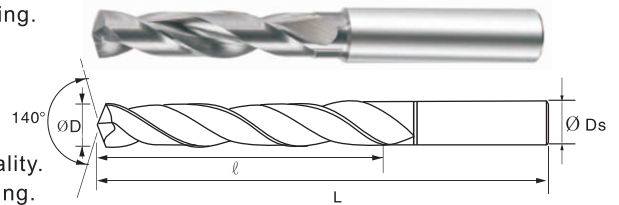


1. CTW 3D/5D series (External coolant)

- ① Carbide Material.
- ② Original corner-radius design, achieve the excellent chip removal and work precision.
- ③ Nanocomposite AlTiN coating makes the high speed and high efficiency drill machining.
- ④ Diameter from 3 mm to 20 mm, suitable for different type of machining.

2. CTS 3D/5D series (Internal coolant)

- ① Carbide Material.
- ② New groove design achieve the excellent chip removal.
- ③ Nanocomposite AlTiN coating coating makes the hard-wearing quality.
- ④ Diameter from 3 mm to 20 mm, suitable for different type of machining.



CTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness ≤ HRC48	

Unit (mm)

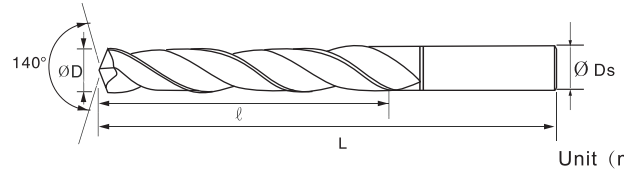
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
CTW030D6	3.0	20	6	62	\$34.6
CTW031D6	3.1	20	6	62	\$34.6
CTW032D6	3.2	20	6	62	\$34.6
CTW033D6	3.3	20	6	62	\$34.6
CTW034D6	3.4	20	6	62	\$34.6
CTW035D6	3.5	20	6	62	\$34.6
CTW036D6	3.6	20	6	62	\$34.6
CTW037D6	3.7	20	6	62	\$34.6
CTW038D6	3.8	24	6	66	\$39.4
CTW039D6	3.9	24	6	66	\$39.4
CTW040D6	4.0	24	6	66	\$39.4
CTW041D6	4.1	24	6	66	\$39.4
CTW042D6	4.2	24	6	66	\$39.4
CTW043D6	4.3	24	6	66	\$39.4
CTW044D6	4.4	24	6	66	\$39.4
CTW045D6	4.5	24	6	66	\$39.4
CTW046D6	4.6	24	6	66	\$39.4
CTW047D6	4.7	24	6	66	\$39.4
CTW048D6	4.8	28	6	66	\$39.4
CTW049D6	4.9	28	6	66	\$39.4
CTW050D6	5.0	28	6	66	\$39.4
CTW051D6	5.1	28	6	66	\$39.4
CTW052D6	5.2	28	6	66	\$39.4
CTW053D6	5.3	28	6	66	\$39.4
CTW054D6	5.4	28	6	66	\$39.4
CTW055D6	5.5	28	6	66	\$39.4
CTW056D6	5.6	28	6	66	\$39.4
CTW057D6	5.7	28	6	66	\$39.4
CTW058D6	5.8	28	6	66	\$39.4
CTW059D6	5.9	28	6	66	\$39.4
CTW060D6	6.0	28	6	66	\$39.4
CTW061D8	6.1	34	8	79	\$58.7
CTW062D8	6.2	34	8	79	\$58.7
CTW063D8	6.3	34	8	79	\$58.7
CTW064D8	6.4	34	8	79	\$58.7
CTW065D8	6.5	34	8	79	\$58.7

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

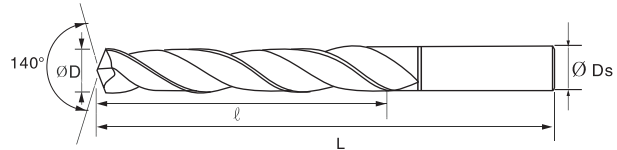
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTW066D8	6.6	34	8	79	\$58.7
CTW067D8	6.7	34	8	79	\$58.7
CTW068D8	6.8	34	8	79	\$58.7
CTW069D8	6.9	34	8	79	\$58.7
CTW070D8	7.0	34	8	79	\$58.7
CTW071D8	7.1	41	8	79	\$58.7
CTW072D8	7.2	41	8	79	\$58.7
CTW073D8	7.3	41	8	79	\$58.7
CTW074D8	7.4	41	8	79	\$58.7
CTW075D8	7.5	41	8	79	\$58.7
CTW076D8	7.6	41	8	79	\$58.7
CTW077D8	7.7	41	8	79	\$58.7
CTW078D8	7.8	41	8	79	\$58.7
CTW079D8	7.9	41	8	79	\$58.7
CTW080D8	8.0	41	8	79	\$58.7
CTW081D10	8.1	47	10	89	\$83.1
CTW082D10	8.2	47	10	89	\$83.1
CTW083D10	8.3	47	10	89	\$83.1
CTW084D10	8.4	47	10	89	\$83.1
CTW085D10	8.5	47	10	89	\$83.1
CTW086D10	8.6	47	10	89	\$83.1
CTW087D10	8.7	47	10	89	\$83.1
CTW088D10	8.8	47	10	89	\$83.1
CTW089D10	8.9	47	10	89	\$83.1
CTW090D10	9.0	47	10	89	\$83.1
CTW091D10	9.1	47	10	89	\$83.1
CTW092D10	9.2	47	10	89	\$83.1
CTW093D10	9.3	47	10	89	\$83.1
CTW094D10	9.4	47	10	89	\$83.1
CTW095D10	9.5	47	10	89	\$83.1
CTW096D10	9.6	47	10	89	\$83.1
CTW097D10	9.7	47	10	89	\$83.1
CTW098D10	9.8	47	10	89	\$83.1
CTW099D10	9.9	47	10	89	\$83.1
CTW100D10	10.0	47	10	89	\$83.1
CTW101D12	10.1	55	12	102	\$116.1
CTW102D12	10.2	55	12	102	\$116.1
CTW103D12	10.3	55	12	102	\$116.1
CTW104D12	10.4	55	12	102	\$116.1
CTW105D12	10.5	55	12	102	\$116.1
CTW106D12	10.6	55	12	102	\$116.1

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness ≤ HRC48	



Unit (mm)

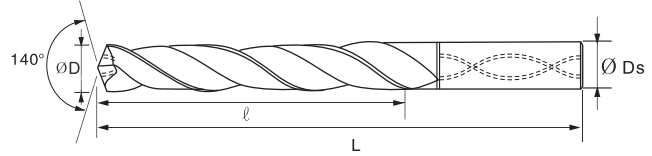
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTW107D12	10.7	55	12	102	\$116.1
CTW108D12	10.8	55	12	102	\$116.1
CTW109D12	10.9	55	12	102	\$116.1
CTW110D12	11.0	55	12	102	\$116.1
CTW111D12	11.1	55	12	102	\$116.1
CTW112D12	11.2	55	12	102	\$116.1
CTW113D12	11.3	55	12	102	\$116.1
CTW114D12	11.4	55	12	102	\$116.1
CTW115D12	11.5	55	12	102	\$116.1
CTW116D12	11.6	55	12	102	\$116.1
CTW117D12	11.7	55	12	102	\$116.1
CTW118D12	11.8	55	12	102	\$116.1
CTW119D12	11.9	55	12	102	\$116.1
CTW120D12	12.0	55	12	102	\$116.1
CTW125D14	12.5	60	14	107	\$152.5
CTW128D14	12.8	60	14	107	\$152.5
CTW130D14	13.0	60	14	107	\$152.5
CTW135D14	13.5	60	14	107	\$152.5
CTW138D14	13.8	60	14	107	\$152.5
CTW140D14	14.0	60	14	107	\$152.5
CTW145D16	14.5	65	16	115	\$196.3
CTW148D16	14.8	65	16	115	\$196.3
CTW150D16	15.0	65	16	115	\$196.3
CTW155D16	15.5	65	16	115	\$196.3
CTW158D16	15.8	65	16	115	\$196.3
CTW160D16	16.0	65	16	115	\$196.3
CTW165D18	16.5	73	18	123	\$260.1
CTW168D16	16.8	73	18	123	\$260.1
CTW170D18	17.0	73	18	123	\$260.1
CTW175D18	17.5	73	18	123	\$260.1
CTW178D18	17.8	73	18	123	\$260.1
CTW180D18	18.0	73	18	123	\$260.1
CTW185D20	18.5	79	20	131	\$314.8
CTW188D20	18.8	79	20	131	\$314.8
CTW190D20	19.0	79	20	131	\$314.8
CTW195D20	19.5	79	20	131	\$314.8
CTW198D20	19.8	79	20	131	\$314.8
CTW200D20	20.0	79	20	131	\$314.8

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48

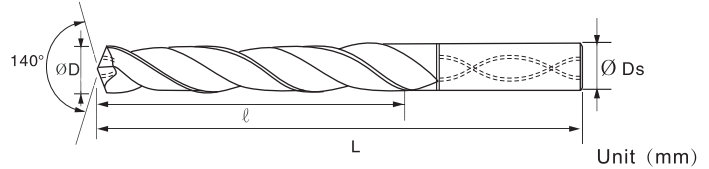


Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTS030D6	3.0	20	6	62	\$47.8
CTS031D6	3.1	20	6	62	\$47.8
CTS032D6	3.2	20	6	62	\$47.8
CTS033D6	3.3	20	6	62	\$47.8
CTS034D6	3.4	20	6	62	\$47.8
CTS035D6	3.5	20	6	62	\$47.8
CTS036D6	3.6	20	6	62	\$47.8
CTS037D6	3.7	20	6	62	\$47.8
CTS038D6	3.8	24	6	66	\$47.8
CTS039D6	3.9	24	6	66	\$47.8
CTS040D6	4.0	24	6	66	\$47.8
CTS041D6	4.1	24	6	66	\$47.8
CTS042D6	4.2	24	6	66	\$47.8
CTS043D6	4.3	24	6	66	\$47.8
CTS044D6	4.4	24	6	66	\$47.8
CTS045D6	4.5	24	6	66	\$47.8
CTS046D6	4.6	24	6	66	\$47.8
CTS047D6	4.7	24	6	66	\$47.8
CTS048D6	4.8	28	6	66	\$47.8
CTS049D6	4.9	28	6	66	\$47.8
CTS050D6	5.0	28	6	66	\$47.8
CTS051D6	5.1	28	6	66	\$47.8
CTS052D6	5.2	28	6	66	\$47.8
CTS053D6	5.3	28	6	66	\$47.8
CTS054D6	5.4	28	6	66	\$47.8
CTS055D6	5.5	28	6	66	\$47.8
CTS056D6	5.6	28	6	66	\$47.8
CTS057D6	5.7	28	6	66	\$47.8
CTS058D6	5.8	28	6	66	\$47.8
CTS059D6	5.9	28	6	66	\$47.8
CTS060D6	6.0	28	6	66	\$47.8
CTS061D8	6.1	34	8	79	\$92.1
CTS062D8	6.2	34	8	79	\$92.1
CTS063D8	6.3	34	8	79	\$92.1
CTS064D8	6.4	34	8	79	\$92.1
CTS065D8	6.5	34	8	79	\$92.1
CTS066D8	6.6	34	8	79	\$92.1
CTS067D8	6.7	34	8	79	\$92.1

CTS Drill Series 3D with Internal Coolant

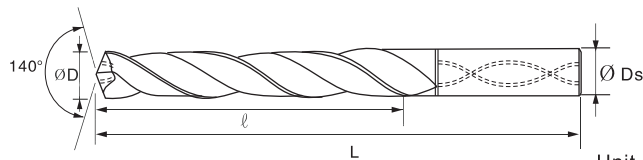
Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness ≤ HRC48	



Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTS068D8	6.8	34	8	79	\$92.1
CTS069D8	6.9	34	8	79	\$92.1
CTS070D8	7.0	34	8	79	\$92.1
CTS071D8	7.1	41	8	79	\$92.1
CTS072D8	7.2	41	8	79	\$92.1
CTS073D8	7.3	41	8	79	\$92.1
CTS074D8	7.4	41	8	79	\$92.1
CTS075D8	7.5	41	8	79	\$92.1
CTS076D8	7.6	41	8	79	\$92.1
CTS077D8	7.7	41	8	79	\$92.1
CTS078D8	7.8	41	8	79	\$92.1
CTS079D8	7.9	41	8	79	\$92.1
CTS080D8	8.0	41	8	79	\$92.1
CTS081D10	8.1	47	10	89	\$138.8
CTS082D10	8.2	47	10	89	\$138.8
CTS083D10	8.3	47	10	89	\$138.8
CTS084D10	8.4	47	10	89	\$138.8
CTS085D10	8.5	47	10	89	\$138.8
CTS086D10	8.6	47	10	89	\$138.8
CTS087D10	8.7	47	10	89	\$138.8
CTS088D10	8.8	47	10	89	\$138.8
CTS089D10	8.9	47	10	89	\$138.8
CTS090D10	9.0	47	10	89	\$138.8
CTS091D10	9.1	47	10	89	\$138.8
CTS092D10	9.2	47	10	89	\$138.8
CTS093D10	9.3	47	10	89	\$138.8
CTS094D10	9.4	47	10	89	\$138.8
CTS095D10	9.5	47	10	89	\$138.8
CTS096D10	9.6	47	10	89	\$138.8
CTS097D10	9.7	47	10	89	\$138.8
CTS098D10	9.8	47	10	89	\$138.8
CTS099D10	9.9	47	10	89	\$138.8
CTS100D10	10.0	47	10	89	\$138.8
CTS101D12	10.1	55	12	102	\$195.3
CTS102D12	10.2	55	12	102	\$195.3
CTS103D12	10.3	55	12	102	\$195.3
CTS104D12	10.4	55	12	102	\$195.3
CTS105D12	10.5	55	12	102	\$195.3

CTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

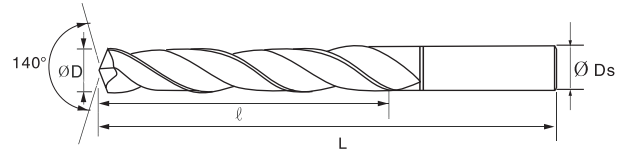
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTS106D12	10.6	55	12	102	\$195.3
CTS107D12	10.7	55	12	102	\$195.3
CTS108D12	10.8	55	12	102	\$195.3
CTS109D12	10.9	55	12	102	\$195.3
CTS110D12	11.0	55	12	102	\$195.3
CTS111D12	11.1	55	12	102	\$195.3
CTS112D12	11.2	55	12	102	\$195.3
CTS113D12	11.3	55	12	102	\$195.3
CTS114D12	11.4	55	12	102	\$195.3
CTS115D12	11.5	55	12	102	\$195.3
CTS116D12	11.6	55	12	102	\$195.3
CTS117D12	11.7	55	12	102	\$195.3
CTS118D12	11.8	55	12	102	\$195.3
CTS119D12	11.9	55	12	102	\$195.3
CTS120D12	12.0	55	12	102	\$195.3
CTS125D14	12.5	60	14	107	\$256.9
CTS128D14	12.8	60	14	107	\$256.9
CTS130D14	13.0	60	14	107	\$256.9
CTS135D14	13.5	60	14	107	\$256.9
CTS138D14	13.8	60	14	107	\$256.9
CTS140D14	14.0	60	14	107	\$256.9
CTS145D16	14.5	65	16	115	\$324.7
CTS148D16	14.8	65	16	115	\$324.7
CTS150D16	15.0	65	16	115	\$324.7
CTS155D16	15.5	65	16	115	\$324.7
CTS158D16	15.8	65	16	115	\$324.7
CTS160D16	16.0	65	16	115	\$324.7
CTS165D18	16.5	73	18	123	\$431.8
CTS168D16	16.8	73	18	123	\$431.8
CTS170D18	17.0	73	18	123	\$431.8
CTS175D18	17.5	73	18	123	\$431.8
CTS178D18	17.8	73	18	123	\$431.8
CTS180D18	18.0	73	18	123	\$431.8
CTS185D20	18.5	79	20	131	\$526.7
CTS188D20	18.8	79	20	131	\$526.7
CTS190D20	19.0	79	20	131	\$526.7
CTS195D20	19.5	79	20	131	\$526.7
CTS198D20	19.8	79	20	131	\$526.7
CTS200D20	20.0	79	20	131	\$526.7

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTW05030D6	3.0	28	6	66	\$39.0
CTW05031D6	3.1	28	6	66	\$39.0
CTW05032D6	3.2	28	6	66	\$39.0
CTW05033D6	3.3	28	6	66	\$39.0
CTW05034D6	3.4	28	6	66	\$39.0
CTW05035D6	3.5	28	6	66	\$39.0
CTW05036D6	3.6	28	6	66	\$39.0
CTW05037D6	3.7	28	6	66	\$39.0
CTW05038D6	3.8	36	6	74	\$42.1
CTW05039D6	3.9	36	6	74	\$42.1
CTW05040D6	4.0	36	6	74	\$42.1
CTW05041D6	4.1	36	6	74	\$42.1
CTW05042D6	4.2	36	6	74	\$42.1
CTW05043D6	4.3	36	6	74	\$42.1
CTW05044D6	4.4	36	6	74	\$42.1
CTW05045D6	4.5	36	6	74	\$42.1
CTW05046D6	4.6	36	6	74	\$42.1
CTW050465D6	4.65	36	6	74	\$42.1
CTW05047D6	4.7	36	6	74	\$42.1
CTW05048D6	4.8	44	6	82	\$44.5
CTW05049D6	4.9	44	6	82	\$44.5
CTW05050D6	5.0	44	6	82	\$44.5
CTW05051D6	5.1	44	6	82	\$44.5
CTW05052D6	5.2	44	6	82	\$44.5
CTW05053D6	5.3	44	6	82	\$44.5
CTW05054D6	5.4	44	6	82	\$44.5
CTW05055D6	5.5	44	6	82	\$44.5
CTW05056D6	5.6	44	6	82	\$44.5
CTW05057D6	5.7	44	6	82	\$44.5
CTW05058D6	5.8	44	6	82	\$44.5
CTW05059D6	5.9	44	6	82	\$44.5
CTW05060D6	6.0	44	6	82	\$44.5
CTW05061D8	6.1	53	8	91	\$63.2
CTW05062D8	6.2	53	8	91	\$63.2
CTW05063D8	6.3	53	8	91	\$63.2
CTW05064D8	6.4	53	8	91	\$63.2
CTW05065D8	6.5	53	8	91	\$63.2
CTW05066D8	6.6	53	8	91	\$63.2
CTW05067D8	6.7	53	8	91	\$63.2
CTW05068D8	6.8	53	8	91	\$63.2

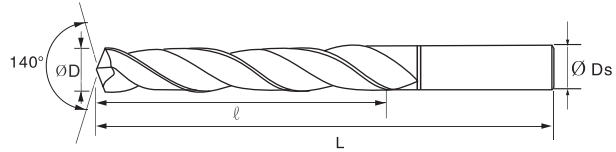
Carbide Drills
 Hss Drills
 U Drills
 Head Exchangable Drills
 Deep Hole Drills
 CDR 45° Chamfer Cutter
 Non-standard Drill made

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness ≤ HRC48	



Unit (mm)

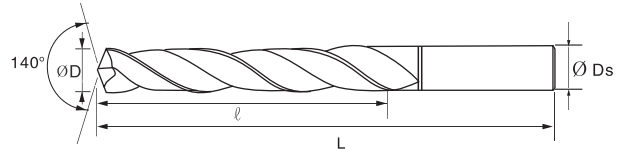
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTW05069D8	6.9	53	8	91	\$63.2
CTW05070D8	7.0	53	8	91	\$63.2
CTW05071D8	7.1	53	8	91	\$63.2
CTW05072D8	7.2	53	8	91	\$63.2
CTW05073D8	7.3	53	8	91	\$63.2
CTW05074D8	7.4	53	8	91	\$63.2
CTW05075D8	7.5	53	8	91	\$63.2
CTW05076D8	7.6	53	8	91	\$63.2
CTW05077D8	7.7	53	8	91	\$63.2
CTW05078D8	7.8	53	8	91	\$63.2
CTW05079D8	7.9	53	8	91	\$63.2
CTW05080D8	8.0	53	8	91	\$63.2
CTW05081D10	8.1	61	10	103	\$89.5
CTW05082D10	8.2	61	10	103	\$89.5
CTW05083D10	8.3	61	10	103	\$89.5
CTW05084D10	8.4	61	10	103	\$89.5
CTW05085D10	8.5	61	10	103	\$89.5
CTW05086D10	8.6	61	10	103	\$89.5
CTW05087D10	8.7	61	10	103	\$89.5
CTW05088D10	8.8	61	10	103	\$89.5
CTW05089D10	8.9	61	10	103	\$89.5
CTW05090D10	9.0	61	10	103	\$89.5
CTW05091D10	9.1	61	10	103	\$89.5
CTW05092D10	9.2	61	10	103	\$89.5
CTW05093D10	9.3	61	10	103	\$89.5
CTW05094D10	9.4	61	10	103	\$89.5
CTW05095D10	9.5	61	10	103	\$89.5
CTW05096D10	9.6	61	10	103	\$89.5
CTW05097D10	9.7	61	10	103	\$89.5
CTW05098D10	9.8	61	10	103	\$89.5
CTW05099D10	9.9	61	10	103	\$89.5
CTW05100D10	10.0	61	10	103	\$89.5
CTW05101D12	10.1	71	12	118	\$125.0
CTW05102D12	10.2	71	12	118	\$125.0
CTW05103D12	10.3	71	12	118	\$125.0
CTW05104D12	10.4	71	12	118	\$125.0
CTW05105D12	10.5	71	12	118	\$125.0
CTW05106D12	10.6	71	12	118	\$125.0
CTW05107D12	10.7	71	12	118	\$125.0
CTW05108D12	10.8	71	12	118	\$125.0

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTW Drill Series 5D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTW05109D12	10.9	71	12	118	\$125.0
CTW05110D12	11.0	71	12	118	\$125.0
CTW05111D12	11.1	71	12	118	\$125.0
CTW05112D12	11.2	71	12	118	\$125.0
CTW05113D12	11.3	71	12	118	\$125.0
CTW05114D12	11.4	71	12	118	\$125.0
CTW05115D12	11.5	71	12	118	\$125.0
CTW05116D12	11.6	71	12	118	\$125.0
CTW05117D12	11.7	71	12	118	\$125.0
CTW05118D12	11.8	71	12	118	\$125.0
CTW05119D12	11.9	71	12	118	\$125.0
CTW05120D12	12.0	71	12	118	\$125.0
CTW05122D12	12.2	77	14	124	\$164.4
CTW05123D12	12.3	77	14	124	\$164.4
CTW05124D12	12.4	77	14	124	\$164.4
CTW05125D14	12.5	77	14	124	\$164.4
CTW05128D14	12.8	77	14	124	\$164.4
CTW05130D14	13.0	77	14	124	\$164.4
CTW05135D14	13.5	77	14	124	\$164.4
CTW05138D14	13.8	77	14	124	\$164.4
CTW05140D14	14.0	77	14	124	\$164.4
CTW05143D16	14.3	83	16	133	\$216.5
CTW05145D16	14.5	83	16	133	\$216.5
CTW05146D16	14.6	83	16	133	\$216.5
CTW05148D16	14.8	83	16	133	\$216.5
CTW05150D16	15.0	83	16	133	\$216.5
CTW05155D16	15.5	83	16	133	\$216.5
CTW05158D16	15.8	83	16	133	\$216.5
CTW05160D16	16.0	83	16	133	\$216.5
CTW05165D18	16.5	93	18	143	\$287.6
CTW05166D18	16.6	93	18	143	\$287.6
CTW05168D18	16.8	93	18	143	\$287.6
CTW05170D18	17.0	93	18	143	\$287.6
CTW05175D18	17.5	93	18	143	\$287.6
CTW05178D18	17.8	93	18	143	\$287.6
CTW05180D20	18.0	93	18	143	\$287.6
CTW05185D20	18.5	101	20	153	\$357.5
CTW05190D20	19.0	101	20	153	\$357.5
CTW05195D20	19.5	101	20	153	\$357.5
CTW05200D20	20.0	101	20	153	\$357.5

Carbide Drills

Hss Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

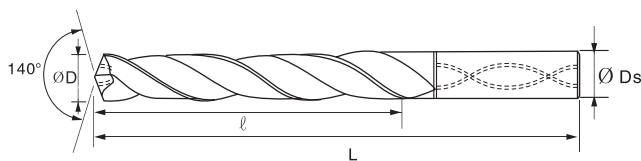
Non-standard Drill made

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness ≤ HRC48	



Unit (mm)

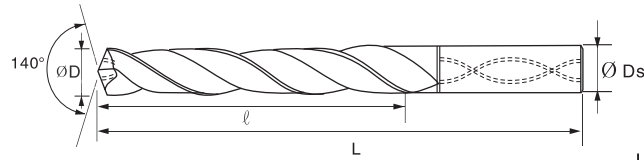
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
CTS05030D6	3.0	28	6	66	\$51.3
CTS05031D6	3.1	28	6	66	\$51.3
CTS05032D6	3.2	28	6	66	\$51.3
CTS05033D6	3.3	28	6	66	\$51.3
CTS05034D6	3.4	28	6	66	\$51.3
CTS05035D6	3.5	28	6	66	\$51.3
CTS05036D6	3.6	28	6	66	\$51.3
CTS05037D6	3.7	28	6	66	\$51.3
CTS05038D6	3.8	36	6	74	\$54.7
CTS05039D6	3.9	36	6	74	\$54.7
CTS05040D6	4.0	36	6	74	\$54.7
CTS05041D6	4.1	36	6	74	\$54.7
CTS05042D6	4.2	36	6	74	\$54.7
CTS05043D6	4.3	36	6	74	\$54.7
CTS05044D6	4.4	36	6	74	\$54.7
CTS05045D6	4.5	36	6	74	\$54.7
CTS05046D6	4.6	36	6	74	\$54.7
CTS05047D6	4.7	36	6	74	\$54.7
CTS05048D6	4.8	44	6	82	\$58.5
CTS05049D6	4.9	44	6	82	\$58.5
CTS05050D6	5.0	44	6	82	\$58.5
CTS05051D6	5.1	44	6	82	\$58.5
CTS05052D6	5.2	44	6	82	\$58.5
CTS05053D6	5.3	44	6	82	\$58.5
CTS05054D6	5.4	44	6	82	\$58.5
CTS05055D6	5.5	44	6	82	\$58.5
CTS05056D6	5.6	44	6	82	\$58.5
CTS05057D6	5.7	44	6	82	\$58.5
CTS05058D6	5.8	44	6	82	\$58.5
CTS05059D6	5.9	44	6	82	\$58.5
CTS05060D6	6.0	44	6	82	\$58.5
CTS05061D8	6.1	53	8	91	\$101.3
CTS05062D8	6.2	53	8	91	\$101.3
CTS05063D8	6.3	53	8	91	\$101.3
CTS05064D8	6.4	53	8	91	\$101.3
CTS05065D8	6.5	53	8	91	\$101.3
CTS05066D8	6.6	53	8	91	\$101.3
CTS05067D8	6.7	53	8	91	\$101.3
CTS05068D8	6.8	53	8	91	\$101.3
CTS05069D8	6.9	53	8	91	\$101.3

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

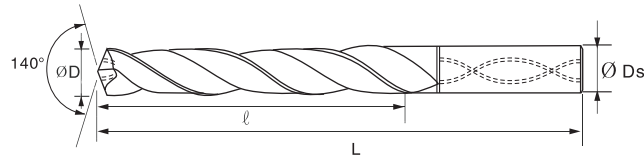
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
CTS05070D8	7.0	53	8	91	\$101.3
CTS05071D8	7.1	53	8	91	\$101.3
CTS05072D8	7.2	53	8	91	\$101.3
CTS05073D8	7.3	53	8	91	\$101.3
CTS05074D8	7.4	53	8	91	\$101.3
CTS05075D8	7.5	53	8	91	\$101.3
CTS05076D8	7.6	53	8	91	\$101.3
CTS05077D8	7.7	53	8	91	\$101.3
CTS05078D8	7.8	53	8	91	\$101.3
CTS05079D8	7.9	53	8	91	\$101.3
CTS05080D8	8.0	53	8	91	\$101.3
CTS05081D10	8.1	61	10	103	\$144.6
CTS05082D10	8.2	61	10	103	\$144.6
CTS05083D10	8.3	61	10	103	\$144.6
CTS05084D10	8.4	61	10	103	\$144.6
CTS05085D10	8.5	61	10	103	\$144.6
CTS05086D10	8.6	61	10	103	\$144.6
CTS05087D10	8.7	61	10	103	\$144.6
CTS05088D10	8.8	61	10	103	\$144.6
CTS05089D10	8.9	61	10	103	\$144.6
CTS05090D10	9.0	61	10	103	\$144.6
CTS05091D10	9.1	61	10	103	\$144.6
CTS05092D10	9.2	61	10	103	\$144.6
CTS05093D10	9.3	61	10	103	\$144.6
CTS05094D10	9.4	61	10	103	\$144.6
CTS05095D10	9.5	61	10	103	\$144.6
CTS05096D10	9.6	61	10	103	\$144.6
CTS05097D10	9.7	61	10	103	\$144.6
CTS05098D10	9.8	61	10	103	\$144.6
CTS05099D10	9.9	61	10	103	\$144.6
CTS05100D10	10.0	61	10	103	\$144.6
CTS05101D12	10.1	71	12	118	\$210.3
CTS05102D12	10.2	71	12	118	\$210.3
CTS05103D12	10.3	71	12	118	\$210.3
CTS05104D12	10.4	71	12	118	\$210.3
CTS05105D12	10.5	71	12	118	\$210.3
CTS05106D12	10.6	71	12	118	\$210.3
CTS05107D12	10.7	71	12	118	\$210.3
CTS05108D12	10.8	71	12	118	\$210.3
CTS05109D12	10.9	71	12	118	\$210.3

High Performance Carbide Drill for Steel Purpose (CTW CTS 3D&5D)



CTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Steel/Cast iron	Work hardness	≤HRC48



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
CTS05110D12	11.0	71	12	118	\$210.3
CTS05111D12	11.1	71	12	118	\$210.3
CTS05112D12	11.2	71	12	118	\$210.3
CTS05113D12	11.3	71	12	118	\$210.3
CTS05114D12	11.4	71	12	118	\$210.3
CTS05115D12	11.5	71	12	118	\$210.3
CTS05116D12	11.6	71	12	118	\$210.3
CTS05117D12	11.7	71	12	118	\$210.3
CTS05118D12	11.8	71	12	118	\$210.3
CTS05119D12	11.9	71	12	118	\$210.3
CTS05120D12	12.0	71	12	118	\$210.3
CTS05122D12	12.2	77	14	124	\$276.3
CTS05123D12	12.3	77	14	124	\$276.3
CTS05124D12	12.4	77	14	124	\$276.3
CTS05125D14	12.5	77	14	124	\$276.3
CTS05128D14	12.8	77	14	124	\$276.3
CTS05130D14	13.0	77	14	124	\$276.3
CTS05135D14	13.5	77	14	124	\$276.3
CTS05138D14	13.8	77	14	124	\$276.3
CTS05140D14	14.0	77	14	124	\$276.3
CTS05143D16	14.3	83	16	133	\$356.4
CTS05145D16	14.5	83	16	133	\$356.4
CTS05146D16	14.6	83	16	133	\$356.4
CTS05148D16	14.8	83	16	133	\$356.4
CTS05150D16	15.0	83	16	133	\$356.4
CTS05155D16	15.5	83	16	133	\$356.4
CTS05158D16	15.8	83	16	133	\$356.4
CTS05160D16	16.0	83	16	133	\$356.4
CTS05165D18	16.5	93	18	143	\$470.8
CTS05166D18	16.6	93	18	143	\$470.8
CTS05168D18	16.8	93	18	143	\$470.8
CTS05170D18	17.0	93	18	143	\$470.8
CTS05175D18	17.5	93	18	143	\$470.8
CTS05178D18	17.8	93	18	143	\$470.8
CTS05180D20	18.0	93	18	143	\$470.8
CTS05185D20	18.5	101	20	153	\$568.3
CTS05190D20	19.0	101	20	153	\$568.3
CTS05195D20	19.5	101	20	153	\$568.3
CTS05200D20	20.0	101	20	153	\$568.3

STANDARD CUTTING CONDITIONS

CTW Series 3D/5D (External Coolant)

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc (m/min)	Feed: f (mm/rev)						
				ø3 ~ ø4	ø4 ~ ø6	ø6 ~ ø8	ø8 ~ ø10	ø10 ~ ø12	ø12 ~ ø16	ø16 ~ ø20
P	Low carbon steel (C < 0.3) C15E4, E275A, E355D, etc.	~125	120~80~50	0.10~0.20	0.14~0.25	0.16~0.32	0.16~0.35	0.18~0.40	0.22~0.45	0.25~0.50
	Carbon steel (C > 0.3) C45, C55, etc.	125 ~ 300	120~70~45	0.10~0.20	0.14~0.25	0.16~0.32	0.16~0.35	0.18~0.40	0.22~0.45	0.25~0.50
	High alloy steel 42CrMo4, etc.	250 ~ 350	100~60~35	0.09~0.16	0.12~0.23	0.14~0.28	0.14~0.30	0.18~0.38	0.22~0.45	0.25~0.50
K	Grey cast iron 250, etc.	~ 200	140~100~60	0.13~0.20	0.17~0.30	0.20~0.35	0.23~0.40	0.25~0.45	0.28~0.48	0.32~0.52
	Ductile cast iron 450-10S, etc	~ 300	120~80~60	0.11~0.18	0.13~0.20	0.15~0.25	0.17~0.32	0.20~0.36	0.24~0.45	0.28~0.48

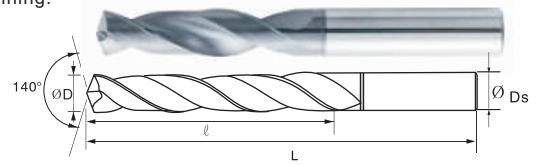
CTS Series 3D/5D (Internal Coolant)

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc (m/min)	Feed: f (mm/rev)						
				ø3 ~ ø4	ø4 ~ ø6	ø6 ~ ø8	ø8 ~ ø10	ø10 ~ ø12	ø12 ~ ø16	ø16 ~ ø20
P	Low carbon steel (C < 0.3) C15E4, E275A, E355D, etc.	~125	140~100~60	0.10~0.20	0.14~0.25	0.16~0.32	0.16~0.35	0.18~0.40	0.22~0.45	0.25~0.50
	Carbon steel (C > 0.3) C45, C55, etc.	125 ~ 300	120~80~60	0.10~0.20	0.14~0.25	0.16~0.32	0.16~0.35	0.18~0.40	0.22~0.45	0.25~0.50
	High alloy steel 42CrMo4, etc.	250 ~ 350	110~80~60	0.09~0.16	0.12~0.23	0.14~0.28	0.14~0.30	0.18~0.38	0.22~0.45	0.25~0.50
K	Grey cast iron 250, etc.	~ 200	160~120~60	0.13~0.20	0.17~0.30	0.20~0.35	0.23~0.40	0.25~0.45	0.28~0.48	0.32~0.52
	Ductile cast iron 450-10S, etc	~ 300	140~100~60	0.11~0.18	0.13~0.20	0.15~0.25	0.17~0.32	0.20~0.36	0.24~0.45	0.28~0.48

1. DTW 3D/5D series (External coolant)

- ① Carbide Material.
- ② Unique bottom cutting edge design, with stronger chip breaking ability and greater chip capacity space.
- ③ Nanocomposite AlTiN coating makes the high speed and high efficiency drill machining.
- ④ Diameter from 1mm to 20mm, suitable for stainless steel processing.



2. DTS 3D/5D series (Internal coolant)

- ① Carbide Material.
- ② Unique bottom cutting edge design, with stronger chip breaking ability and greater chip capacity space.
- ③ New substrate coating with super toughness and wear resistance.
- ④ Diameter from 3mm to 20mm, suitable for stainless steel processing.

DTW Drill Series 3D External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Stainless steel		

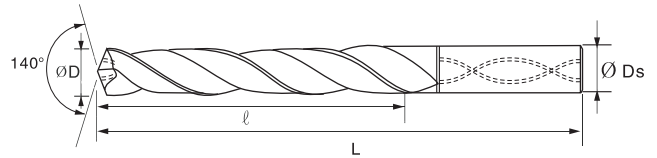
Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	Stock
	D	ℓ	Ds	L	
DTW010D4	1.0	7	4	45	●
DTW020D4	2.0	13	4	55	●
DTW030D6	3.0	20	6	62	●
DTW033D6	3.3	20	6	62	●
DTW040D6	4.0	24	6	66	●
DTW042D6	4.2	24	6	66	●
DTW050D6	5.0	28	6	66	●
DTW060D6	6.0	28	6	66	●
DTW068D8	6.8	34	8	79	●
DTW070D8	7.0	34	8	79	●
DTW080D8	8.0	41	8	79	●
DTW085D10	8.5	47	10	89	●
DTW090D10	9.0	47	10	89	●
DTW100D10	10.0	47	10	89	●
DTW103D12	10.3	55	12	102	●
DTW105D12	10.5	55	12	102	●
DTW110D12	11.0	55	12	102	●
DTW120D12	12.0	55	12	102	●
DTW125D14	12.5	60	14	107	●
DTW130D14	13.0	60	14	107	●
DTW140D14	14.0	60	14	107	●
DTW145D16	14.5	65	16	115	●
DTW150D16	15.0	65	16	115	●
DTW160D16	16.0	65	16	115	●
DTW170D18	17.0	73	18	123	●
DTW180D18	18.0	73	18	123	●
DTW190D20	19.0	79	20	131	●
DTW200D20	20.0	79	20	131	●

Note: ● Stock ○ Non-stock

DTS Drill Series 3D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Stainless steel		



Unit (mm)

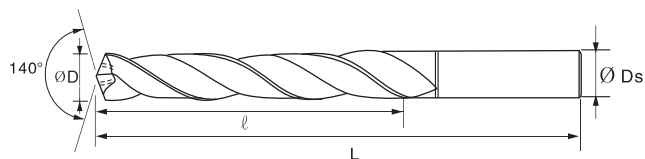
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	Stock
	D	l	Ds	L	
DTS030D6	3.0	20	6	62	○
DTS033D6	3.3	20	6	62	○
DTS040D6	4.0	24	6	66	○
DTS042D6	4.2	24	6	66	○
DTS050D6	5.0	28	6	66	○
DTS060D6	6.0	28	6	66	○
DTS068D8	6.8	34	8	79	○
DTS070D8	7.0	34	8	79	○
DTS080D8	8.0	41	8	79	○
DTS085D10	8.5	47	10	89	○
DTS090D10	9.0	47	10	89	○
DTS100D10	10.0	47	10	89	○
DTS103D12	10.3	55	12	102	○
DTS105D12	10.5	55	12	102	○
DTS110D12	11.0	55	12	102	○
DTS120D12	12.0	55	12	102	○
DTS125D14	12.5	60	14	107	○
DTS130D14	13.0	60	14	107	○
DTS140D14	14.0	60	14	107	○
DTS145D16	14.5	65	16	115	○
DTS150D16	15.0	65	16	115	○
DTS160D16	16.0	65	16	115	○
DTS170D18	17.0	73	18	123	○
DTS180D18	18.0	73	18	123	○
DTS190D20	19.0	79	20	131	○
DTS200D20	20.0	79	20	131	○

Note: ● Stock ○ Non-stock

Carbide Drills
 Hss Drills
 U Drills
 Head Exchangable Drills
 Deep Hole Drills
 CDR 45° Chamfer Cutter
 Non-standard Drill made

DTW Drill Series 5D with External Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	AlTiN	Suitable for processing	Stainless steel		



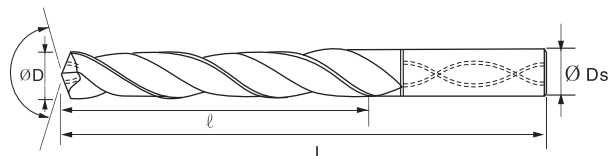
Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	Stock
	D	l	Ds	L	
DTW05030D6	3.0	28	6	66	○
DTW05033D6	3.3	28	6	66	○
DTW05040D6	4.0	36	6	74	○
DTW05042D6	4.2	36	6	74	○
DTW05050D6	5.0	44	6	82	○
DTW05060D6	6.0	44	6	82	○
DTW05068D8	6.8	53	8	91	○
DTW05070D8	7.0	53	8	91	○
DTW05080D8	8.0	53	8	91	○
DTW05085D10	8.5	61	10	103	○
DTW05090D10	9.0	61	10	103	○
DTW05100D10	10.0	61	10	103	○
DTW05103D12	10.3	71	12	118	○
DTW05105D12	10.5	71	12	118	○
DTW05110D12	11.0	71	12	118	○
DTW05120D12	12.0	71	12	118	○
DTW05125D14	12.5	77	14	124	○
DTW05130D14	13.0	77	14	124	○
DTW05140D14	14.0	77	14	124	○
DTW05145D16	14.5	83	16	133	○
DTW05150D16	15.0	83	16	133	○
DTW05160D16	16.0	83	16	133	○
DTW05170D18	17.0	93	18	143	○
DTW05180D18	18.0	93	18	143	○
DTW05190D20	19.0	101	20	153	○
DTW05200D20	20.0	101	20	153	○

Note: ● Stock ○ Non-stock

DTS Drill Series 5D with Internal Coolant

Material	Carbide	Helix angle	30°	Point angle	140°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6537K
Coating	AlTiN	Suitable for processing	Stainless steel		



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	Stock
	D	l	Ds	L	
DTS05030D6	3.0	28	6	66	○
DTS05033D6	3.3	28	6	66	○
DTS05040D6	4.0	36	6	74	○
DTS05042D6	4.2	36	6	74	○
DTS05050D6	5.0	44	6	82	○
DTS05060D6	6.0	44	6	82	○
DTS05068D8	6.8	53	8	91	○
DTS05070D8	7.0	53	8	91	○
DTS05080D8	8.0	53	8	91	○
DTS05085D10	8.5	61	10	103	○
DTS05090D10	9.0	61	10	103	○
DTS05100D10	10.0	61	10	103	○
DTS05103D12	10.3	71	12	118	○
DTS05105D12	10.5	71	12	118	○
DTS05110D12	11.0	71	12	118	○
DTS05120D12	12.0	71	12	118	○
DTS05125D14	12.5	77	14	124	○
DTS05130D14	13.0	77	14	124	○
DTS05140D14	14.0	77	14	124	○
DTS05145D16	14.5	83	16	133	○
DTS05150D16	15.0	83	16	133	○
DTS05160D16	16.0	83	16	133	○
DTS05170D18	17.0	93	18	143	○
DTS05180D18	18.0	93	18	143	○
DTS05190D20	19.0	101	20	153	○
DTS05200D20	20.0	101	20	153	○

Note: ● Stock ○ Non-stock

STANDARD CUTTING CONDITIONS

DTW Series 3D/5D (External Coolant)

Unit (mm)

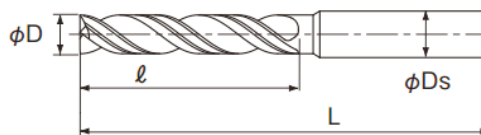
ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc (m/min)	Feed: f (mm/rev)				
				ø3	ø4	ø6	ø8	ø10
M	Austenitic stainless steel	130-200HB	40-30-20	0.05-0.10	0.06-0.12	0.07-0.14	0.08-0.18	0.09-0.20
	High strength austenite and cast stainless steel	<25HRC	40-30-20	0.03-0.08	0.04-0.10	0.05-0.10	0.06-0.12	0.07-0.14
	Duplex stainless steel	<30HRC	35-25-20	0.03-0.08	0.04-0.10	0.05-0.10	0.06-0.12	0.07-0.14

DTS Series 3D/5D (Internal Coolant)

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc (m/min)	Feed: f (mm/rev)				
				ø3	ø4	ø6	ø8	ø10
M	Austenitic stainless steel	130-200HB	80-60-40	0.05-0.10	0.06-0.12	0.07-0.14	0.08-0.18	0.09-0.20
	High strength austenite and cast stainless steel	<25HRC	80-60-40	0.03-0.08	0.04-0.10	0.05-0.10	0.06-0.12	0.07-0.14
	Duplex stainless steel	<30HRC	60-45-30	0.03-0.08	0.04-0.10	0.05-0.10	0.06-0.12	0.07-0.14

FSD High Efficiency Flat Drill



Features

Point angle 180°.

Better centering ability, chip evacuation smoothly because of point geometry and flute design.

Suitable for machining inclined hole, drilling on ball surface and thin sheet, restraining the burr also.

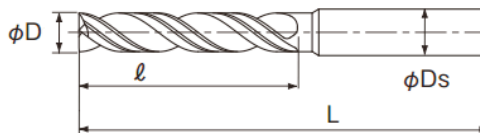
Solid Carbide Drill with Flat Bottom FSD Series

Material	Carbide	Helix angle	25°	Point angle	180°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	TiAIN	Suitable for processing	Carbon Steel Alloy Steel Hardened Steel HRC<55 Stainless Steel Cast Iron		

Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
FSD0300SE	3.0	16	4	49	\$23.0
FSD0310SE	3.1	16	4	49	\$23.0
FSD0320SE	3.2	16	4	49	\$23.0
FSD0330SE	3.3	16	4	49	\$23.0
FSD0340SE	3.4	16	4	49	\$23.0
FSD0350SE	3.5	16	4	49	\$23.0
FSD0360SE	3.6	16	4	49	\$23.0
FSD0370SE	3.7	16	4	49	\$23.0
FSD0380SE	3.8	16	4	49	\$23.0
FSD0390SE	3.9	16	4	49	\$23.0
FSD0400SE	4.0	16	4	49	\$23.0
FSD0410SE	4.1	20	6	61	\$ 28.1
FSD0420SE	4.2	20	6	61	\$ 28.1
FSD0430SE	4.3	20	6	61	\$ 28.1
FSD0440SE	4.4	20	6	61	\$ 28.1
FSD0450SE	4.5	20	6	61	\$ 28.1
FSD0460SE	4.6	20	6	61	\$ 28.1
FSD0470SE	4.7	20	6	61	\$ 28.1
FSD0480SE	4.8	20	6	61	\$ 28.1
FSD0490SE	4.9	20	6	61	\$ 28.1
FSD0500SE	5.0	20	6	61	\$ 28.1
FSD0510SE	5.1	24	6	65	\$ 30.5
FSD0520SE	5.2	24	6	65	\$ 30.5
FSD0530SE	5.3	24	6	65	\$ 30.5
FSD0540SE	5.4	24	6	65	\$ 30.5
FSD0550SE	5.5	24	6	65	\$ 30.5
FSD0560SE	5.6	24	6	65	\$ 30.5
FSD0570SE	5.7	24	6	65	\$ 30.5
FSD0580SE	5.8	24	6	65	\$ 30.5
FSD0590SE	5.9	24	6	65	\$ 30.5
FSD0600SE	6.0	24	6	65	\$ 30.5
FSD0610SE	6.1	28	8	69	\$ 43.3
FSD0620SE	6.2	28	8	69	\$ 43.3
FSD0630SE	6.3	28	8	69	\$ 43.3
FSD0640SE	6.4	28	8	69	\$ 43.3
FSD0650SE	6.5	28	8	69	\$ 43.3

FSD High Efficiency Flat Drill



Features

Point angle 180°.

Better centering ability, chip evacuation smoothly because of point geometry and flute design.

Suitable for machining inclined hole, drilling on ball surface and thin sheet, restraining the burr also.

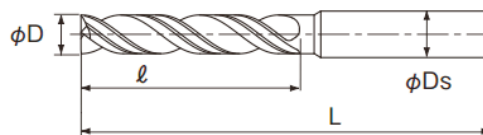
Solid Carbide Drill with Flat Bottom FSD Series

Material	Carbide	Helix angle	25°	Point angle	180°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	TiAlN	Suitable for processing	Carbon Steel Alloy Steel Hardened Steel HRC<55 Stainless Steel Cast Iron		

Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
FSD0660SE	6.6	28	8	69	\$ 43.3
FSD0670SE	6.7	28	8	69	\$ 43.3
FSD0680SE	6.8	28	8	69	\$43.3
FSD0690SE	6.9	28	8	69	\$43.3
FSD0700SE	7.0	28	8	69	\$43.3
FSD0710SE	7.1	32	8	73	\$46.2
FSD0720SE	7.2	32	8	73	\$46.2
FSD0730SE	7.3	32	8	73	\$46.2
FSD0740SE	7.4	32	8	73	\$46.2
FSD0750SE	7.5	32	8	73	\$46.2
FSD0760SE	7.6	32	8	73	\$46.2
FSD0770SE	7.7	32	8	73	\$46.2
FSD0780SE	7.8	32	8	73	\$46.2
FSD0790SE	7.9	32	8	73	\$46.2
FSD0800SE	8.0	32	8	73	\$46.2
FSD0810SE	8.1	36	10	81	\$65.9
FSD0820SE	8.2	36	10	81	\$65.9
FSD0830SE	8.3	36	10	81	\$65.9
FSD0840SE	8.4	36	10	81	\$65.9
FSD0850SE	8.5	36	10	81	\$65.9
FSD0860SE	8.6	36	10	81	\$65.9
FSD0870SE	8.7	36	10	81	\$65.9
FSD0880SE	8.8	36	10	81	\$65.9
FSD0890SE	8.9	36	10	81	\$65.9
FSD0900SE	9.0	36	10	81	\$65.9
FSD0910SE	9.1	40	10	85	\$73.0
FSD0920SE	9.2	40	10	85	\$73.0
FSD0930SE	9.3	40	10	85	\$73.0
FSD0940SE	9.4	40	10	85	\$73.0
FSD0950SE	9.5	40	10	85	\$73.0
FSD0960SE	9.6	40	10	85	\$73.0
FSD0970SE	9.7	40	10	85	\$73.0
FSD0980SE	9.8	40	10	85	\$73.0
FSD0990SE	9.9	40	10	85	\$73.0
FSD1000SE	10.0	40	10	85	\$73.0
FSD1010SE	10.1	44	12	94	\$97.4

FSD High Efficiency Flat Drill



Features

Point angle 180°.

Better centering ability, chip evacuation smoothly because of point geometry and flute design.

Suitable for machining inclined hole, drilling on ball surface and thin sheet, restraining the burr also.

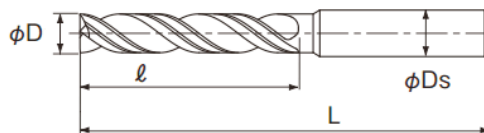
Solid Carbide Drill with Flat Bottom FSD Series

Material	Carbide	Helix angle	25°	Point angle	180°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	TiAlN	Suitable for processing	Carbon Steel Alloy Steel Hardened Steel HRC<55 Stainless Steel Cast Iron		

Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
FSD1020SE	10.2	44	12	94	\$ 97.4
FSD1030SE	10.3	44	12	94	\$ 97.4
FSD1040SE	10.4	44	12	94	\$97.4
FSD1050SE	10.5	44	12	94	\$97.4
FSD1060SE	10.6	44	12	94	\$97.4
FSD1070SE	10.7	44	12	94	\$97.4
FSD1080SE	10.8	44	12	94	\$97.4
FSD1090SE	10.9	44	12	94	\$97.4
FSD1100SE	11.0	48	12	94	\$97.4
FSD1110SE	11.1	48	12	98	\$103.4
FSD1120SE	11.2	48	12	98	\$103.4
FSD1130SE	11.3	48	12	98	\$103.4
FSD1140SE	11.4	48	12	98	\$103.4
FSD1150SE	11.5	48	12	98	\$103.4
FSD1160SE	11.6	48	12	98	\$103.4
FSD1170SE	11.7	48	12	98	\$103.4
FSD1180SE	11.8	48	12	98	\$103.4
FSD1190SE	11.9	48	12	98	\$103.4
FSD1200SE	12.0	48	12	98	\$103.4
FSD1210SE	12.1	52	14	102	\$133.1
FSD1220SE	12.2	52	14	102	\$133.1
FSD1230SE	12.3	52	14	102	\$133.1
FSD1240SE	12.4	52	14	102	\$133.1
FSD1250SE	12.5	52	14	102	\$133.1
FSD1260SE	12.6	52	14	102	\$133.1
FSD1270SE	12.7	52	14	102	\$133.1
FSD1280SE	12.8	52	14	102	\$133.1
FSD1290SE	12.9	52	14	102	\$133.1
FSD1300SE	13.0	52	14	102	\$133.1
FSD1310SE	13.1	56	14	106	\$141.6
FSD1320SE	13.2	56	14	106	\$141.6
FSD1330SE	13.3	56	14	106	\$141.6
FSD1340SE	13.4	56	14	106	\$141.6
FSD1350SE	13.5	56	14	106	\$141.6
FSD1360SE	13.6	56	14	106	\$141.6
FSD1370SE	13.7	56	14	106	\$141.6

FSD High Efficiency Flat Drill



Features

Point angle 180°.

Better centering ability, chip evacuation smoothly because of point geometry and flute design.

Suitable for machining inclined hole, drilling on ball surface and thin sheet, restraining the burr also.

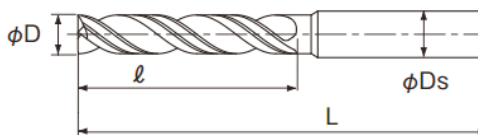
Solid Carbide Drill with Flat Bottom FSD Series

Material	Carbide	Helix angle	25°	Point angle	180°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	TiAIN	Suitable for processing	Carbon Steel Alloy Steel Hardened Steel HRC<55 Stainless Steel Cast Iron		

Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
FSD1380SE	13.8	56	14	106	\$ 141.6
FSD1390SE	13.9	56	14	106	\$ 141.6
FSD1400SE	14.0	56	14	106	\$ 141.6
FSD1410SE	14.1	60	16	113	\$ 180.7
FSD1420SE	14.2	60	16	113	\$ 180.7
FSD1430SE	14.3	60	16	113	\$ 180.7
FSD1440SE	14.4	60	16	113	\$ 180.7
FSD1450SE	14.5	60	16	113	\$ 180.7
FSD1460SE	14.6	60	16	113	\$ 180.7
FSD1470SE	14.7	60	16	113	\$ 180.7
FSD1480SE	14.8	60	16	113	\$ 180.7
FSD1490SE	14.9	60	16	113	\$ 180.7
FSD1500SE	15.0	60	16	113	\$ 180.7
FSD1510SE	15.1	64	16	117	\$ 188.5
FSD1520SE	15.2	64	16	117	\$ 188.5
FSD1530SE	15.3	64	16	117	\$ 188.5
FSD1540SE	15.4	64	16	117	\$ 188.5
FSD1550SE	15.5	64	16	117	\$ 188.5
FSD1560SE	15.6	64	16	117	\$ 188.5
FSD1570SE	15.7	64	16	117	\$ 188.5
FSD1580SE	15.8	64	16	117	\$ 188.5
FSD1590SE	15.9	64	16	117	\$ 188.5
FSD1600SE	16.0	64	16	117	\$ 188.5
FSD1610SE	16.1	68	18	121	\$ 240.5
FSD1620SE	16.2	68	18	121	\$ 240.5
FSD1630SE	16.3	68	18	121	\$ 240.5
FSD1640SE	16.4	68	18	121	\$ 240.5
FSD1650SE	16.5	68	18	121	\$ 240.5
FSD1660SE	16.6	68	18	121	\$ 240.5
FSD1670SE	16.7	68	18	121	\$ 240.5
FSD1680SE	16.8	68	18	121	\$ 240.5
FSD1690SE	16.9	68	18	121	\$ 240.5
FSD1700SE	17.0	68	18	121	\$ 240.5
FSD1710SE	17.1	72	18	125	\$ 249.4
FSD1720SE	17.2	72	18	125	\$ 249.4
FSD1730SE	17.3	72	18	125	\$ 249.4

FSD High Efficiency Flat Drill



Features

Point angle 180°.

Better centering ability, chip evacuation smoothly because of point geometry and flute design.

Suitable for machining inclined hole, drilling on ball surface and thin sheet, restraining the burr also.

Solid Carbide Drill with Flat Bottom FSD Series

Material	Carbide	Helix angle	25°	Point angle	180°
Cutting edge tolerance	m7	Shank tolerance	h6	Standard	DIN6535HA
Coating	TiAlN	Suitable for processing	Carbon Steel Alloy Steel Hardened Steel HRC<55 Stainless Steel Cast Iron		

Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
FSD1740SE	17.4	72	18	125	\$249.4
FSD1750SE	17.5	72	18	125	\$249.4
FSD1760SE	17.6	72	18	125	\$249.4
FSD1770SE	17.7	72	18	125	\$249.4
FSD1780SE	17.8	72	18	125	\$249.4
FSD1790SE	17.9	72	18	125	\$249.4
FSD1800SE	18.0	72	18	125	\$249.4
FSD1810SE	18.1	76	20	131	\$312.7
FSD1820SE	18.2	76	20	131	\$312.7
FSD1830SE	18.3	76	20	131	\$312.7
FSD1840SE	18.4	76	20	131	\$312.7
FSD1850SE	18.5	76	20	131	\$312.7
FSD1860SE	18.6	76	20	131	\$312.7
FSD1870SE	18.7	76	20	131	\$312.7
FSD1880SE	18.8	76	20	131	\$312.7
FSD1890SE	18.9	76	20	131	\$312.7
FSD1900SE	19.0	76	20	131	\$312.7
FSD1910SE	19.1	80	20	135	\$342.6
FSD1920SE	19.2	80	20	135	\$342.6
FSD1930SE	19.3	80	20	135	\$342.6
FSD1940SE	19.4	80	20	135	\$342.6
FSD1950SE	19.5	80	20	135	\$342.6
FSD1960SE	19.6	80	20	135	\$342.6
FSD1970SE	19.7	80	20	135	\$342.6
FSD1980SE	19.8	80	20	135	\$342.6
FSD1990SE	19.9	80	20	135	\$342.6
FSD2000SE	20.0	80	20	135	\$342.6

STANDARD CUTTING CONDITIONS

FSD Series

Unit (mm)

ISO	Work Material	Brinell hardness (HB)	Cutting speed: Vc(m/min)	Feed: f (mm/rev)						
				3~4	4~6	6~8	8~10	10~12	12~16	16~20
P	Low carbon steel (C < 0.3) C15E4, E275A, E355D, etc.	~125	60~90	0.06~0.10	0.06~0.15	0.1~0.2	0.1~0.2	0.12~0.22	0.16~0.25	0.25~0.35
	Carbon steel (C > 0.3) C45, C55, etc.	125~300	50~80	0.06~0.10	0.06~0.15	0.1~0.2	0.1~0.2	0.12~0.22	0.16~0.25	0.25~0.35
	High alloy steel 42CrMo4, etc.	250~350	40~70	0.06~0.10	0.06~0.15	0.1~0.2	0.1~0.2	0.12~0.22	0.16~0.25	0.25~0.35
M	Stainless steel X5CrNi18-9, etc.		20~50	0.01~0.03	0.03~0.05	0.03~0.05	0.04~0.08	0.08~0.12	0.1~0.2	0.15~0.25
K	Grey cast iron 250, etc.	~200	30~50	0.06~0.10	0.06~0.15	0.01~0.2	0.12~0.22	0.15~0.25	0.17~0.27	0.25~0.35
	Ductile cast iron 450-10S, etc.	~300	20~40	0.04~0.8	0.06~0.12	0.1~0.15	0.12~0.18	0.15~0.2	0.15~0.25	0.2~0.3
N	Aluminium alloy AlSi11Cu3, etc.			0.06~0.10	0.06~0.15	0.1~0.2	0.1~0.2	0.12~0.22	0.16~0.25	0.25~0.35

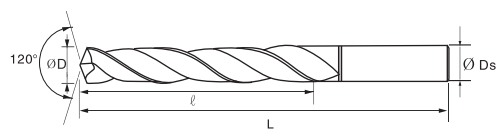
HSS Drills with High-performance and Multi-Purpose Series



GS100 Series

Full Grinding Straight Shank Twist Drill

Material	HSS	Helix angle	30°	Point angle	120°
Suitable for processing	Ordinary steel, alloy steel, cast iron, cast steel, by cutting the material hardness within HRC30.				



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
GS100010	1.0	18	1.0	40	\$0.87
GS100011	1.1	20	1.1	42	\$0.87
GS100012	1.2	20	1.2	42	\$0.87
GS100013	1.3	22	1.3	45	\$0.87
GS100014	1.4	23	1.4	48	\$0.87
GS100015	1.5	23	1.5	48	\$0.87
GS100016	1.6	25	1.6	50	\$0.98
GS100017	1.7	25	1.7	50	\$0.98
GS100018	1.8	28	1.8	52	\$0.98
GS100019	1.9	28	1.9	52	\$0.98
GS100020	2.0	29	2.0	55	\$0.98
GS100021	2.1	29	2.1	55	\$0.98
GS100022	2.2	33	2.2	58	\$0.98
GS100023	2.3	33	2.3	58	\$0.98
GS100024	2.4	35	2.4	61	\$0.98
GS100025	2.5	35	2.5	61	\$0.98
GS100026	2.6	37	2.6	64	\$1.10
GS100027	2.7	37	2.7	64	\$1.10
GS100028	2.8	39	2.8	67	\$1.10
GS100029	2.9	42	2.9	71	\$1.10
GS100030	3.0	42	3.0	71	\$1.10
GS100031	3.1	42	3.1	71	\$1.21
GS100032	3.2	42	3.2	71	\$1.21
GS100033	3.3	45	3.3	73	\$1.21
GS100034	3.4	45	3.4	73	\$1.21
GS100035	3.5	45	3.5	73	\$1.21
GS100036	3.6	48	3.6	76	\$1.39
GS100037	3.7	48	3.7	76	\$1.39
GS100038	3.8	48	3.8	76	\$1.39
GS100039	3.9	51	3.9	79	\$1.39
GS100040	4.0	54	4.0	83	\$1.39
GS100041	4.1	54	4.1	83	\$1.85
GS100042	4.2	54	4.2	83	\$1.85
GS100043	4.3	54	4.3	83	\$1.85
GS100044	4.4	56	4.4	86	\$1.85
GS100045	4.5	56	4.5	86	\$1.85
GS100046	4.6	56	4.6	89	\$2.19
GS100047	4.7	59	4.7	89	\$2.19
GS100048	4.8	59	4.8	89	\$2.19
GS100049	4.9	62	4.9	92	\$2.19
GS100050	5.0	62	5.0	92	\$2.19
GS100051	5.1	62	5.1	92	\$2.66
GS100052	5.2	64	5.2	95	\$2.66
GS100053	5.3	64	5.3	95	\$2.66
GS100054	5.4	64	5.4	95	\$2.66
GS100055	5.5	64	5.5	95	\$2.66
GS100056	5.6	67	5.6	98	\$2.77
GS100057	5.7	67	5.7	98	\$2.77
GS100058	5.8	67	5.8	98	\$2.77
GS100059	5.9	67	5.9	98	\$2.77
GS100060	6.0	70	6.0	102	\$2.77
GS100061	6.1	70	6.1	102	\$3.23
GS100062	6.2	70	6.2	102	\$3.23
GS100063	6.3	70	6.3	102	\$3.23
GS100064	6.4	73	6.4	105	\$3.23
GS100065	6.5	73	6.5	105	\$3.23
GS100066	6.6	73	6.6	105	\$3.75
GS100067	6.7	73	6.7	105	\$3.75
GS100068	6.8	73	6.8	105	\$3.75
GS100069	6.9	73	6.9	105	\$3.75
GS100070	7.0	73	7.0	105	\$3.75

Carbide Drills

HSS Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

Non-standard Drill made

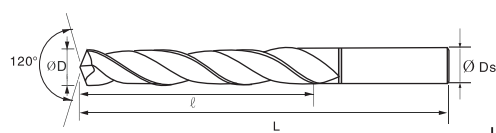
Full Grinding Straight Shank Twist Drill



GS100 Series

Full Grinding Straight Shank Twist Drill

Material	HSS	Helix angle	30°	Point angle	120°
Suitable for processing	Ordinary steel, alloy steel, cast iron, cast steel, by cutting the material hardness within HRC30.				



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
GS100071	7.1	75	7.1	108	\$4.27
GS100072	7.2	75	7.2	108	\$4.27
GS100073	7.3	75	7.3	108	\$4.27
GS100074	7.4	78	7.4	111	\$4.27
GS100075	7.5	78	7.5	111	\$4.27
GS100076	7.6	78	7.6	111	\$5.43
GS100077	7.7	81	7.7	114	\$5.43
GS100078	7.8	81	7.8	114	\$5.43
GS100079	7.9	81	7.9	114	\$5.43
GS100080	8.0	81	8.0	114	\$5.43
GS100081	8.1	84	8.1	117	\$6.46
GS100082	8.2	84	8.2	117	\$6.46
GS100083	8.3	84	8.3	117	\$6.46
GS100084	8.4	87	8.4	121	\$6.46
GS100085	8.5	87	8.5	121	\$6.46
GS100086	8.6	87	8.6	121	\$7.27
GS100087	8.7	87	8.7	121	\$7.27
GS100088	8.8	89	8.8	124	\$7.27
GS100089	8.9	89	8.9	124	\$7.27
GS100090	9.0	89	9.0	124	\$7.27
GS100091	9.1	89	9.1	124	\$8.02
GS100092	9.2	92	9.2	127	\$8.02
GS100093	9.3	92	9.3	127	\$8.02
GS100094	9.4	92	9.4	127	\$8.02
GS100095	9.5	92	9.5	127	\$8.02
GS100096	9.6	95	9.6	130	\$8.89
GS100097	9.7	95	9.7	130	\$8.89
GS100098	9.8	95	9.8	130	\$8.89
GS100099	9.9	95	9.9	130	\$8.89
GS100100	10.0	95	10.0	130	\$8.89
GS100101	10.1	98	10.1	133	\$9.87
GS100102	10.2	98	10.2	133	\$9.87
GS100103	10.3	98	10.3	133	\$9.87
GS100104	10.4	98	10.4	133	\$9.87
GS100105	10.5	100	10.5	137	\$9.87
GS100106	10.6	100	10.6	137	\$10.85
GS100107	10.7	100	10.7	137	\$10.85
GS100108	10.8	103	10.8	140	\$10.85
GS100109	10.9	103	10.9	140	\$10.85
GS100110	11.0	103	11.0	140	\$10.85
GS100111	11.1	103	11.1	140	\$11.89
GS100112	11.2	106	11.2	143	\$11.89
GS100113	11.3	106	11.3	143	\$11.89
GS100114	11.4	106	11.4	143	\$11.89
GS100115	11.5	106	11.5	143	\$11.89
GS100116	11.6	109	11.6	146	\$13.28
GS100117	11.7	109	11.7	146	\$13.28
GS100118	11.8	109	11.8	146	\$13.28
GS100119	11.9	109	11.9	146	\$13.28
GS100120	12.0	111	12.0	149	\$13.28
GS100121	12.1	111	12.1	149	\$15.01
GS100122	12.2	111	12.2	149	\$15.01
GS100123	12.3	111	12.3	149	\$15.01
GS100124	12.4	114	12.4	152	\$15.01
GS100125	12.5	114	12.5	152	\$15.01
GS100126	12.6	114	12.6	152	\$16.16
GS100127	12.7	114	12.7	152	\$16.16
GS100128	12.8	114	12.8	152	\$16.16
GS100129	12.9	114	12.9	152	\$16.16
GS100130	13.0	114	13.0	152	\$16.16

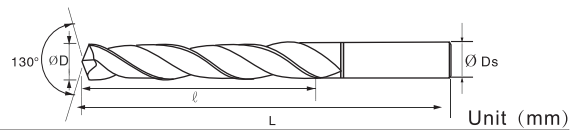
HSS Drills with High-performance and Multi-purpose Series



SD101 Series

Cobalt Straight Shank Twist Drill

Material	HSS-E	Helix angle	38°	Point angle	130°
Suitable for processing	Stainless steel, titanium alloy, Quenched and tempered steel.				



Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
SD101010	1.0	12	1.0	34	\$1.27
SD101011	1.1	14	1.1	36	\$1.27
SD101012	1.2	16	1.2	38	\$1.27
SD101013	1.3	16	1.3	38	\$1.27
SD101014	1.4	18	1.4	40	\$1.27
SD101015	1.5	18	1.5	40	\$1.27
SD101016	1.6	20	1.6	43	\$1.27
SD101017	1.7	20	1.7	43	\$1.27
SD101018	1.8	22	1.8	46	\$1.27
SD101019	1.9	22	1.9	46	\$1.27
SD101020	2.0	24	2.0	49	\$1.27
SD101021	2.1	24	2.1	49	\$1.62
SD101022	2.2	27	2.2	53	\$1.62
SD101023	2.3	27	2.3	53	\$1.62
SD101024	2.4	30	2.4	57	\$1.62
SD101025	2.5	30	2.5	57	\$1.62
SD101026	2.6	30	2.6	57	\$1.79
SD101027	2.7	33	2.7	61	\$1.79
SD101028	2.8	33	2.8	61	\$1.79
SD101029	2.9	33	2.9	61	\$1.79
SD101030	3.0	33	3.0	61	\$1.79
SD101031	3.1	36	3.1	65	\$2.19
SD101032	3.2	36	3.2	65	\$2.19
SD101033	3.3	36	3.3	65	\$2.19
SD101034	3.4	39	3.4	70	\$2.19
SD101035	3.5	39	3.5	70	\$2.19
SD101036	3.6	39	3.6	70	\$2.54
SD101037	3.7	39	3.7	70	\$2.54
SD101038	3.8	43	3.8	75	\$2.54
SD101039	3.9	43	3.9	75	\$2.54
SD101040	4.0	43	4.0	75	\$2.54
SD101041	4.1	43	4.1	75	\$3.06
SD101042	4.2	43	4.2	75	\$3.06
SD101043	4.3	47	4.3	80	\$3.06
SD101044	4.4	47	4.4	80	\$3.06
SD101045	4.5	47	4.5	80	\$3.06
SD101046	4.6	47	4.6	80	\$3.64
SD101047	4.7	47	4.7	80	\$3.64
SD101048	4.8	52	4.8	86	\$3.64
SD101049	4.9	52	4.9	86	\$3.64
SD101050	5.0	52	5.0	86	\$3.64
SD101051	5.1	52	5.1	86	\$4.21
SD101052	5.2	52	5.2	86	\$4.21
SD101053	5.3	52	5.3	86	\$4.21
SD101054	5.4	57	5.4	93	\$4.21
SD101055	5.5	57	5.5	93	\$4.21
SD101056	5.6	57	5.6	93	\$5.48
SD101057	5.7	57	5.7	93	\$5.48
SD101058	5.8	57	5.8	93	\$5.48
SD101059	5.9	57	5.9	93	\$5.48
SD101060	6.0	57	6.0	93	\$5.48
SD101061	6.1	63	6.1	101	\$6.64
SD101062	6.2	63	6.2	101	\$6.64
SD101063	6.3	63	6.3	101	\$6.64
SD101064	6.4	63	6.4	101	\$6.64
SD101065	6.5	63	6.5	101	\$6.64
SD101066	6.6	63	6.6	101	\$7.39
SD101067	6.7	63	6.7	101	\$7.39
SD101068	6.8	69	6.8	109	\$7.39
SD101069	6.9	69	6.9	109	\$7.39
SD101070	7.0	69	7.0	109	\$7.39

Carbide Drills
 Hss Drills
 U Drills
 Head Exchangable Drills
 Deep Hole Drills
 CDR 45° Chamfer Cutter
 Non-standard Drill made

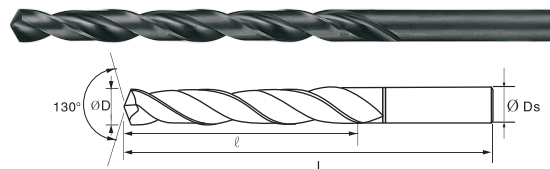
HSS Drills with High-performance and Multi-purpose Series



SD101 Series

Cobalt Straight Shank Twist Drill

Material	HSS-E	Helix angle	38°	Point angle	130°
Suitable for processing	Stainless steel, titanium alloy, Quenched and tempered steel.				



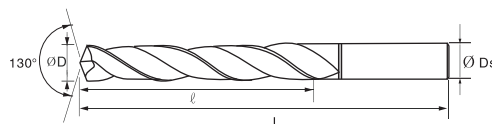
Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
SD101071	7.1	69	7.1	109	\$8.77
SD101072	7.2	69	7.2	109	\$8.77
SD101073	7.3	69	7.3	109	\$8.77
SD101074	7.4	69	7.4	109	\$8.77
SD101075	7.5	69	7.5	109	\$8.77
SD101076	7.6	75	7.6	117	\$10.97
SD101077	7.7	75	7.7	117	\$10.97
SD101078	7.8	75	7.8	117	\$10.97
SD101079	7.9	75	7.9	117	\$10.97
SD101080	8.0	75	8.0	117	\$10.97
SD101081	8.1	75	8.1	117	\$12.12
SD101082	8.2	75	8.2	117	\$12.12
SD101083	8.3	75	8.3	117	\$12.12
SD101084	8.4	75	8.4	117	\$12.12
SD101085	8.5	75	8.5	117	\$12.12
SD101086	8.6	81	8.6	125	\$13.28
SD101087	8.7	81	8.7	125	\$13.28
SD101088	8.8	81	8.8	125	\$13.28
SD101089	8.9	81	8.9	125	\$13.28
SD101090	9.0	81	9.0	125	\$13.28
SD101091	9.1	81	9.1	125	\$14.43
SD101092	9.2	81	9.2	125	\$14.43
SD101093	9.3	81	9.3	125	\$14.43
SD101094	9.4	81	9.4	125	\$14.43
SD101095	9.5	81	9.5	125	\$14.43
SD101096	9.6	87	9.6	133	\$17.32
SD101097	9.7	87	9.7	133	\$17.32
SD101098	9.8	87	9.8	133	\$17.32
SD101099	9.9	87	9.9	133	\$17.32
SD101100	10.0	87	10.0	133	\$17.32
SD101101	10.1	87	10.1	133	\$19.05
SD101102	10.2	87	10.2	133	\$19.05
SD101103	10.3	87	10.3	133	\$19.05
SD101104	10.4	87	10.4	133	\$19.05
SD101105	10.5	87	10.5	133	\$19.05
SD101106	10.6	87	10.6	133	\$20.78
SD101107	10.7	94	10.7	142	\$20.78
SD101108	10.8	94	10.8	142	\$20.78
SD101109	10.9	94	10.9	142	\$20.78
SD101110	11.0	94	11.0	142	\$20.78
SD101111	11.1	94	11.1	142	\$22.51
SD101112	11.2	94	11.2	142	\$22.51
SD101113	11.3	94	11.3	142	\$22.51
SD101114	11.4	94	11.4	142	\$22.51
SD101115	11.5	94	11.5	142	\$22.51
SD101116	11.6	94	11.6	142	\$24.82
SD101117	11.7	94	11.7	142	\$24.82
SD101118	11.8	94	11.8	142	\$24.82
SD101119	11.9	101	11.9	151	\$24.82
SD101120	12.0	101	12.0	151	\$24.82
SD101121	12.1	101	12.1	151	\$26.55
SD101122	12.2	101	12.2	151	\$26.55
SD101123	12.3	101	12.3	151	\$26.55
SD101124	12.4	101	12.4	151	\$26.55
SD101125	12.5	101	12.5	151	\$26.55
SD101126	12.6	101	12.6	151	\$29.44
SD101127	12.7	101	12.7	151	\$29.44
SD101128	12.8	101	12.8	151	\$29.44
SD101129	12.9	101	12.9	151	\$29.44
SD101130	13.0	101	13.0	151	\$29.44

DT100 Series

Grinding Titanium Coating Straight Shank Drill

Material	HSS-TIN	Helix angle	38°	Point angle	130°
Suitable for processing	Ordinary steel, alloy steel, cast iron, cast steel, by cutting the material hardness within HRC30.				



Unit (mm)

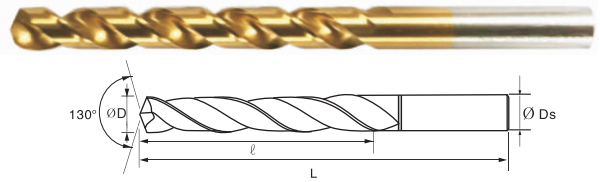
Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	l	Ds	L	
DT100030	3.0	33	3.0	61	\$1.90
DT100031	3.1	36	3.1	65	\$1.90
DT100032	3.2	36	3.2	65	\$1.90
DT100033	3.3	36	3.3	65	\$1.90
DT100034	3.4	39	3.4	70	\$1.90
DT100035	3.5	39	3.5	70	\$1.90
DT100036	3.6	39	3.6	70	\$2.02
DT100037	3.7	39	3.7	70	\$2.02
DT100038	3.8	43	3.8	75	\$2.02
DT100039	3.9	43	3.9	75	\$2.02
DT100040	4.0	43	4.0	75	\$2.02
DT100041	4.1	43	4.1	75	\$2.77
DT100042	4.2	43	4.2	75	\$2.77
DT100043	4.3	47	4.3	80	\$2.77
DT100044	4.4	47	4.4	80	\$2.77
DT100045	4.5	47	4.5	80	\$2.77
DT100046	4.6	47	4.6	80	\$2.94
DT100047	4.7	47	4.7	80	\$2.94
DT100048	4.8	52	4.8	86	\$2.94
DT100049	4.9	52	4.9	86	\$2.94
DT100050	5.0	52	5.0	86	\$2.94
DT100051	5.1	52	5.1	86	\$3.58
DT100052	5.2	52	5.2	86	\$3.58
DT100053	5.3	52	5.3	86	\$3.58
DT100054	5.4	57	5.4	93	\$3.58
DT100055	5.5	57	5.5	93	\$3.58
DT100056	5.6	57	5.6	93	\$3.75
DT100057	5.7	57	5.7	93	\$3.75
DT100058	5.8	57	5.8	93	\$3.75
DT100059	5.9	57	5.9	93	\$3.75
DT100060	6.0	57	6.0	93	\$3.75
DT100061	6.1	63	6.1	101	\$4.39
DT100062	6.2	63	6.2	101	\$4.39
DT100063	6.3	63	6.3	101	\$4.39
DT100064	6.4	63	6.4	101	\$4.39
DT100065	6.5	63	6.5	101	\$4.39
DT100066	6.6	63	6.6	101	\$4.62
DT100067	6.7	63	6.7	101	\$4.62
DT100068	6.8	69	6.8	109	\$4.62
DT100069	6.9	69	6.9	109	\$4.62
DT100070	7.0	69	7.0	109	\$4.62
DT100071	7.1	69	7.1	109	\$5.89
DT100072	7.2	69	7.2	109	\$5.89
DT100073	7.3	69	7.3	109	\$5.89
DT100074	7.4	69	7.4	109	\$5.89
DT100075	7.5	69	7.5	109	\$5.89
DT100076	7.6	75	7.6	109	\$7.04
DT100077	7.7	75	7.7	109	\$7.04
DT100078	7.8	75	7.8	109	\$7.04
DT100079	7.9	75	7.9	109	\$7.04
DT100080	8.0	75	8.0	109	\$7.04

Carbide Drills
 Hss Drills
 U Drills
 Head Exchangable Drills
 Deep Hole Drills
 CDR 45° Chamfer Cutter
 Non-standard Drill made

DT100 Series

Grinding Titanium Coating Straight Shank Drill

Material	HSS-TIN	Helix angle	38°	Point angle	130°
Suitable for processing	Ordinary steel, alloy steel, cast iron, cast steel, by cutting the material hardness within HRC30.				



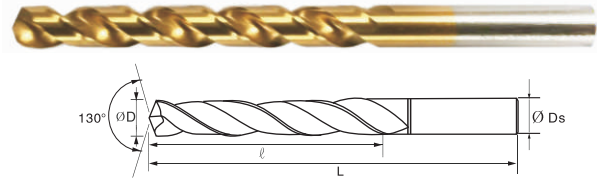
Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
DT100081	8.1	75	8.1	109	\$9.24
DT100082	8.2	75	8.2	109	\$9.24
DT100083	8.3	75	8.3	109	\$9.24
DT100084	8.4	75	8.4	109	\$9.24
DT100085	8.5	75	8.5	109	\$9.24
DT100086	8.6	81	8.6	109	\$9.81
DT100087	8.7	81	8.7	109	\$9.81
DT100088	8.8	81	8.8	109	\$9.81
DT100089	8.9	81	8.9	109	\$9.81
DT100090	9.0	81	9.0	109	\$9.81
DT100091	9.1	81	9.1	125	\$11.54
DT100092	9.2	81	9.2	125	\$11.54
DT100093	9.3	81	9.3	125	\$11.54
DT100094	9.4	81	9.4	125	\$11.54
DT100095	9.5	81	9.5	125	\$11.54
DT100096	9.6	87	9.6	133	\$12.12
DT100097	9.7	87	9.7	133	\$12.12
DT100098	9.8	87	9.8	133	\$12.12
DT100099	9.9	87	9.9	133	\$12.12
DT100100	10.0	87	10.0	133	\$12.12
DT100101	10.1	87	10.1	133	\$13.28
DT100102	10.2	87	10.2	133	\$13.28
DT100103	10.3	87	10.3	133	\$13.28
DT100104	10.4	87	10.4	133	\$13.28
DT100105	10.5	87	10.5	133	\$13.28
DT100106	10.6	87	10.6	133	\$13.85
DT100107	10.7	94	10.7	142	\$13.85
DT100108	10.8	94	10.8	142	\$13.85
DT100109	10.9	94	10.9	142	\$13.85
DT100110	11.0	94	11.0	142	\$13.85
DT100111	11.1	94	11.1	142	\$15.01
DT100112	11.2	94	11.2	142	\$15.01
DT100113	11.3	94	11.3	142	\$15.01
DT100114	11.4	94	11.4	142	\$15.01
DT100115	11.5	94	11.5	142	\$15.01
DT100116	11.6	94	11.6	142	\$15.58
DT100117	11.7	94	11.7	142	\$15.58
DT100118	11.8	94	11.8	142	\$15.58
DT100119	11.9	101	11.9	151	\$15.58
DT100120	12.0	101	12.0	151	\$15.58
DT100121	12.1	101	12.1	151	\$17.31
DT100122	12.2	101	12.2	151	\$17.31
DT100123	12.3	101	12.3	151	\$17.31
DT100124	12.4	101	12.4	151	\$17.31
DT100125	12.5	101	12.5	151	\$17.31
DT100126	12.6	101	12.6	151	\$20.78
DT100127	12.7	101	12.7	151	\$20.78
DT100128	12.8	101	12.8	151	\$20.78
DT100129	12.9	101	12.9	151	\$20.78
DT100130	13.0	101	13.0	151	\$20.78

STD101 Series

Cobalt Titanium Coating Straight Shank Twist Drill

Material	HSS-E-TIN	Spiral angle	38°	Point angle	130°
Suitable for processing	Stainless steel, titanium alloy, Quenched and tempered steel.				



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
STD101020	2.0	24	2.0	49	\$2.02
STD101021	2.1	24	2.1	49	\$2.42
STD101022	2.2	27	2.2	53	\$2.42
STD101023	2.3	27	2.3	53	\$2.42
STD101024	2.4	30	2.4	57	\$2.42
STD101025	2.5	30	2.5	57	\$2.42
STD101026	2.6	30	2.6	57	\$2.71
STD101027	2.7	33	2.7	61	\$2.71
STD101028	2.8	33	2.8	61	\$2.71
STD101029	2.9	33	2.9	61	\$2.71
STD101030	3.0	33	3.0	61	\$2.71
STD101031	3.1	36	3.1	65	\$3.17
STD101032	3.2	36	3.2	65	\$3.17
STD101033	3.3	36	3.3	65	\$3.17
STD101034	3.4	39	3.4	70	\$3.17
STD101035	3.5	39	3.5	70	\$3.17
STD101036	3.6	39	3.6	70	\$3.81
STD101037	3.7	39	3.7	70	\$3.81
STD101038	3.8	43	3.8	75	\$3.81
STD101039	3.9	43	3.9	75	\$3.81
STD101040	4.0	43	4.0	75	\$3.81
STD101041	4.1	43	4.1	75	\$4.44
STD101042	4.2	43	4.2	75	\$4.44
STD101043	4.3	47	4.3	80	\$4.44
STD101044	4.4	47	4.4	80	\$4.44
STD101045	4.5	47	4.5	80	\$4.44
STD101046	4.6	47	4.6	80	\$5.19
STD101047	4.7	47	4.7	80	\$5.19
STD101048	4.8	52	4.8	86	\$5.19
STD101049	4.9	52	4.9	86	\$5.19
STD101050	5.0	52	5.0	86	\$5.19
STD101051	5.1	52	5.1	86	\$5.77
STD101052	5.2	52	5.2	86	\$5.77
STD101053	5.3	52	5.3	86	\$5.77
STD101054	5.4	57	5.4	93	\$5.77
STD101055	5.5	57	5.5	93	\$5.77
STD101056	5.6	57	5.6	93	\$7.50
STD101057	5.7	57	5.7	93	\$7.50
STD101058	5.8	57	5.8	93	\$7.50
STD101059	5.9	57	5.9	93	\$7.50
STD101060	6.0	57	6.0	93	\$7.50
STD101061	6.1	63	6.1	101	\$8.66
STD101062	6.2	63	6.2	101	\$8.66
STD101063	6.3	63	6.3	101	\$8.66
STD101064	6.4	63	6.4	101	\$8.66
STD101065	6.5	63	6.5	101	\$8.66
STD101066	6.6	63	6.6	101	\$9.81
STD101067	6.7	63	6.7	101	\$9.81
STD101068	6.8	69	6.8	109	\$9.81
STD101069	6.9	69	6.9	109	\$9.81
STD101070	7.0	69	7.0	109	\$9.81
STD101071	7.1	69	7.1	109	\$11.54
STD101072	7.2	69	7.2	109	\$11.54
STD101073	7.3	69	7.3	109	\$11.54
STD101074	7.4	69	7.4	109	\$11.54
STD101075	7.5	69	7.5	109	\$11.54

Carbide Drills

HSS Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

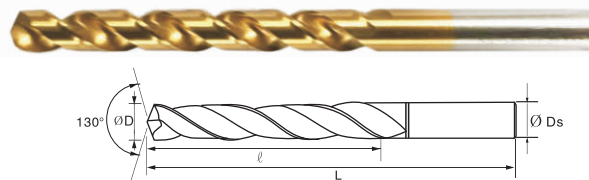
CDR 45° Chamfer Cutter

Non-standard Drill made

STD101 Series

Cobalt Titanium Coating Straight Shank Twist Drill

Material	HSS-E-TIN	Spiral angle	38°	Point angle	130°
Suitable for processing	Stainless steel, titanium alloy, Quenched and tempered steel.				

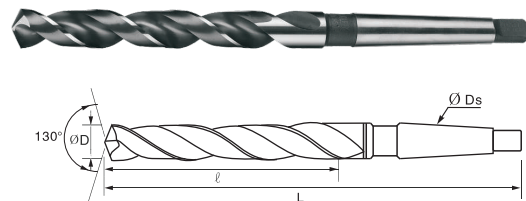


Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
STD101076	7.6	75	7.6	109	\$13.85
STD101077	7.7	75	7.7	109	\$13.85
STD101078	7.8	75	7.8	109	\$13.85
STD101079	7.9	75	7.9	109	\$13.85
STD101080	8.0	75	8.0	109	\$13.85
STD101081	8.1	75	8.1	109	\$14.43
STD101082	8.2	75	8.2	109	\$14.43
STD101083	8.3	75	8.3	109	\$14.43
STD101084	8.4	75	8.4	109	\$14.43
STD101085	8.5	75	8.5	109	\$14.43
STD101086	8.6	81	8.6	109	\$16.16
STD101087	8.7	81	8.7	109	\$16.16
STD101088	8.8	81	8.8	109	\$16.16
STD101089	8.9	81	8.9	109	\$16.16
STD101090	9.0	81	9.0	109	\$16.16
STD101091	9.1	81	9.1	125	\$17.89
STD101092	9.2	81	9.2	125	\$17.89
STD101093	9.3	81	9.3	125	\$17.89
STD101094	9.4	81	9.4	125	\$17.89
STD101095	9.5	81	9.5	125	\$17.89
STD101096	9.6	87	9.6	133	\$20.20
STD101097	9.7	87	9.7	133	\$20.20
STD101098	9.8	87	9.8	133	\$20.20
STD101099	9.9	87	9.9	133	\$20.20
STD101100	10.0	87	10.0	133	\$20.20
STD101101	10.1	87	10.1	133	\$22.51
STD101102	10.2	87	10.2	133	\$22.51
STD101103	10.3	87	10.3	133	\$22.51
STD101104	10.4	87	10.4	133	\$22.51
STD101105	10.5	87	10.5	133	\$22.51
STD101106	10.6	87	10.6	133	\$24.82
STD101107	10.7	94	10.7	142	\$24.82
STD101108	10.8	94	10.8	142	\$24.82
STD101109	10.9	94	10.9	142	\$24.82
STD101110	11.0	94	11.0	142	\$24.82
STD101111	11.1	94	11.1	142	\$26.55
STD101112	11.2	94	11.2	142	\$26.55
STD101113	11.3	94	11.3	142	\$26.55
STD101114	11.4	94	11.4	142	\$26.55
STD101115	11.5	94	11.5	142	\$26.55
STD101116	11.6	94	11.6	142	\$30.59
STD101117	11.7	94	11.7	142	\$30.59
STD101118	11.8	94	11.8	142	\$30.59
STD101119	11.9	101	11.9	151	\$30.59
STD101120	12.0	101	12.0	151	\$30.59
STD101121	12.1	101	12.1	151	\$31.75
STD101122	12.2	101	12.2	151	\$31.75
STD101123	12.3	101	12.3	151	\$31.75
STD101124	12.4	101	12.4	151	\$31.75
STD101125	12.5	101	12.5	151	\$31.75
STD101126	12.6	101	12.6	151	\$35.21
STD101127	12.7	101	12.7	151	\$35.21
STD101128	12.8	101	12.8	151	\$35.21
STD101129	12.9	101	12.9	151	\$35.21
STD101130	13.0	101	13.0	151	\$35.21

SU103 Series

Cobalt Taper Shank Twist Drill					
Material	HSS-E	Spiral angle	38°	Point angle	130°
Suitable for processing	Stainless steel, titanium alloy, Quenched and tempered steel.				



Unit (mm)

Model No.	Cutting Diameter	Cutting Length	Shank Diameter	Total Length	List USD
	D	ℓ	Ds	L	
SU103100	10.0	87	Mt1	168	\$27.30
SU103105	10.5	87	Mt1	168	\$28.89
SU103110	11.0	94	Mt1	175	\$29.84
SU103115	11.5	94	Mt1	175	\$31.43
SU103120	12.0	101	Mt1	182	\$32.70
SU103125	12.5	101	Mt1	182	\$34.29
SU103130	13.0	101	Mt1	182	\$36.51
SU103135	13.5	108	Mt1	189	\$39.68
SU103140	14.0	108	Mt1	189	\$42.54
SU103142	14.2	114	Mt1	212	\$46.67
SU103145	14.5	114	Mt2	212	\$46.67
SU103150	15.0	114	Mt2	212	\$50.48
SU103155	15.5	120	Mt2	218	\$54.29
SU103160	16.0	120	Mt2	218	\$57.46
SU103162	16.2	125	Mt2	223	\$61.27
SU103165	16.5	125	Mt2	223	\$61.27
SU103170	17.0	125	Mt2	223	\$67.94
SU103180	18.0	130	Mt2	228	\$74.92
SU103185	18.5	135	Mt2	233	\$80.32
SU103190	19.0	135	Mt2	233	\$89.52
SU103195	19.5	140	Mt2	238	\$92.38
SU103200	20.0	140	Mt2	238	\$97.78
SU103205	20.5	145	Mt2	243	\$102.22
SU103210	21.0	145	Mt2	243	\$108.57
SU103215	21.5	150	Mt2	248	\$115.56
SU103220	22.0	150	Mt2	248	\$122.22
SU103230	23.0	155	Mt2	253	\$133.65
SU103240	24.0	160	Mt3	281	\$146.67
SU103250	25.0	160	Mt3	281	\$160.32
SU103260	26.0	165	Mt3	286	\$187.30
SU103270	27.0	170	Mt3	291	\$230.79
SU103280	28.0	170	Mt3	296	\$268.57
SU103290	29.0	170	Mt3	296	\$305.08
SU103300	30.0	170	Mt3	296	\$341.90

Carbide Drills

HSS Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

Non-standard Drill made

CUTTING CONDITIONS

GS100 Series / DT100 Series

	P												
Material	Low carbon steel (C < 0.3)												
Cutting speed: Vc (m/min)	32-40m/min												
Diameter(mm)	1	2	3	4	5	6	7	8	9	10	11	12	13
Feed: f (mm/rev)	0.02-0.05	0.06-0.09	0.10-0.13	0.11-0.15	0.12-0.18	0.13-0.19	0.15-0.21	0.17-0.24	0.20-0.28	0.20-0.28	0.22-0.30	0.24-0.34	0.25-0.36

SD101 Series / STD101 Series

	M												
Material	Stainless steel												
Cutting speed: Vc (m/min)	13-18m/min												
Diameter(mm)	1	2	3	4	5	6	7	8	9	10	11	12	13
Feed: f (mm/rev)	0.02-0.04	0.05-0.07	0.05-0.09	0.08-0.12	0.10-0.15	0.12-0.18	0.14-0.20	0.16-0.24	0.18-0.26	0.20-0.28	0.22-0.30	0.24-0.34	0.26-0.36

	P												
Material	Prehardened steel (= 300HB)												
Cutting speed: Vc (m/min)	21-26m/min												
Diameter(mm)	1	2	3	4	5	6	7	8	9	10	11	12	13
Feed: f (mm/rev)	0.02-0.05	0.06-0.09	0.10-0.13	0.11-0.15	0.12-0.18	0.13-0.19	0.15-0.21	0.17-0.24	0.20-0.28	0.20-0.28	0.22-0.30	0.24-0.34	0.25-0.36

SU103 Series

	M																													
Material	Stainless steel																													
Cutting speed: Vc (m/min)	13-17m/min																													
Diameter(mm)	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
Feed: f (mm/rev)	0.20-0.28	0.22-0.30	0.24-0.34	0.26-0.36	0.28-0.39	0.29-0.40	0.30-0.43	0.31-0.45	0.32-0.47	0.33-0.48	0.34-0.50	0.35-0.52	0.26-0.36	0.37-0.55	0.38-0.57	0.39-0.58	0.40-0.60	0.40-0.62	0.41-0.63	0.41-0.64	0.42-0.66									

	P																													
Material	Prehardened steel (≤ 300HB)																													
Cutting speed: Vc (m/min)	21-26m/min																													
Diameter(mm)	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
Feed: f (mm/rev)	0.20-0.28	0.22-0.30	0.24-0.34	0.26-0.36	0.28-0.39	0.29-0.42	0.30-0.43	0.31-0.45	0.32-0.49	0.33-0.51	0.34-0.52	0.35-0.52	0.37-0.57	0.38-0.59	0.39-0.61	0.40-0.63	0.41-0.66	0.42-0.68	0.43-0.71	0.44-0.74	0.45-0.75									

TOTIME U drill, featuring uniquely designed insert, offers highly economical drilling with enhanced stability and long tool life.

Line up:

Inserts:

Available in the sizes SPMG/MX 05, 07, 09, 11, and 14
Each has 4 cutting edges

Drill bodies:

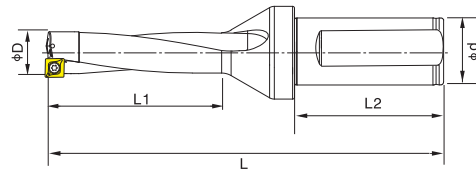
ZD: Available in L/D=2, 3,4 and 5 in metric shank sizes
from $\varnothing D_c$ 13 to 60 Tolerance: $-0.1 \sim +0.2$

Grades:

TI620: First choice for general purpose

TN200: Suitable for Non-ferrous metal processing

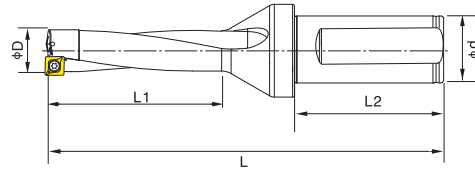




2D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD	
	D	L1	L	L2	d					
ZD02-13.0-XP25-SP05-02	13	26	104	56	25	SP□X050204	ST0205	T6	\$89.0	
ZD02-13.5-XP25-SP05-02	13.5	27	105						\$89.0	
ZD02-14.0-XP25-SP05-02	14	28	106						\$89.0	
ZD02-14.5-XP25-SP05-02	14.5	29	107						\$89.0	
ZD02-15.0-XP25-SP05-02	15	30	108						\$89.0	
ZD02-15.5-XP25-SP06-02	15.5	31	109						\$89.0	
ZD02-16.0-XP25-SP06-02	16	32	110			\$89.0				
ZD02-16.5-XP25-SP06-02	16.5	33	111			\$89.0				
ZD02-17.0-XP25-SP06-02	17	34	112			\$89.0				
ZD02-17.5-XP25-SP06-02	17.5	35	113			\$89.0				
ZD02-18.0-XP25-SP06-02	18	36	114			\$89.0				
ZD02-18.5-XP25-SP06-02	18.5	37	115			\$89.0				
ZD02-19.0-XP25-SP06-02	19	38	116			\$89.0				
ZD02-19.5-XP25-SP06-02	19.5	39	117			\$89.0				
ZD02-20.0-XP25-SP06-02	20	40	119			\$89.0				
ZD02-20.5-XP25-SP06-02	20.5	41	120			\$111.5				
ZD02-21.0-XP25-SP06-02	21	42	121	\$111.5						
ZD02-21.5-XP25-SP06-02	21.5	43	122	\$111.5						
ZD02-22.0-XP25-SP07-02	22	44	123	60	32	SP□X060204	ST2205	T8	\$111.5	
ZD02-22.5-XP25-SP07-02	22.5	45	124						\$111.5	
ZD02-23.0-XP25-SP07-02	23	46	125						\$111.5	
ZD02-23.5-XP25-SP07-02	23.5	47	126						\$111.5	
ZD02-24.0-XP25-SP07-02	24	48	127						\$111.5	
ZD02-24.5-XP25-SP07-02	24.5	49	128			\$111.5				
ZD02-25.0-XP32-SP07-02	25	50	141			SP□X07T308	ST2506		T8	\$111.5
ZD02-25.5-XP32-SP07-02	25.5	51	142							\$125.5
ZD02-26.0-XP32-SP07-02	26	52	143							\$125.5
ZD02-26.5-XP32-SP07-02	26.5	53	144							\$125.5
ZD02-27.0-XP32-SP07-02	27	54	145	\$125.5						
ZD02-27.5-XP32-SP09-02	27.5	55	146	SP□X090408	ST3508	T15	\$125.5			
ZD02-28.0-XP32-SP09-02	28	56	147				\$125.5			
ZD02-28.5-XP32-SP09-02	28.5	57	148				\$125.5			
ZD02-29.0-XP32-SP09-02	29	58	149				\$125.5			
ZD02-29.5-XP32-SP09-02	29.5	59	150				\$125.5			
ZD02-30.0-XP32-SP09-02	30	60	151		\$125.5					
ZD02-30.5-XP32-SP09-02	30.5	61	152		\$146.5					
ZD02-31.0-XP32-SP09-02	31	62	153		\$146.5					
ZD02-31.5-XP32-SP09-02	31.5	63	154		\$146.5					
ZD02-32.0-XP32-SP09-02	32	64	155		\$146.5					
ZD02-32.5-XP32-SP09-02	32.5	65	156	\$146.5						
ZD02-33.0-XP32-SP09-02	33	66	157	\$146.5						
ZD02-33.5-XP32-SP11-02	33.5	67	158	SP□X110408	ST4010	T15	\$146.5			
ZD02-34.0-XP32-SP11-02	34	68	159				\$146.5			
ZD02-34.5-XP32-SP11-02	34.5	69	160				\$146.5			
ZD02-35.0-XP32-SP11-02	35	70	161				\$146.5			
ZD02-35.5-XP32-SP11-02	35.5	71	162				\$180.0			



2D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD02-36.0-XP32-SP11-02	36	72	163	60	32	SP□X110408	ST4010	T15	\$180.0
ZD02-36.5-XP32-SP11-02	36.5	73	164						\$180.0
ZD02-37.0-XP32-SP11-02	37	74	165						\$180.0
ZD02-37.5-XP32-SP11-02	37.5	75	166						\$180.0
ZD02-38.0-XP32-SP11-02	38	76	167						\$180.0
ZD02-38.5-XP32-SP11-02	38.5	77	168						\$180.0
ZD02-39.0-XP32-SP11-02	39	78	169						\$180.0
ZD02-39.5-XP32-SP11-02	39.5	79	170						\$180.0
ZD02-40.0-XP32-SP11-02	40	80	171						\$180.0
ZD02-41.0-XP32-SP14-02	41	82	173						65
ZD02-42.0-XP32-SP14-02	42	84	175	\$218.0					
ZD02-43.0-XP40-SP14-02	43	86	186	\$218.0					
ZD02-44.0-XP40-SP14-02	44	88	188	\$218.0					
ZD02-45.0-XP40-SP14-02	45	90	190	\$218.0					
ZD02-46.0-XP40-SP14-02	46	92	192	\$242.5					
ZD02-47.0-XP40-SP14-02	47	94	194	\$242.5					
ZD02-48.0-XP40-SP14-02	48	96	196	\$242.5					
ZD02-49.0-XP40-SP14-02	49	98	198	\$242.5					
ZD02-50.0-XP40-SP14-02	50	100	200	\$242.5					
ZD02-51.0-XP40-SP14-02	51	102	202	\$275.0					
ZD02-52.0-XP40-SP09-04	52	104	204	65	40	SP□X090408	ST3508	T15	\$275.0
ZD02-53.0-XP40-SP09-04	53	106	206						\$275.0
ZD02-54.0-XP40-SP09-04	54	108	208						\$275.0
ZD02-55.0-XP40-SP09-04	55	110	210						\$275.0
ZD02-56.0-XP40-SP09-04	56	112	212						\$314.0
ZD02-57.0-XP40-SP09-04	57	114	214						\$314.0
ZD02-58.0-XP40-SP09-04	58	116	216						\$314.0
ZD02-59.0-XP40-SP09-04	59	118	218						\$314.0
ZD02-60.0-XP40-SP09-04	60	120	220						\$314.0

Carbide Drills

Hss Drills

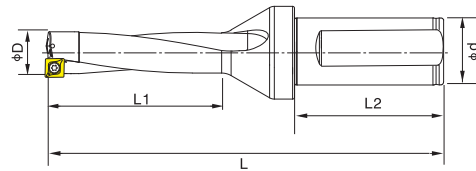
U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

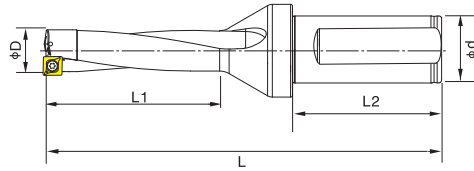
Non-standard Drill made



3D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD03-13.0-XP25-SP05-02	13	39	117	56	25	SP□X050204	ST0205	T6	\$94.0
ZD03-13.5-XP25-SP05-02	13.5	40.5	118						\$94.0
ZD03-14.0-XP25-SP05-02	14	42	120						\$94.0
ZD03-14.5-XP25-SP05-02	14.5	43.5	122						\$94.0
ZD03-15.0-XP25-SP05-02	15	45	123						\$94.0
ZD03-15.5-XP25-SP06-02	15.5	46.5	124						\$94.0
ZD03-16.0-XP25-SP06-02	16	48	126			\$94.0			
ZD03-16.5-XP25-SP06-02	16.5	49.5	127			\$94.0			
ZD03-17.0-XP25-SP06-02	17	51	129			\$94.0			
ZD03-17.5-XP25-SP06-02	17.5	52.5	130			\$94.0			
ZD03-18.0-XP25-SP06-02	18	54	132			\$94.0			
ZD03-18.5-XP25-SP06-02	18.5	55.5	133			\$94.0			
ZD03-19.0-XP25-SP06-02	19	57	135			\$94.0			
ZD03-19.5-XP25-SP06-02	19.5	58.5	135			\$94.0			
ZD03-20.0-XP25-SP06-02	20	60	139			\$94.0			
ZD03-20.5-XP25-SP06-02	20.5	61.5	140			\$117.5			
ZD03-21.0-XP25-SP06-02	21	63	142	\$117.5					
ZD03-21.5-XP25-SP06-02	21.5	64.5	143	\$117.5					
ZD03-22.0-XP25-SP07-02	22	66	145	SP□X07T308	ST2506	T8	\$117.5		
ZD03-22.5-XP25-SP07-02	22.5	67.5	148				\$117.5		
ZD03-23.0-XP25-SP07-02	23	69	148				\$117.5		
ZD03-23.5-XP25-SP07-02	23.5	70.5	149				\$117.5		
ZD03-24.0-XP25-SP07-02	24	72	151				\$117.5		
ZD03-24.5-XP25-SP07-02	24.5	73.5	152				\$117.5		
ZD03-25.0-XP32-SP07-02	25	75	166				\$117.5		
ZD03-25.5-XP32-SP07-02	25.5	76.5	167				\$132.0		
ZD03-26.0-XP32-SP07-02	26	78	169				\$132.0		
ZD03-26.5-XP32-SP07-02	26.5	79.5	170				\$132.0		
ZD03-27.0-XP32-SP07-02	27	81	172	\$132.0					
ZD03-27.5-XP32-SP09-02	27.5	82.5	173	SP□X090408	ST3508	T15	\$132.0		
ZD03-28.0-XP32-SP09-02	28	84	175				\$132.0		
ZD03-28.5-XP32-SP09-02	28.5	85.5	176				\$132.0		
ZD03-29.0-XP32-SP09-02	29	87	178				\$132.0		
ZD03-29.5-XP32-SP09-02	29.5	88.5	179				\$132.0		
ZD03-30.0-XP32-SP09-02	30	90	181				\$132.0		
ZD03-30.5-XP32-SP09-02	30.5	91.5	182				\$154.0		
ZD03-31.0-XP32-SP09-02	31	93	184				\$154.0		
ZD03-31.5-XP32-SP09-02	31.5	94.5	185				\$154.0		
ZD03-32.0-XP32-SP09-02	32	96	187				\$154.0		
ZD03-32.5-XP32-SP09-02	32.5	97.5	188	\$154.0					
ZD03-33.0-XP32-SP09-02	33	99	190	\$154.0					
ZD03-33.5-XP32-SP11-02	33.5	100.5	191	SP□X110408	ST4010	\$154.0			
ZD03-34.0-XP32-SP11-02	34	102	193			\$154.0			
ZD03-34.5-XP32-SP11-02	34.5	103.5	194			\$154.0			
ZD03-35.0-XP32-SP11-02	35	105	196			\$154.0			
ZD03-35.5-XP32-SP11-02	35.5	106.5	197			\$197.0			



3D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD03-36.0-XP32-SP11-02	36	108	199	60	32	SP□X110408	ST4010	T15	\$197.0
ZD03-36.5-XP32-SP11-02	36.5	109.5	200						\$197.0
ZD03-37.0-XP32-SP11-02	37	111	202						\$197.0
ZD03-37.5-XP32-SP11-02	37.5	112.5	203						\$197.0
ZD03-38.0-XP32-SP11-02	38	114	205						\$197.0
ZD03-38.5-XP32-SP11-02	38.5	115.5	206						\$197.0
ZD03-39.0-XP32-SP11-02	39	117	206						\$197.0
ZD03-39.5-XP32-SP11-02	39.5	118.5	209						\$197.0
ZD03-40.0-XP32-SP11-02	40	120	211						\$197.0
ZD03-41.0-XP32-SP14-02	41	123	214						65
ZD03-42.0-XP32-SP14-02	42	126	217	\$243.5					
ZD03-43.0-XP40-SP14-02	43	129	229	\$243.5					
ZD03-44.0-XP40-SP14-02	44	132	232	\$243.5					
ZD03-45.0-XP40-SP14-02	45	135	235	\$243.5					
ZD03-46.0-XP40-SP14-02	46	138	238	\$274.5					
ZD03-47.0-XP40-SP14-02	47	141	241	\$274.5					
ZD03-48.0-XP40-SP14-02	48	144	244	\$274.5					
ZD03-49.0-XP40-SP14-02	49	147	247	\$274.5					
ZD03-50.0-XP40-SP14-02	50	150	250	\$274.5					
ZD03-51.0-XP40-SP14-02	51	153	253	\$313.5					
ZD03-52.0-XP40-SP09-04	52	156	256	SP□X090408	ST3508	T15	\$313.5		
ZD03-53.0-XP40-SP09-04	53	159	259				\$313.5		
ZD03-54.0-XP40-SP09-04	54	162	262				\$313.5		
ZD03-55.0-XP40-SP09-04	55	165	265				\$313.5		
ZD03-56.0-XP40-SP09-04	56	168	268				\$352.5		
ZD03-57.0-XP40-SP09-04	57	171	271				\$352.5		
ZD03-58.0-XP40-SP09-04	58	175	274				\$352.5		
ZD03-59.0-XP40-SP09-04	59	177	277				\$352.5		
ZD03-60.0-XP40-SP09-04	60	180	280				\$352.5		

Carbide Drills

Hss Drills

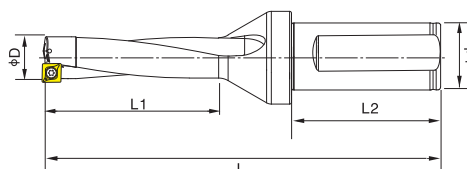
U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

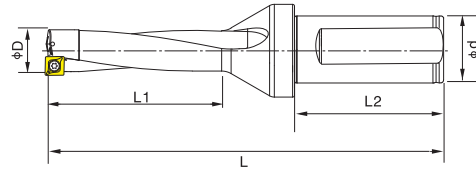
Non-standard Drill made



4D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD04-13.0-XP25-SP05-02	13	52	130	56	25	SP□X050204	ST0205	T6	\$105.0
ZD04-13.5-XP25-SP05-02	13.5	54	132						\$105.0
ZD04-14.0-XP25-SP05-02	14	56	134						\$105.0
ZD04-14.5-XP25-SP05-02	14.5	58	136						\$105.0
ZD04-15.0-XP25-SP05-02	15	60	138						\$105.0
ZD04-15.5-XP25-SP06-02	15.5	62	140						\$105.0
ZD04-16.0-XP25-SP06-02	16	64	142			\$105.0			
ZD04-16.5-XP25-SP06-02	16.5	66	144			\$105.0			
ZD04-17.0-XP25-SP06-02	17	68	146			\$105.0			
ZD04-17.5-XP25-SP06-02	17.5	70	148			\$105.0			
ZD04-18.0-XP25-SP06-02	18	72	150			\$105.0			
ZD04-18.5-XP25-SP06-02	18.5	74	152			\$105.0			
ZD04-19.0-XP25-SP06-02	19	76	154			\$105.0			
ZD04-19.5-XP25-SP06-02	19.5	78	155			\$105.0			
ZD04-20.0-XP25-SP06-02	20	80	159			\$130.5			
ZD04-20.5-XP25-SP06-02	20.5	82	161			\$130.5			
ZD04-21.0-XP25-SP06-02	21	84	163	\$130.5					
ZD04-21.5-XP25-SP06-02	21.5	86	165	\$130.5					
ZD04-22.0-XP25-SP07-02	22	88	167	56	32	SP□X07T308	ST2506	T8	\$130.5
ZD04-22.5-XP25-SP07-02	22.5	90	169						\$130.5
ZD04-23.0-XP25-SP07-02	23	92	171						\$130.5
ZD04-23.5-XP25-SP07-02	23.5	94	173						\$130.5
ZD04-24.0-XP25-SP07-02	24	96	175						\$130.5
ZD04-24.5-XP25-SP07-02	24.5	98	177			\$130.5			
ZD04-25.0-XP32-SP07-02	25	100	191			\$146.5			
ZD04-25.5-XP32-SP07-02	25.5	102	193			\$146.5			
ZD04-26.0-XP32-SP07-02	26	104	195			\$146.5			
ZD04-26.5-XP32-SP07-02	26.5	106	197			\$146.5			
ZD04-27.0-XP32-SP07-02	27	108	199	\$146.5					
ZD04-27.5-XP32-SP09-02	27.5	110	201	60	32	SP□X090408	ST3508	T15	\$146.5
ZD04-28.0-XP32-SP09-02	28	112	203						\$146.5
ZD04-28.5-XP32-SP09-02	28.5	114	205						\$146.5
ZD04-29.0-XP32-SP09-02	29	116	207						\$146.5
ZD04-29.5-XP32-SP09-02	29.5	118	209						\$146.5
ZD04-30.0-XP32-SP09-02	30	120	211						\$146.5
ZD04-30.5-XP32-SP09-02	30.5	122	213			\$190.0			
ZD04-31.0-XP32-SP09-02	31	124	215			\$190.0			
ZD04-31.5-XP32-SP09-02	31.5	126	217			\$190.0			
ZD04-32.0-XP32-SP09-02	32	128	219			\$190.0			
ZD04-32.5-XP32-SP09-02	32.5	130	221			\$190.0			
ZD04-33.0-XP32-SP09-02	33	132	223			\$190.0			
ZD04-33.5-XP32-SP11-02	33.5	134	225	SP□X110408	ST4010		\$190.0		
ZD04-34.0-XP32-SP11-02	34	136	227				\$190.0		
ZD04-34.5-XP32-SP11-02	34.5	138	229				\$190.0		
ZD04-35.0-XP32-SP11-02	35	140	231				\$190.0		
ZD04-35.5-XP32-SP11-02	35.5	142	233				\$214.0		



4D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD04-36.0-XP32-SP11-02	36	144	235	60	32	SP□X110408	ST4010	T15	\$214.0
ZD04-36.5-XP32-SP11-02	36.5	146	237						\$214.0
ZD04-37.0-XP32-SP11-02	37	148	239						\$214.0
ZD04-37.5-XP32-SP11-02	37.5	150	241						\$214.0
ZD04-38.0-XP32-SP11-02	38	152	243						\$214.0
ZD04-38.5-XP32-SP11-02	38.5	154	245						\$214.0
ZD04-39.0-XP32-SP11-02	39	156	247						\$214.0
ZD04-39.5-XP32-SP11-02	39.5	158	249						\$214.0
ZD04-40.0-XP32-SP11-02	40	160	251						\$214.0
ZD04-41.0-XP32-SP14-02	41	164	255						65
ZD04-42.0-XP32-SP14-02	42	168	259	\$271.0					
ZD04-43.0-XP40-SP14-02	43	172	272	\$271.0					
ZD04-44.0-XP40-SP14-02	44	176	276	\$271.0					
ZD04-45.0-XP40-SP14-02	45	180	280	\$271.0					
ZD04-46.0-XP40-SP14-02	46	184	284	\$296.5					
ZD04-47.0-XP40-SP14-02	47	188	288	\$296.5					
ZD04-48.0-XP40-SP14-02	48	192	292	\$296.5					
ZD04-49.0-XP40-SP14-02	49	196	296	\$296.5					
ZD04-50.0-XP40-SP14-02	50	200	300	\$296.5					
ZD04-51.0-XP40-SP14-02	51	204	304	\$368.5					
ZD04-52.0-XP40-SP09-04	52	208	308	65	SP□X090408	ST3508	T15	\$368.5	
ZD04-53.0-XP40-SP09-04	53	212	312					\$368.5	
ZD04-54.0-XP40-SP09-04	54	216	316					\$368.5	
ZD04-55.0-XP40-SP09-04	55	220	320					\$368.5	
ZD04-56.0-XP40-SP09-04	56	224	324					\$405.5	
ZD04-57.0-XP40-SP09-04	57	228	328					\$405.5	
ZD04-58.0-XP40-SP09-04	58	232	332					\$405.5	
ZD04-59.0-XP40-SP09-04	59	236	336					\$405.5	
ZD04-60.0-XP40-SP09-04	60	240	340					\$405.5	

Carbide Drills

Hss Drills

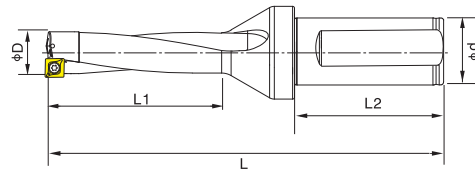
U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

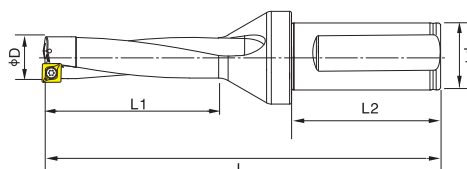
Non-standard Drill made



5D-SP U DRILL

Unit (mm)

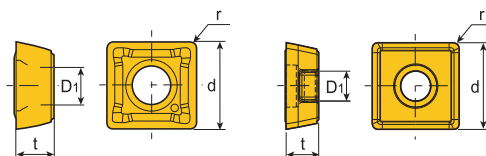
Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD05-20.0-XP25-SP06-02	20	100	179	56	25	SP□X060204	ST2205	T6	\$175.0
ZD05-20.5-XP25-SP06-02	20.5	102.5	181						\$203.5
ZD05-21.0-XP25-SP06-02	21	105	184						\$203.5
ZD05-21.5-XP25-SP06-02	21.5	107.5	186						\$203.5
ZD05-22.0-XP25-SP07-02	22	110	189			SP□X07T308	ST2506	T8	\$203.5
ZD05-22.5-XP25-SP07-02	22.5	112.5	193						\$203.5
ZD05-23.0-XP25-SP07-02	23	115	194						\$203.5
ZD05-23.5-XP25-SP07-02	23.5	117.5	196						\$203.5
ZD05-24.0-XP25-SP07-02	24	120	199						\$203.5
ZD05-24.5-XP25-SP07-02	24.5	122.5	201						\$203.5
ZD05-25.0-XP32-SP07-02	25	125	216	60	32	SP□X07T308	ST2506	T8	\$203.5
ZD05-25.5-XP32-SP07-02	25.5	127.5	218						\$238.5
ZD05-26.0-XP32-SP07-02	26	130	221						\$238.5
ZD05-26.5-XP32-SP07-02	26.5	132.5	223						\$238.5
ZD05-27.0-XP32-SP07-02	27	135	226			SP□X090408	ST3508	T15	\$238.5
ZD05-27.5-XP32-SP09-02	27.5	137.5	228						\$238.5
ZD05-28.0-XP32-SP09-02	28	140	231						\$238.5
ZD05-28.5-XP32-SP09-02	28.5	142.5	233						\$238.5
ZD05-29.0-XP32-SP09-02	29	145	236						\$238.5
ZD05-29.5-XP32-SP09-02	29.5	147.5	238						\$238.5
ZD05-30.0-XP32-SP09-02	30	150	241	SP□X110408	ST4010	T15	\$238.5		
ZD05-30.5-XP32-SP09-02	30.5	152.5	243				\$264.0		
ZD05-31.0-XP32-SP09-02	31	155	246				\$264.0		
ZD05-31.5-XP32-SP09-02	31.5	157.5	248				\$264.0		
ZD05-32.0-XP32-SP09-02	32	160	251				\$264.0		
ZD05-32.5-XP32-SP09-02	32.5	162.5	253				\$264.0		
ZD05-33.0-XP32-SP09-02	33	165	256				\$264.0		
ZD05-33.5-XP32-SP11-02	33.5	167.5	258				\$264.0		
ZD05-34.0-XP32-SP11-02	34	170	261				\$264.0		
ZD05-34.5-XP32-SP11-02	34.5	172.5	263				\$264.0		
ZD05-35.0-XP32-SP11-02	35	175	266	SP□X140512	ST5010	T20	\$264.0		
ZD05-35.5-XP32-SP11-02	35.5	177.5	268				\$292.5		
ZD05-36.0-XP32-SP11-02	36	180	271				\$292.5		
ZD05-36.5-XP32-SP11-02	36.5	182.5	273				\$292.5		
ZD05-37.0-XP32-SP11-02	37	185	276				\$292.5		
ZD05-37.5-XP32-SP11-02	37.5	187.5	278				\$292.5		
ZD05-38.0-XP32-SP11-02	38	190	281				\$292.5		
ZD05-38.5-XP32-SP11-02	38.5	192.5	283				\$292.5		
ZD05-39.0-XP32-SP11-02	39	195	284				\$292.5		
ZD05-39.5-XP32-SP11-02	39.5	197.5	288				\$292.5		
ZD05-40.0-XP32-SP11-02	40	200	291	SP□X140512	ST5010	T20	\$292.5		
ZD05-41.0-XP32-SP14-02	41	205	296				\$346.5		
ZD05-42.0-XP32-SP14-02	42	210	301	\$346.5					



5D-SP U DRILL

Unit (mm)

Model No.	Size					Insert	Screw	Wrench	List USD
	D	L1	L	L2	d				
ZD05-43.0-XP40-SP14-02	43	215	315	65	40	SP□X140512	ST5010	T20	\$346.5
ZD05-44.0-XP40-SP14-02	44	220	320						\$346.5
ZD05-45.0-XP40-SP14-02	45	225	325						\$346.5
ZD05-46.0-XP40-SP14-02	46	230	330						\$371.5
ZD05-47.0-XP40-SP14-02	47	235	335						\$371.5
ZD05-48.0-XP40-SP14-02	48	240	340						\$371.5
ZD05-49.0-XP40-SP14-02	49	245	345						\$371.5
ZD05-50.0-XP40-SP14-02	50	250	350						\$371.5
ZD05-51.0-XP40-SP14-02	51	255	355						\$451.0
ZD05-52.0-XP40-SP09-04	52	260	360						\$451.0
ZD05-53.0-XP40-SP09-04	53	265	365						\$451.0
ZD05-54.0-XP40-SP09-04	54	270	370						\$451.0
ZD05-55.0-XP40-SP09-04	55	275	375						\$451.0
ZD05-56.0-XP40-SP09-04	56	280	380						\$543.0
ZD05-57.0-XP40-SP09-04	57	285	385	\$543.0					
ZD05-58.0-XP40-SP09-04	58	290	390	\$543.0					
ZD05-59.0-XP40-SP09-04	59	295	395	\$543.0					
ZD05-60.0-XP40-SP09-04	60	300	400	\$543.0					



Unit (mm)

Size	Dimension (mm)			
	d	t	r	D1
06	5.00	2.38	0.4	2.25
06	6.00	2.38	0.4	2.61
07	7.94	3.97	0.8	2.85
09	9.80	4.30	0.8	4.05
11	11.50	4.80	0.8	4.45
14	14.30	5.20	1.2	5.75

Insert	Designation	Material		List USD
		TI620	TN200	
	SPMX050204	●		\$7.40
	SPMX060204	●		\$7.60
	SPMX07T308	●		\$8.20
	SPMX090408	●		\$9.80
	SPMX110408	●		\$10.60
	SPMX140512	●		\$12.70
	SPGX050204		●	\$8.90
	SPGX060204		●	\$8.90
	SPGX07T308		●	\$9.40
	SPGX090408		●	\$10.20
	SPGX110408		●	\$10.70
	SPGX140512		●	\$13.20

Cutting Conditions

Unit (mm)

ISO	Material		Condition	Tensile strength		Cutting speed	Feed (mm/rev) vs. drill diameter Drill length 2,3,4xD						
				Rm(n/mm ²)	HB		SPGX05	SPGX06	SPGX07	SPGX09	SPGX11	SPGX14	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	200-280	0.04-0.06	0.04-0.06	0.04-0.08	0.04-0.08	0.06-0.10	0.06-0.12	
		>=0.25%C	Annealed	650	190	120-190	0.05-0.08	0.06-0.10	0.06-0.12	0.07-0.13	0.08-0.15	0.08-0.16	
		<0.55%C	Quenched and tempered	850	250	110-180	0.06-0.12	0.08-0.15	0.10-0.18	0.12-0.22	0.12-0.24	0.13-0.25	
		>=0.55%C	Annealed	750	220	110-180	0.06-0.12	0.08-0.15	0.10-0.18	0.12-0.22	0.12-0.24	0.13-0.25	
	Low alloy steel and cast steel (Less than 5% of alloying elements)		Quenched and tempered	0.55-0.80%	1000	300	110-180	0.06-0.12	0.08-0.15	0.10-0.18	0.12-0.22	0.12-0.24	0.13-0.25
				Annealed	600	200	120-190	0.06-0.12	0.08-0.14	0.10-0.18	0.12-0.20	0.12-0.20	0.13-0.20
				930	275	120-160	0.06-0.15	0.06-0.15	0.08-0.18	0.08-0.18	0.08-0.18	0.08-0.18	
	"High alloy steel, cast steel and tool steel"		Quenched and tempered	1000	300	120-160	0.06-0.15	0.06-0.15	0.08-0.18	0.08-0.18	0.08-0.18	0.08-0.18	
				1200	350	120-160	0.06-0.15	0.06-0.15	0.08-0.18	0.08-0.18	0.08-0.18	0.08-0.18	
	M	"Stainless steel and cast steel"		Annealed	680	200	120-180	0.06-0.10	0.06-0.10	0.08-0.12	0.08-0.14	0.08-0.14	0.08-0.14
Quenched and tempered				1100	325	120-180	0.06-0.10	0.08-0.12	0.10-0.15	0.12-0.15	0.12-0.18	0.13-0.18	
Ferritic / martensitic				680	200	170-230	0.05-0.10	0.06-0.12	0.08-0.15	0.09-0.16	0.10-0.17	0.11-0.18	
Martensitic				820	240	170-230	0.05-0.10	0.06-0.12	0.08-0.15	0.09-0.16	0.10-0.17	0.11-0.18	
N	Aluminium Alloy	-	-	-	-	200-320	0.06-0.17	0.06-0.17	0.06-0.18	0.07-0.20	0.07-0.20	0.08-0.22	
						Copper Alloy	200-320	0.06-0.17	0.06-0.17	0.06-0.18	0.07-0.20	0.07-0.20	0.08-0.22

ISO	Material		Condition	Tensile strength		Cutting speed	Feed (mm/rev) vs. drill diameter Drill length 5xD						
				Rm(n/mm ²)	HB		SPGX05	SPGX06	SPGX07	SPGX09	SPGX11	SPGX14	
P	Non-alloy steel, cast steel, free cutting steel		<0.25%C	Annealed	420	125	200-280	0.04-0.05	0.04-0.05	0.04-0.06	0.04-0.07	0.06-0.08	0.06-0.10
			>=0.25%C	Annealed	650	190	120-190	0.06-0.08	0.06-0.08	0.06-0.10	0.07-0.12	0.08-0.13	0.08-0.14
			<0.55%C	Quenched and tempered	850	250	110-180	0.06-0.10	0.08-0.13	0.10-0.16	0.12-0.20	0.12-0.22	0.13-0.23
			>=0.55%C	Annealed	750	220	110-180	0.06-0.10	0.08-0.13	0.10-0.16	0.12-0.20	0.12-0.22	0.13-0.23
	Low alloy steel and cast steel (Less than 5% of alloying elements)		Quenched and tempered	0.55-0.80%	1000	300	110-180	0.06-0.10	0.08-0.13	0.10-0.16	0.12-0.20	0.12-0.22	0.13-0.23
				Annealed	600	200	120-190	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	0.12-0.18	0.13-0.18
				930	275	120-160	0.06-0.12	0.06-0.13	0.08-0.16	0.08-0.16	0.08-0.17	0.08-0.17	
	"High alloy steel, cast steel and tool steel"		Quenched and tempered	1000	300	120-160	0.06-0.12	0.06-0.13	0.08-0.16	0.08-0.16	0.08-0.17	0.08-0.17	
				1200	350	120-160	0.06-0.12	0.06-0.13	0.08-0.16	0.08-0.16	0.08-0.17	0.08-0.17	
	M	"Stainless steel and cast steel"		Annealed	680	200	120-180	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.12	0.08-0.12	0.08-0.12
Quenched and tempered				1100	325	120-180	0.08-0.09	0.08-0.10	0.10-0.13	0.12-0.13	0.12-0.15	0.12-0.16	
Ferritic / martensitic				680	200	170-230	0.05-0.09	0.06-0.10	0.08-0.13	0.09-0.15	0.10-0.15	0.10-0.17	
Martensitic				820	240	170-230	0.05-0.09	0.06-0.10	0.08-0.13	0.09-0.15	0.10-0.15	0.10-0.17	
N	Aluminium Alloy	-	-	-	-	200-320	0.05-0.15	0.05-0.15	0.06-0.16	0.06-0.16	0.06-0.20	0.08-0.18	
						Copper Alloy	180-280	0.05-0.15	0.05-0.15	0.06-0.16	0.06-0.16	0.07-0.20	0.08-0.18

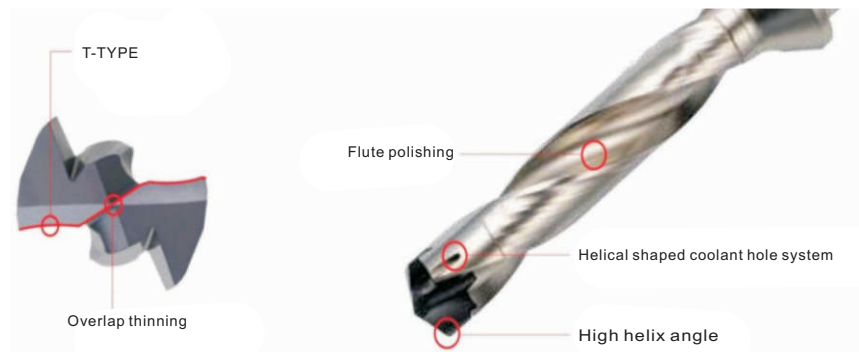
Code system of holder

DDT	C	5D – 150	20 – 75
Insert type C: Cone type	Aspect ratio(L/D) 3D, 5D, 8D	Drill dia. 150: φ 15.0	Shank dia 20: φ 20
Flute length (mm)			

Code system of insert

DTT	1500	C
Drill dia. 1500: φ 15.00	Insert type C: Cone type	

Features



Recommended cutting condition

Workpiece			Grade	vc	Depth of cut = 3D,5D		
ISO	Workpiece	HB			Feed rate(mm/rev) per drill dia.(mm)		
				m/min	φ 12.00- φ 15.99	φ 16.00- φ 25.99	
P	Carbon steel	Low carbon steel	80-120	TD530	110(80-140)	0.15-0.30	0.20-0.35
		High carbon steel	180-280	TD530	100(70-130)	0.15-0.30	0.20-0.35
	Alloy steel	Low alloy steel	140-260	TD530	110(80-140)	0.18-0.35	0.23-0.38
		Low pre-hardened steel	200-400	TD530	75(50-100)	0.18-0.35	0.23-0.38
		High alloy steel	260-320	TD530	70(50-90)	0.18-0.30	0.20-0.35
		High pre-hardened steel	300-450	TD530	60(40-80)	0.18-0.30	0.20-0.35

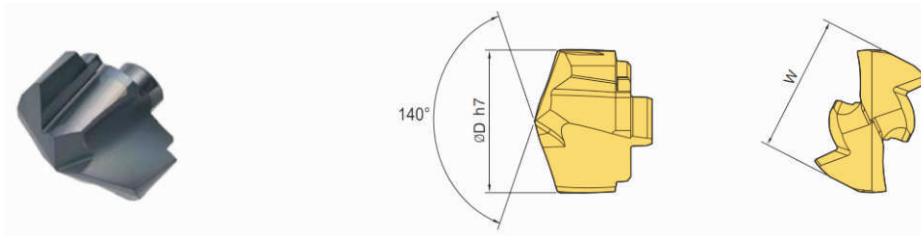
How to make good insert clamping



1. Clean the mounting seat with air or cloth.
2. Put an insert on the holder.
3. A part of wrench and B part of insert must be parallel to each other before clamp the insert. Turn the wrench clockwise to finish clamping.
4. Clamped state

Carbide Drills
Hss Drills
U Drills
Head Exchangable Drills
Deep Hole Drills
CDR 45 Chamfer Cutter
Non-standard Drill made

DTTC insert



Designation	Drill dia. (φ D)	W	Coated	Holder	Wrench
			TD530		
DTT 1200C	12.0	11.4	●	DTTC(3.5,8)D-12016-(36,60,96)	DTTC-W12
1220C	12.2				
1250C	12.5				
1260C	12.6				
1300C	13.0	12.3	●	DTTC(3.5,8)D-13016-(39,65,104)	DTTC-W13
1350C	13.5				
1400C	14.0	13.4	●	DTTC(3.5,8)D-14016-(42,70,112)	DTTC-W14
1420C	14.2				
1430C	14.3				
1450C	14.5				
1500C	15.0	14.3	●	DTTC(3.5,8)D-15020-(45,75,120)	DTTC-W15
1550C	15.5				
1600C	16.0	15.3	●	DTTC(3.5,8)D-16020-(48,80,128)	DTTC-W16
1630C	16.3				
1650C	16.5				
1670C	16.7				
1700C	17.0	16.3	●	DTTC(3.5,8)D-17020-(51,85,136)	DTTC-W17
1750C	17.5				
1770C	17.7				
1800C	18.0				
1810C	18.1	17.3	●	DTTC(3.5,8)D-18025-(54,90,144)	DTTC-W18
1850C	18.5				
1860C	18.6				
1870C	18.7				
1900C	19.0	18.3	●	DTTC(3.5,8)D-19025-(57,95,152)	DTTC-W19
1920C	19.2				
1950C	19.5				
1970C	19.7				
2000C	20.0	19.2	●	DTTC(3.5,8)D-20025-(60,100,160)	DTTC-W20
2050C	20.5				
2100C	21.0	20.1	●	DTTC(3.5,8)D-21025-(63,105,168)	DTTC-W21
2150C	21.5				
2200C	22.0	21.0	●	DTTC(3.5,8)D-22025(66,110,176)	DTTC-W22
2250C	22.5				
2260C	22.6				
2270C	22.7				
2300C	23.0	21.9	●	DTTC(3.5,8)D-23025-(69,115,184)	DTTC-W23
2350C	23.5				
2400C	24.0	22.9	●	DTTC(3.5,8)D-24032-(72,120,192)	DTTC-W24
2450C	24.5				
2500C	25.0	23.9	●	DTTC(3.5,8)D-25032-(75,125,200)	DTTC-W25
2530C	25.3				
2550C	25.5				
2580C	25.8				
2590C	25.9	24.9	●	DTTC(3.5,8)D-26032-(78,130,208)	DTTC-W26
2600C	26.0				
2650C	26.5				
2700C	27.0				
2750C	27.5	25.9	●	DTTC(3.5,8)D-27032-(81,135,216)	DTTC-W27
2800C	28.0				
2850C	28.5	26.9	●	DTTC(3.5,8)D-28032-(84,140,224)	DTTC-W28
2900C	29.0				
2950C	29.5	27.9	●	DTTC(3.5,8)D-29032-(87,145,232)	DTTC-W29
3000C	30.0				
3050C	30.5	28.9	●	DTTC(3.5,8)D-30032-(90,150,240)	DTTC-W30

DTTC Parts

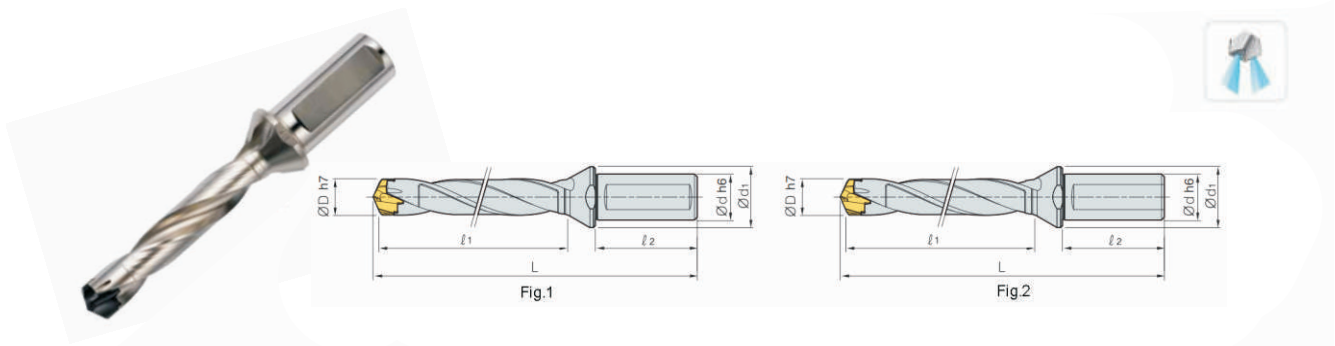
Parts(Recommended torque per wrench)

Designation	Drill dia. (ϕD)	Torque(Nm)
DTTC-W12	12	2.5
DTTC-W13	13	2.5
DTTC-W14	14	2.5
DTTC-W15	15	2.5
DTTC-W16	16	2.5
DTTC-W17	17	2.5
DTTC-W18	18	2.5
DTTC-W19	19	2.5
DTTC-W20	20	3.5

(mm)

Designation	Drill dia. (ϕD)	Torque(Nm)
DTTC-W21	21	3.5
DTTC-W22	22	3.5
DTTC-W23	23	3.5
DTTC-W24	24	3.5
DTTC-W25	25	3.5
DTTC-W26	26	5.5
DTTC-W27	27	5.5
DTTC-W28	28	5.5
DTTC-W29	29	5.5
DTTC-W30	30	5.5

DTTC 3D/5D/8D



Designation	ϕD	ϕd	$\phi d1$	l1	l2	L	Insert	Fig.
DTTC 3D-12016-36	12.00-12.49	16	20	36	48	99	DTT1200C□-1249C□	1
3D-12516-38	12.50-12.99	16	20	38	48	101	DTT1250C□-1299C□	1
3D-13016-39	13.00-13.49	16	20	39	48	103	DTT1300C□-1349C□	1
3D-13516-41	13.50-13.99	16	20	41	48	105	DTT1350C□-1399C□	1
3D-14016-42	14.00-14.49	16	20	42	48	106	DTT1400C□-1449C□	1
3D-14516-44	14.50-14.99	16	20	44	48	107	DTT1450C□-1449C□	1
3D-15020-45	15.00-15.99	20	25	45	50	113	DTT1500C□-1599C□	2
3D-16020-48	16.00-16.99	20	25	48	50	117	DTT1600C□-1699C□	2
3D-17020-51	17.00-17.99	20	25	51	50	120	DTT1700C□-1799C□	2
3D-18025-54	18.00-18.99	25	33	54	56	132	DTT1800C□-1899C□	2
3D-19025-57	19.00-19.99	25	33	57	56	135	DTT1900C□-1999C□	2
3D-20025-60	20.00-20.99	25	33	60	56	138	DTT2000C□-2099C□	2
3D-21025-63	21.00-21.99	25	33	63	56	141	DTT2100C□-2199C□	2
3D-22025-66	22.00-22.99	25	33	66	56	145	DTT2200C□-2299C□	2
3D-23025-69	23.00-23.99	25	33	69	56	149	DTT2300C□-2399C□	2
3D-24032-72	24.00-24.99	32	43	72	60	159	DTT2400C□-2499C□	2
3D-25032-75	25.00-25.99	32	43	75	60	162	DTT2500C□-2599C□	2
3D-26032-78	26.00-26.99	32	43	78	60	173	DTT2600C□-2699C□	2

Carbide Drills
Hss Drills
U Drills
Head Exchangable Drills
Deep Hole Drills
CDR 45 Chamfer Cutter
Non-standard Drill made

DTTC 3D/5D/8D

Designation	ϕD	ϕd	$\phi d1$	l1	l2	L	Insert	Fig.
DTTC 3D-27032-81	27.00-27.99	32	43	81	60	176	DTT2700C□-2799C□	2
3D-28032-84	28.00-28.99	32	43	84	60	180	DTT2800C□-2899C□	2
3D-29032-87	29.00-29.99	32	43	87	60	185	DTT2900C□-2999C□	2
3D-30032-90	30.00-30.99	32	43	90	60	188	DTT3000C□-3099C□	2
5D-12016-60	12.00-12.49	16	20	60	48	123	DTT1200C□-1249C□	1
5D-12516-63	12.50-12.99	16	20	63	48	126	DTT1250C□-1299C□	1
5D-13016-65	13.00-13.49	16	20	65	48	129	DTT1300C□-1349C□	1
5D-13516-68	13.50-13.99	16	20	68	48	132	DTT1350C□-1399C□	1
5D-14016-70	14.00-14.49	16	20	70	48	134	DTT1400C□-1449C□	1
5D-14516-73	14.50-14.99	16	20	73	48	136	DTT1450C□-1499C□	1
5D-15020-75	15.00-15.99	20	25	75	50	143	DTT1500C□-1599C□	2
5D-16020-80	16.00-16.99	20	25	80	50	149	DTT1600C□-1699C□	2
5D-17020-85	17.00-17.99	20	25	85	50	154	DTT1700C□-1799C□	2
5D-18025-90	18.00-18.99	25	33	90	56	168	DTT1800C□-1899C□	2
5D-19025-95	19.00-19.99	25	33	95	56	173	DTT1900C□-1999C□	2
5D-20025-100	20.00-20.99	25	33	100	56	178	DTT2000C□-2099C□	2
5D-21025-105	21.00-21.99	25	33	105	56	183	DTT2100C□-2199C□	2
5D-22025-110	22.00-22.99	25	33	110	56	189	DTT2200C□-2299C□	2
5D-23025-115	23.00-23.99	25	33	115	56	195	DTT2300C□-2399C□	2
5D-24032-120	24.00-24.99	32	43	120	60	207	DTT2400C□-2499C□	2
5D-25032-125	25.00-25.99	32	43	125	60	212	DTT2500C□-2599C□	2
5D-26032-130	26.00-26.99	32	43	130	60	225	DTT2600C□-2699C□	2
5D-27032-135	27.00-27.99	32	43	135	60	230	DTT2700C□-2799C□	2
5D-28032-140	28.00-28.99	32	43	140	60	236	DTT2800C□-2899C□	2
5D-29032-145	29.00-29.99	32	43	145	60	243	DTT2900C□-2999C□	2
5D-30032-150	30.00-30.99	32	43	150	60	248	DTT3000C□-3099C□	2
8D-12016-96	12.00-12.49	16	20	96	48	159	DTT1200C□-1249C□	1
8D-12516-100	12.50-12.99	16	20	100	48	163	DTT1250C□-1299C□	1
8D-13016-104	13.00-13.49	16	20	104	48	168	DTT1300C□-1349C□	1
8D-13516-108	13.50-13.99	16	20	108	48	173	DTT1350C□-1399C□	1
8D-14016-112	14.00-14.49	16	20	112	48	176	DTT1400C□-1449C□	1
8D-14516-116	14.50-14.99	16	20	116	48	180	DTT1450C□-1499C□	1
8D-15020-120	15.00-15.99	20	25	120	50	188	DTT1500C□-1599C□	2
8D-16020-128	16.00-16.99	20	25	128	50	197	DTT1600C□-1699C□	2
8D-17020-136	17.00-17.99	20	25	136	50	205	DTT1700C□-1799C□	2
8D-18025-144	18.00-18.99	25	33	144	56	222	DTT1800C□-1899C□	2
8D-19025-152	19.00-19.99	25	33	152	56	230	DTT1900C□-1999C□	2
8D-20025-160	20.00-20.99	25	33	160	56	238	DTT2000C□-2099C□	2
8D-21025-168	21.00-21.99	25	33	168	56	246	DTT2100C□-2199C□	2
8D-22025-176	22.00-22.99	25	33	176	56	255	DTT2200C□-2299C□	2
8D-23025-184	23.00-23.99	25	33	184	56	264	DTT2300C□-2399C□	2
8D-24032-192	24.00-24.99	32	43	192	60	279	DTT2400C□-2499C□	2
8D-25032-200	25.00-25.99	32	43	200	60	287	DTT2500C□-2599C□	2
8D-26032-208	26.00-26.99	32	43	208	60	303	DTT2600C□-2699C□	2
8D-27032-216	27.00-27.99	32	43	216	60	311	DTT2700C□-2799C□	2
8D-28032-224	28.00-28.99	32	43	224	60	320	DTT2800C□-2899C□	2
8D-29032-232	29.00-29.99	32	43	232	60	330	DTT2900C□-2999C□	2
8D-30032-240	30.00-30.99	32	43	240	60	338	DTT3000C□-3099C□	2

Deep Hole Drilling

A deep hole is defined by its depth-to-diameter ratio ($D:d$), and typically holes greater than 10:1 are considered deep holes. Deep hole drilling into metal has a range of applications across several industries, with its origins tracing back to the need for straighter, more accurate gun barrels, and expanding as other industries integrated deep hole drilling processes to improve their own applications.

Deep hole drilling consists of BTA drilling and gun drilling, with additional processes designed for specific tolerance objectives and generally performed on BTA-style deep hole drilling machines. Deep hole drilling is used in a variety of materials from aluminum to super-alloys, and is capable of achieving tight diameter control, straightness, and superior surface finish into workpieces.

Deep hole drilling processes work by using special tools and setups to deliver high pressure coolant, evacuate chips cleanly, and achieve depth-to-diameter holes into metal beyond what a common CNC machine can reach. This allows manufacturers to achieve their manufacturing tolerances and production requirements reliably, accurately, and efficiently.

BTA Drilling

BTA deep hole drilling is used for larger hole drilling, typically 20 – 200 mm [0.80 – 8.00 in] in diameter. High-pressure coolant is introduced around the outside of the tool through the pressure head assembly. Chips are discharged through the tool center, through the drill tube and machine spindle.

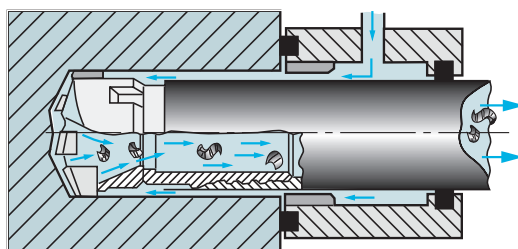
BTA drilling typically performs 5-7 times faster than gundrilling, and requires higher power.

Additional extended diameters can be drilled on BTA machines with secondary deep hole operations, such as counter-boring.

There is 2 types of drilling which are DTS systems and STS systems. We will only focus on STS systems as all our drill heads are for STS system.

The BTA—STS Drill is a single Tube Drilling system used in Deep Hole Drilling applications where fast metal removal is needed. Drill sizes in BTA Drills are from 0.312"–2.559" diameter. New drills are manufactured in a number of grades to fit individual customer requirements. BTA (STS) Drills of brazed construction can be re-tipped in our plant to an "as new" condition at a significant cost reduction and savings to the customer. These drills require high pressure coolant to flush the chips through the tube to the chip box. The STS may also be referred to as the BTA system in the deep hole drilling process.

STS DRILLING SYSTEM

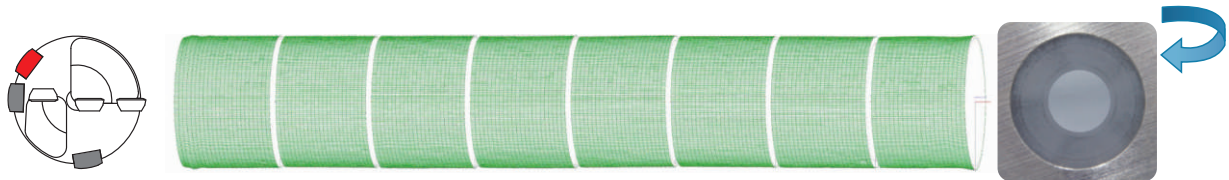


CT Coated Drills: Suitable for Medium and High speed drilling with highly accuracy and longer tool's life. (CT coating is a very special Japanese technology coating)

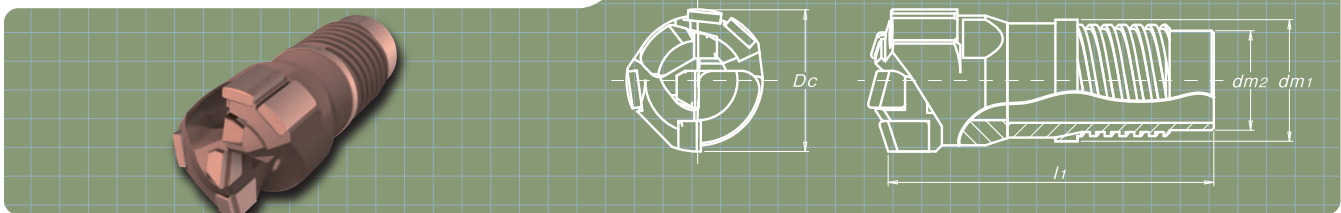
Drill Heads Design with 3 Guide Pads(CT Coating)

A. Unique Design of 3 Flutes with 3 Guide Pads Drill Head(CT Coating)

Feature: Reduced vibration during drilling and highly improved the roundness of the drilling holes
Holes with perfect roundness after drilling



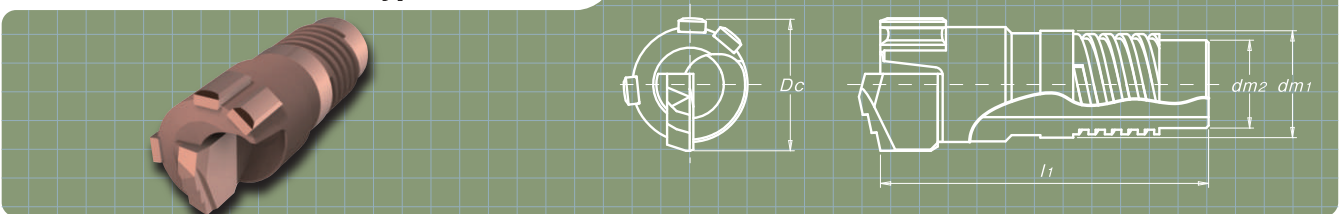
3 Flutes with 3 Guide Pads Type Drill Head



Unit (mm)

Drill Head Model	Drilling Range	Suitable Tube		Dimension			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT-3	15.60-16.70	BA4S-0097	14	12.6	10.8	40	100
BTA-Dxxxx-CT-3	17.71-18.90	BA4S-0099	16	14.5	12.5	40	100
BTA-Dxxxx-CT-3	18.91-20.00	BA4S-0000	17	15.5	13.5	44	100
BTA-Dxxxx-CT-3	20.01-21.80	BA4S-00	18	16	14	49	100
BTA-Dxxxx-CT-3	21.81-24.10	BA4S-01	20	18	16	52	100
BTA-Dxxxx-CT-3	24.11-26.00	BA4S-02	22	19.5	17.5	54	100

1 Flute with 3 Guide Pads Type Drill Head



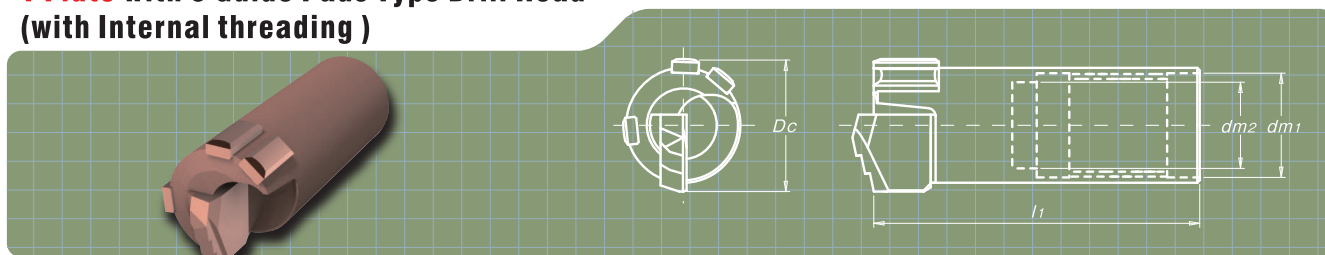
Unit (mm)

Drill Head Model	Drilling Range	Suitable Tube		Dimension			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT-T-3	15.60-16.70	BA4S-0097	14	12.6	10.8	40	100

CT Coated Drills: Suitable for Medium and High speed drilling with highly accuracy and longer tool's life. (CT coating is a very special Japanese technology coating)

Drill Heads Design with 3 Guide Pads(CT Coating)

1 Flute with 3 Guide Pads Type Drill Head (with Internal threading)



Unit (mm)

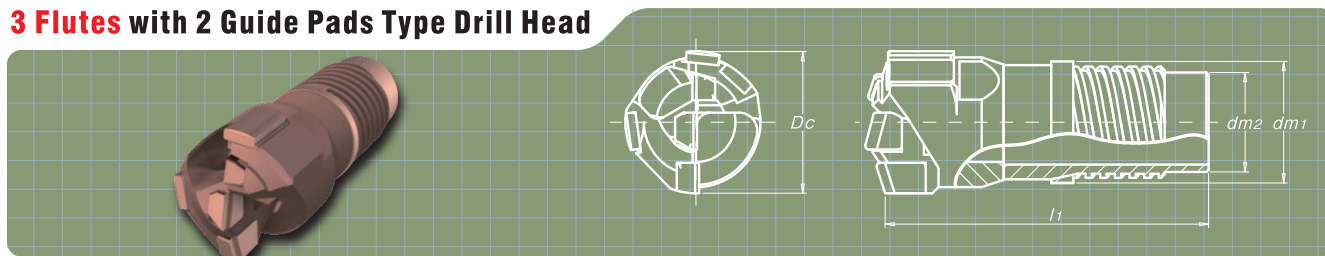
Drill Head Model	Drilling Range	Suitable Tube		Dimention			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT-E-3	15.51-16.00	BA1S-1301	13	12.4	10.8	40	100
BTA-Dxxxx-CT-E-3	16.01-16.50	BA1S-1302	13	12.7	11.1	40	100
BTA-Dxxxx-CT-E-3	16.51-17.25	BA1S-1401	14	13.4	11.8	40	100
BTA-Dxxxx-CT-E-3	17.26-18.00	BA1S-1402	14	13.7	12.1	40	100
BTA-Dxxxx-CT-E-3	18.01-19.00	BA1S-1500	15	14.4	12.8	40	100
BTA-Dxxxx-CT-E-3	19.01-19.50	BA1S-1650	16.5	15.4	13.8	40	100

Drill Heads Design with 2 Guide Pads(CT Coating)

B. Drill Heads Design with 2 Guide Pads(CT Coating)

Feature: With 2 guide pads, drill is able to reduce machining resistance, achieving fast and high-precision machining.

3 Flutes with 2 Guide Pads Type Drill Head



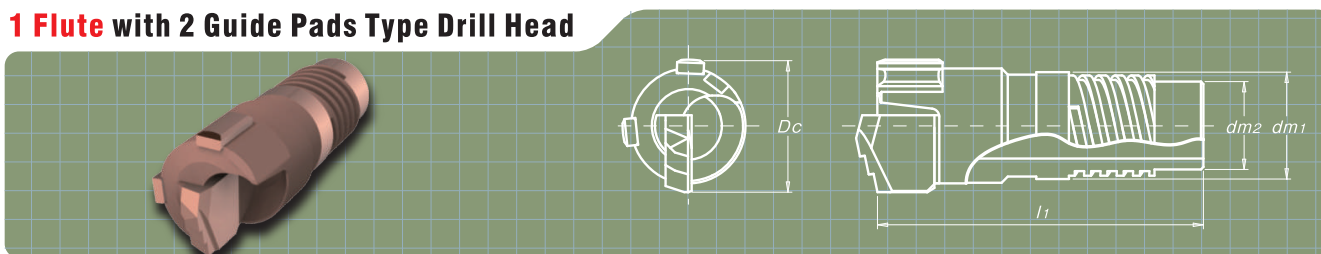
Unit (mm)

Drill Head Model	Drilling Range	Suitable Tube		Dimention			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT	15.60-16.70	BA4S-0097	14	12.6	10.8	40	100
BTA-Dxxxx-CT	17.71-18.90	BA4S-0099	16	14.5	12.5	40	100
BTA-Dxxxx-CT	18.91-20.00	BA4S-0000	17	15.5	13.5	44	100
BTA-Dxxxx-CT	20.01-21.80	BA4S-00	18	16	14	49	100
BTA-Dxxxx-CT	21.81-24.10	BA4S-01	20	18	16	52	100
BTA-Dxxxx-CT	24.11-26.00	BA4S-02	22	19.5	17.5	54	100

CT Coated Drills: Suitable for Medium and High speed drilling with highly accuracy and longer tool's life. (CT coating is a very special Japanese technology coating)

Drill Heads Design with 2 Guide Pads(CT Coating)

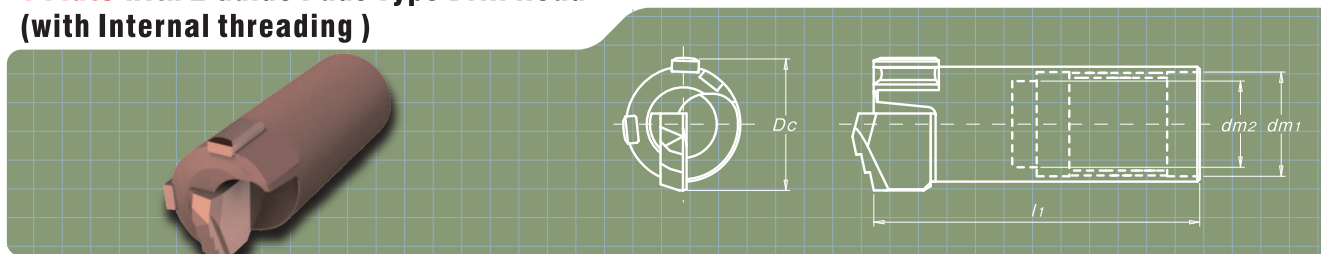
1 Flute with 2 Guide Pads Type Drill Head



Unit (mm)

Drill Head Model	Drilling Range	Suitable Tube		Dimension			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT-T	15.60-16.70	BA4S-0097	14	12.6	10.8	40	100

1 Flute with 2 Guide Pads Type Drill Head (with Internal threading)



Unit (mm)

Drill Head Model	Drilling Range	Suitable Tube		Dimension			
		Tube Model	Tube Dia(mm)	dm1(mm)	dm2(mm)	L1	List USD
BTA-Dxxxx-CT-E	15.51-16.00	BA1S-1301	13	12.4	10.8	40	100
BTA-Dxxxx-CT-E	16.01-16.50	BA1S-1302	13	12.7	11.1	40	100
BTA-Dxxxx-CT-E	16.51-17.25	BA1S-1401	14	13.4	11.8	40	100
BTA-Dxxxx-CT-E	17.26-18.00	BA1S-1402	14	13.7	12.1	40	100
BTA-Dxxxx-CT-E	18.01-19.00	BA1S-1500	15	14.4	12.8	40	100
BTA-Dxxxx-CT-E	19.01-19.50	BA1S-1650	16.5	15.4	13.8	40	100



Recommended Cutting Conditions

Machining data for BTA

Unit (mm)

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	Cutting speed V _c (m/min)	Ø15.60 - Ø20.00	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	70-120	0.08-0.15	
		>=0.25%C Annealed	650	190	2	70-120	0.08-0.15	
		<0.55%C Quenched and tempered	850	250	3	40-70	0.08-0.15	
		>=0.55%C Annealed	750	220	4	70-120	0.08-0.15	
	Low alloy steel and cast steel (Less than 5% of alloying elements)	Quenched and tempered	1000	300	5	55-100	0.08-0.12	
		Annealed	600	200	6	70-100	0.08-0.15	
		Quenched and tempered	930	275	7	55-100	0.08-0.12	
			1000	300	8	55-100	0.08-0.12	
			1200	350	9	55-100	0.08-0.12	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	50-85	0.08-0.15	
		Quenched and tempered	1100	325	11	55-100	0.08-0.12	
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	60-100	0.08-0.15	
		Martensitic	820	240	13	60-100	0.08-0.15	
		Austenitic	600	180	14	60-100	0.05-0.12	
K	Grey cast iron (GG)	Ferritic		160	15	60-100	0.06-0.13	
		Pearlitic		250	16	60-100	0.06-0.13	
	Cast iron nodular (GGG)	Ferritic		180	17	80-100	0.08-0.15	
		Pearlitic		260	18	80-100	0.08-0.15	
	Malleable cast iron	Ferritic		130	19	50-100	0.06-0.13	
Pearlitic			230	20	50-100	0.06-0.13		
N	Aluminum - wrought alloy	Not cureable		60	21	65-130	0.08-0.15	
		Cured		100	22	65-100	0.08-0.15	
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23	65-130	0.08-0.15
			Cured		90	24	65-130	0.08-0.15
		>12% Si	High temp.		130	25	65-130	0.08-0.15
	Copper alloys	>1% Pb	Free cutting		110	26	65-130	0.08-0.15
			Brass		90	27	65-130	0.08-0.15
			Electrolitic copper		100	28	65-130	0.08-0.15
	Non-metallic	Duroplastics, fiber plastics				29		
		Hard rubber				30		
S	High temp. alloys	Fe based	Annealed		200	31	10-50	0.06-0.12
			Cured		280	32	10-50	0.06-0.12
		Ni or	Annealed		250	33	10-50	0.06-0.12
		Co based	Cured		350	34	10-50	0.06-0.12
	Titanium, Ti alloys	Cast			320	35	10-50	0.06-0.12
				Rm 400		36	30-50	0.05-0.10
H	Hardened steel	Alpha+beta alloys cured	Rm 1050		37	30-50	0.05-0.10	
H	Hardened steel	Hardened		55HRC	38			
		Hardened		60HRC	39			
	Chilled cast iron	Cast		400	40			
Cast iron nodular	Hardened			55HRC	41			

■ Steel
 ■ Stainless steel
 ■ Cast iron
 ■ Nonferrous
 ■ High temp. alloys
 ■ Hardened steel

Carbide Drills
 Hss Drills
 U Drills
 Head Exchangable Drills
 Deep Hole Drills
 CDR 45° Chamfer Cutter
 Non-standard Drill made

Carbide Drills

800 SERIES

Hss Drills

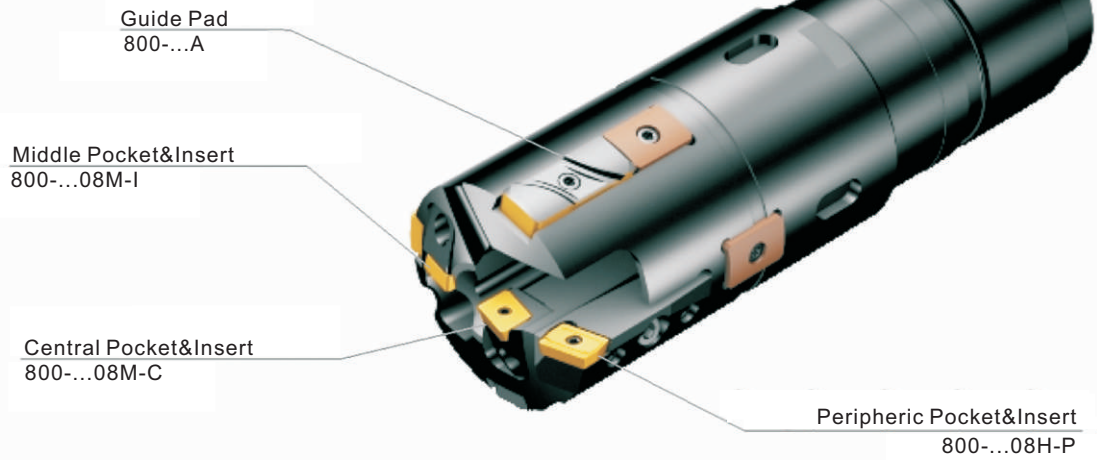
U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45 Chamfer Cutter

Non-standard Drill made



424.10 SERIES



P25C: It shows good performance when drilling steel, cast iron.

M25C: Not only has good performance on drilling the common steels. But also has a long tool life on drilling some special stainless steel, special high speed steel, special titanium alloy, special nickel base alloy and other difficult materials, such as superalloys for aerospace and military use.

TOTIME 800&424.10 SERIES INSERTS 2019-2020

● :Continuous Cutting

800 & 424.10 INSERTS	P	Steel	●	●	●	●	●
	M	Stainless	○	●	●	●	●
	K	Cast Iron	●	●	●	●	●
	S	Superalloys	○	●	●	●	●
	H	Hard Materials	○	●	●	●	●

Chipbreaker	Designation	P25C (Coating ●)	M25C (Coating ●)	G25C (Coating ●)	PM10	PM01
	800-050308M-C-G	●	●	●		
	800-06T308M-C-G	●	●	●		
	800-08T308M-C-G	●	●	●		
	800-10T308M-C-G	●	●	●		
	800-12T308M-C-G	●	●	●		
	800-050308M-C-L	●	●	●		
	800-06T308M-C-L	●	●	●		
	800-08T308M-C-L	●	●	●		
	800-10T308M-C-L	●	●	●		
	800-12T308M-C-L	●	●	●		
	800-050308M-I-G	●	●	●		
	800-06T308M-I-G	●	●	●		
	800-08T308M-I-G	●	●	●		
	800-12T308M-I-G	●	●	●		
	800-050308M-I-L	●	●	●		
	800-06T308M-I-L	●	●	●		
	800-08T308M-I-L	●	●	●		
	800-12T308M-I-L	●	●	●		
	800-060308H-P-G	●	●	●		
	800-08T308H-P-G	●	●	●		
	800-09T308H-P-G	●	●	●		
	800-11T308H-P-G	●	●	●		
	800-060308H-P-L	●	●	●		
	800-08T308H-P-L	●	●	●		
	800-09T308H-P-L	●	●	●		
	800-11T308H-P-L	●	●	●		
	R424.9-13T308-22	●	●	●		
	R424.9-13T308-23	●	●	●		
	R424.9-180608-22	●	●	●		
	R424.9-180608-23	●	●	●		
	TPMT16T312R-22	●	●	●		
	TPMT16T312TR-23	●	●	●		
	TPMT220612R-22	●	●	●		
	TPMT220612TR-23	●	●	●		
	800-06A				●	●
	800-07A				●	●
	800-08A				●	●
	800-10A				●	●
	800-12A				●	●
	800-14D065				●	●
	800-16D075				●	●
	800-18D085				●	●
	800-20D100				●	●
	800-22D110				●	●
	800-24D120				●	●
	800-26D130				●	●

Carbide Drills

Hss Drills

U Drills

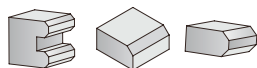
Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

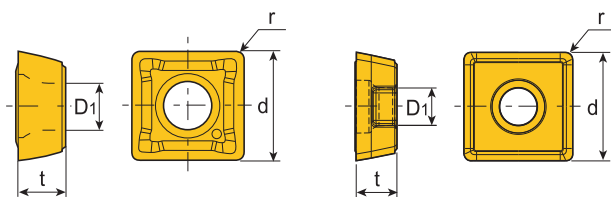
Non-standard Drill made

CDR45° Chamfer Cutter



Model No.	Size						Blade type	Screw	Wrench
	D	D1	d	L1	L2	L			
CDR1106C10-1T	11	6	10	17	83	100	SP□X050204	TS2003	TK06
CDR1510C12-2T	15	10	12	20	100	120	SP□X050204	TS2003	TK06
CDR1711C16-3T	17	11	16	25	125	150	SP□X050204	TS2003	TK06
CDR1913C16-3T	19	13	16	30	120	150	SP□X050204	TS2003	TK06
CDR2418C20-4T	24	18	20	35	115	150	SP□X050204	TS2003	TK06
CDR2216C16-3T	22	16	16	30	80	120	SP□X060204	TS20205	TK08
CDR2717C20-3T	27	17	20	30	80	120	SP□X07T308	TS2511	TK08
CDR3019C20-2T	30	19	20	40	110	150	SP□X090408	TS3504	TK15
CDR4029C25-3T	40	29	25	40	110	150	SP□X090408	TS3504	TK15
CDR5039C25-4T	50	39	25	40	110	150	SP□X090408	TS3504	TK15
CDR2712C20-1T	27	12	20	40	110	150	SP□X140512	TS5002	TK20
CDR4025C25-2T	40	25	25	40	140	180	SP□X140512	TS5002	TK20
CDR4732C32-3T	47	32	32	40	160	200	SP□X140512	TS5002	TK20

※ CDR2712C20-1T/CDR4025C25-2T/CDR4732C32-3T MOQ 5P.



Unit (mm)

Size	Dimension (mm)			
	d	t	r	D1
05	5.00	2.38	0.4	2.25
06	6.00	2.38	0.4	2.61
07	7.94	3.97	0.8	2.85
09	9.80	4.30	0.8	4.05
14	14.30	5.20	1.2	5.75

Insert	Designation	Material		List USD
		Ti620	TN200	
	SPMX050204	●		\$7.40
	SPMX060204	●		\$7.60
	SPMX07T308	●		\$8.20
	SPMX090408	●		\$9.80
	SPMX140512	●		\$12.70
	SPGX050204		●	\$8.90
	SPGX060204		●	\$8.90
	SPGX07T308		●	\$9.40
	SPGX090408		●	\$10.20
	SPGX140512		●	\$13.20

Recommended Cutting Conditions

	Material	Hardness	Insert Grade	Cutting speed (m/min)	Feed/T(mm/t)
					Face Milling
P	Low alloy steel Cast steel	≤HB180	Tl620	150 (100-200)	0.05-0.25
	High carbon steel Alloy steel	HB180-280	Tl620	130 (100-180)	0.05-0.25
	Alloy tool steel	HB280-350	Tl620	100 (80-150)	0.05-0.25
M	Stainless steel	≤HB270	Tl620	100 (80-150)	0.05-0.20
K	Grey cast iron	HB180-250	Tl620	130 (100-180)	0.13-0.30
N	Aluminium alloy	-	TN200	200-320	0.06-0.20
	Copper alloy	-	TN200	200-320	0.06-0.20

Carbide Drills

Hss Drills

U Drills

Head Exchangable Drills

Deep Hole Drills

CDR 45° Chamfer Cutter

Non-standard Drill made

Non-standard Drill made

Inquiry

Order

Company:	Customer Number:
Contact Person:	Tel:
M.B:	Fax:
Add:	E-mail:

Order Quantity _____
 Delivery _____
 Order No. _____

Processing conditions and tools information

Hole:

Through hole Blind hole
 Aperture _____mm , Depth _____mm

Material to be processed

- | | |
|--|---|
| <input type="checkbox"/> Carbon | <input type="checkbox"/> Copper Alloy |
| <input type="checkbox"/> Alloy Steel | <input type="checkbox"/> Hardened Steel |
| <input type="checkbox"/> Stainless steel | <input type="checkbox"/> Nickel Alloy |
| <input type="checkbox"/> Cast Iron | <input type="checkbox"/> Aluminum |
| <input type="checkbox"/> Titanium | <input type="checkbox"/> Other |

Processing methods

Wet Dry
 Hardness (HRC, HB) _____

Cooling

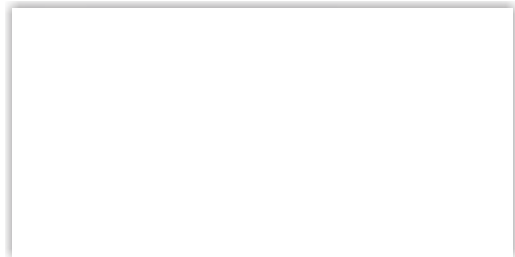
External Cooling Internal Cooling
 Tensile strength (N/mm²) _____

Equipment _____

Flute modality: Straight Helical

Customized Non-Standard Drill is Available.

Non-standard Drill Drawing and Requirement of Design





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