C

Solid Carbide Drill

G400 Series .....C01~C16
G300 Series.....C17~C20
Micro Series C21
DT Series C22
DC Series C23
DR Series C24
RS Series C25
Cutting Condition.....C26~C31

G400 Series

- 3XD is available in diameters from 2.00mm to 20.00mm in 0.1mm and various increments.
- 5XD is available in diameters from 3.00mm to 20.00mm in 0.1mm and various increments.
- 7XD is available in diameters from 3.00mm to 17.00mm in 0.1mm and various increments.
- 12XD is available in diameters from 3.00mm to 12.00mm 0.1mm and various increments.
- With coolant and non-coolant holes.
- With a stronger 140° Tip Angle.
- Our S-Fire Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for Alloy Steel, Stainless Steel and Cast Iron. (Please refer to Catalog).

G300 Series

- 3XD is available in diameters from 2.00mm to 16.00mm in 0.1mm and various increments.
- 5XD is available in diameters from 5.00mm to 16.00mm in 0.1mm and various increments.
- With a stronger 130° Tip Angle.
- Our S-Fire Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for Alloy Steel, Stainless Steel and Cast Iron. (Please refer to Catalog).

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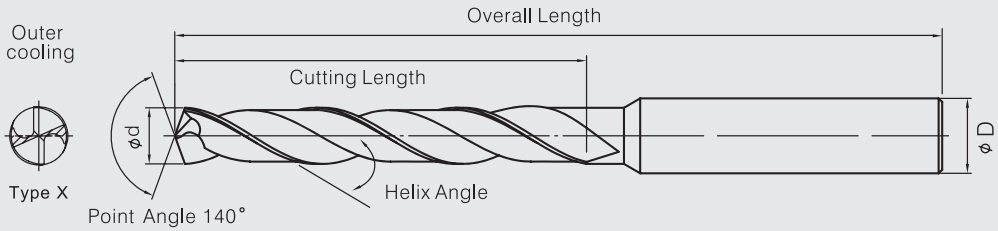
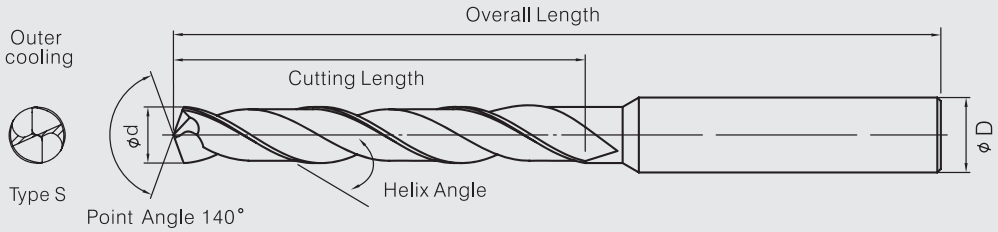
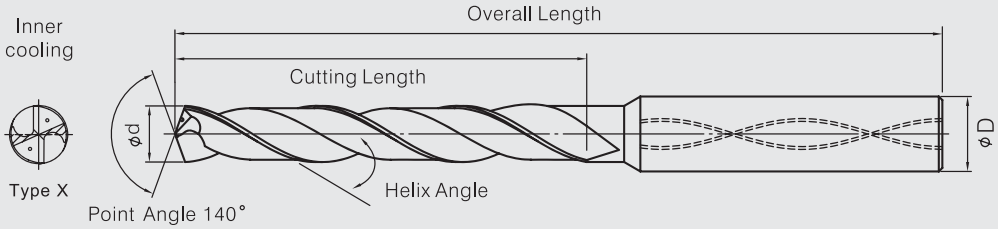
Solid Carbide Drill

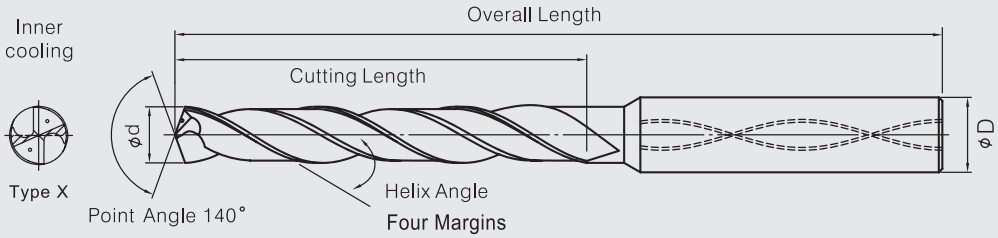
Appearance	Series	Code No.	ØRange	Degree Tip Angle	Page
G400 Series High Performance Drills (EndMill Shank)					
	HIGH PERFORMANCE DRILLS - 3×D	DSTMA2, DSTNA2	Ø2~Ø20	140	C01~C03
	HIGH PERFORMANCE DRILLS - 5×D	DSFMA2, DSFNA2	Ø3~Ø20	140	C04~C06
	HIGH PERFORMANCE DRILLS - 3×D With Coolant Hole	DSTCA2, DSTHA2	Ø2~Ø20	140	C07~C09
	HIGH PERFORMANCE DRILLS - 5×D With Coolant Hole	DSFCA2, DSFHA2	Ø3~Ø20	140	C10~C12
	HIGH PERFORMANCE DRILLS - 7×D With Coolant Hole	DSSCF2, DSSHF2	Ø3~Ø16	140	C13~C14
	HIGH PERFORMANCE DRILLS - 12×D With Coolant Hole	DSZHF2	Ø3~Ø12	140	C15~C16
G300 Series General Drills (Straight Shank)					
	GENERAL PURPOSE DRILLS - 3×D	DGTNA2	Ø2~Ø16	130	C17~C18
	GENERAL PURPOSE DRILLS - 5×D	DGFNA2	Ø5~Ø16	130	C19~C20
Micro Series MICRO DRILLS (Endmill Shank)					
	MICRO DRILLS - Shank Dia. 3mm	DGMNB2	Ø0.5~Ø3	130	C21
DT Series Spotting Drills					
	SPOTTING DRILLS	DTTNA2	Ø3~Ø16	90 120	C22
	CARBIDE SPOTTING DRILLS - LONG SHANK	DTLNA2	Ø4~Ø16	90 120	C22
DC Series Center Drills					
	CENTER DRILLS (60°&90° Point Angle)	DCTNA2	Ø1~Ø5	120	C23
DR Series Straight Flute Drills					
	STRAIGHT FLUTE DRILLS - 3×D	DRTNA2	Ø4~Ø16	130	C24
	STRAIGHT FLUTE DRILLS - 5×D	DRFNA2	Ø4~Ø16	130	C24
RS Series Machine Reamers					
	MACHINE REAMERS	RSTNA4, RSTNA6	Ø3~Ø12	0	C25

Endmill Shank

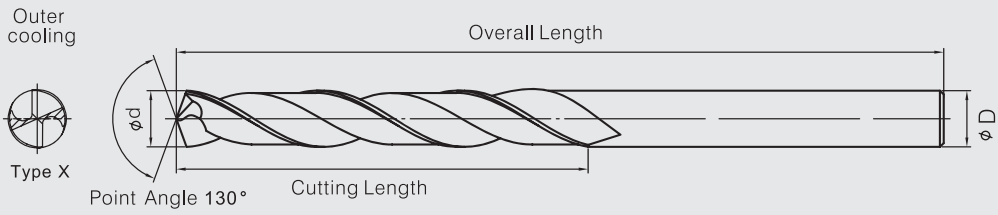








Straight Shank



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MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

DSTMA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTMA202006U	2.00	20.0	50	4
DSTMA202106U	2.10	20.0	50	4
DSTMA202206U	2.20	20.0	50	4
DSTMA202306U	2.30	20.0	50	4
DSTMA202406U	2.40	20.0	50	4
DSTMA202506U	2.50	20.0	50	4
DSTMA202606U	2.60	20.0	50	4
DSTMA202706U	2.70	20.0	50	4
DSTMA202806U	2.80	20.0	50	4
DSTMA202906U	2.90	20.0	50	4
DSTMA203006U	3.00	20.0	60	4
DSTMA203106U	3.10	20.0	60	4
DSTMA203176U	3.175	20.0	60	4
DSTMA203206U	3.20	20.0	60	4
DSTMA203256U	3.25	20.0	60	4
DSTMA203306U	3.30	20.0	60	4
DSTMA203406U	3.40	20.0	60	4
DSTMA203506U	3.50	20.0	60	4
DSTMA203606U	3.60	20.0	60	4
DSTMA203706U	3.70	20.0	60	4
DSTMA203806U	3.80	24.0	60	4
DSTMA203906U	3.90	24.0	60	4
DSTMA203976U	3.97	24.0	60	4
DSTNA203006U	3.00	20.0	60	6
DSTNA203106U	3.10	20.0	60	6
DSTNA203176U	3.175	20.0	60	6
DSTNA203206U	3.20	20.0	60	6
DSTNA203256U	3.25	20.0	60	6
DSTNA203306U	3.30	20.0	60	6
DSTNA203406U	3.40	20.0	60	6
DSTNA203506U	3.50	20.0	60	6
DSTNA203606U	3.60	20.0	60	6
DSTNA203706U	3.70	20.0	60	6
DSTNA203806U	3.80	24.0	60	6
DSTNA203906U	3.90	24.0	60	6
DSTNA203976U	3.97	24.0	60	6
DSTNA204006U	4.00	24.0	60	6
DSTNA204106U	4.10	24.0	60	6
DSTNA204206U	4.20	24.0	60	6
DSTNA204306U	4.30	24.0	60	6
DSTNA204406U	4.40	24.0	60	6
DSTNA204506U	4.50	24.0	60	6
DSTNA204606U	4.60	24.0	60	6
DSTNA204656U	4.65	24.0	60	6
DSTNA204706U	4.70	24.0	60	6
DSTNA204806U	4.80	28.0	60	6
DSTNA204906U	4.90	28.0	60	6

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 1 (Page:C26)

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MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

DSTMA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 1 (Page:C26)

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTNA205006U	5.00	28.0	60	6
DSTNA205106U	5.10	28.0	60	6
DSTNA205206U	5.20	28.0	60	6
DSTNA205306U	5.30	28.0	60	6
DSTNA205406U	5.40	28.0	60	6
DSTNA205506U	5.50	28.0	60	6
DSTNA205566U	5.56	28.0	60	6
DSTNA205606U	5.60	28.0	60	6
DSTNA205706U	5.70	28.0	60	6
DSTNA205806U	5.80	28.0	60	6
DSTNA205906U	5.90	28.0	60	6
DSTNA206006U	6.00	28.0	60	6
DSTNA206106U	6.10	34.0	75	8
DSTNA206206U	6.20	34.0	75	8
DSTNA206306U	6.30	34.0	75	8
DSTNA206356U	6.35	34.0	75	8
DSTNA206406U	6.40	34.0	75	8
DSTNA206506U	6.50	34.0	75	8
DSTNA206606U	6.60	34.0	75	8
DSTNA206706U	6.70	34.0	75	8
DSTNA206806U	6.80	34.0	75	8
DSTNA206906U	6.90	34.0	75	8
DSTNA207006U	7.00	34.0	75	8
DSTNA207106U	7.10	41.0	75	8
DSTNA207206U	7.20	41.0	75	8
DSTNA207306U	7.30	41.0	75	8
DSTNA207406U	7.40	41.0	75	8
DSTNA207506U	7.50	41.0	75	8
DSTNA207606U	7.60	41.0	75	8
DSTNA207706U	7.70	41.0	75	8
DSTNA207806U	7.80	41.0	75	8
DSTNA207906U	7.90	41.0	75	8
DSTNA208006U	8.00	41.0	75	8
DSTNA208106U	8.10	47.0	89	10
DSTNA208206U	8.20	47.0	89	10
DSTNA208306U	8.30	47.0	89	10
DSTNA208406U	8.40	47.0	89	10
DSTNA208506U	8.50	47.0	89	10
DSTNA208606U	8.60	47.0	89	10
DSTNA208706U	8.70	47.0	89	10
DSTNA208806U	8.80	47.0	89	10
DSTNA208906U	8.90	47.0	89	10
DSTNA209006U	9.00	47.0	89	10
DSTNA209106U	9.10	47.0	89	10
DSTNA209206U	9.20	47.0	89	10
DSTNA209256U	9.25	47.0	89	10
DSTNA209306U	9.30	47.0	89	10
DSTNA209406U	9.40	47.0	89	10
DSTNA209506U	9.50	47.0	89	10
DSTNA209606U	9.60	47.0	89	10
DSTNA209706U	9.70	47.0	89	10
DSTNA209806U	9.80	47.0	89	10
DSTNA209906U	9.90	47.0	89	10

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MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

DSTMA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 1 (Page:C26)

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTNA210006U	10.00	47.0	89	10
DSTNA210106U	10.10	55.0	100	12
DSTNA210206U	10.20	55.0	100	12
DSTNA210306U	10.30	55.0	100	12
DSTNA210406U	10.40	55.0	100	12
DSTNA210506U	10.50	55.0	100	12
DSTNA210606U	10.60	55.0	100	12
DSTNA210706U	10.70	55.0	100	12
DSTNA210806U	10.80	55.0	100	12
DSTNA210906U	10.90	55.0	100	12
DSTNA211006U	11.00	55.0	100	12
DSTNA211106U	11.10	55.0	100	12
DSTNA211206U	11.20	55.0	100	12
DSTNA211306U	11.30	55.0	100	12
DSTNA211406U	11.40	55.0	100	12
DSTNA211506U	11.50	55.0	100	12
DSTNA211606U	11.60	55.0	100	12
DSTNA211706U	11.70	55.0	100	12
DSTNA211806U	11.80	55.0	100	12
DSTNA211906U	11.90	55.0	100	12
DSTNA212006U	12.00	55.0	100	12
DSTNA212106U	12.10	60.0	100	14
DSTNA212206U	12.20	60.0	100	14
DSTNA212306U	12.30	60.0	100	14
DSTNA212406U	12.40	60.0	100	14
DSTNA212506U	12.50	60.0	100	14
DSTNA212606U	12.60	60.0	100	14
DSTNA212706U	12.70	60.0	100	14
DSTNA212806U	12.80	60.0	100	14
DSTNA212906U	12.90	60.0	100	14
DSTNA213006U	13.00	60.0	100	14
DSTNA213206U	13.20	60.0	100	14
DSTNA213306U	13.30	60.0	100	14
DSTNA213506U	13.50	60.0	100	14
DSTNA213706U	13.70	60.0	100	14
DSTNA213806U	13.80	60.0	100	14
DSTNA214006U	14.00	60.0	100	14
DSTNA214206U	14.20	65.0	107	16
DSTNA214306U	14.30	65.0	107	16
DSTNA214406U	14.40	65.0	107	16
DSTNA214506U	14.50	65.0	107	16
DSTNA214706U	14.70	65.0	107	16
DSTNA215006U	15.00	65.0	107	16
DSTNA215206U	15.20	65.0	107	16
DSTNA215506U	15.50	65.0	107	16
DSTNA215606U	15.60	65.0	107	16
DSTNA215706U	15.70	65.0	107	16
DSTNA215806U	15.80	65.0	107	16
DSTNA216006U	16.00	65.0	107	16
DSTNA216506U	16.50	73.0	123	18
DSTNA217006U	17.00	73.0	123	18
DSTNA217506U	17.50	73.0	123	18
DSTNA218006U	18.00	73.0	123	18
DSTNA218506U	18.50	79.0	130	20
DSTNA219006U	19.00	79.0	130	20
DSTNA219506U	19.50	79.0	130	20
DSTNA220006U	20.00	79.0	130	20

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MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

DSFMA2
DSFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 2 (Page:C26)

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFMA203006U	3.00	28.0	60	4
DSFMA203176U	3.175	28.0	60	4
DSFMA203256U	3.25	28.0	60	4
DSFMA203306U	3.30	28.0	60	4
DSFMA203406U	3.40	28.0	60	4
DSFMA203506U	3.50	28.0	60	4
DSFMA203576U	3.57	28.0	60	4
DSFMA203706U	3.70	36.0	75	4
DSFMA203806U	3.80	36.0	75	4
DSFMA203976U	3.97	36.0	75	4
DSFNA203006U	3.00	28.0	60	6
DSFNA203176U	3.175	28.0	60	6
DSFNA203256U	3.25	28.0	60	6
DSFNA203306U	3.30	28.0	60	6
DSFNA203406U	3.40	28.0	60	6
DSFNA203506U	3.50	28.0	60	6
DSFNA203576U	3.57	28.0	60	6
DSFNA203706U	3.70	36.0	75	6
DSFNA203806U	3.80	36.0	75	6
DSFNA203976U	3.97	36.0	75	6
DSFNA204006U	4.00	36.0	75	6
DSFNA204106U	4.10	36.0	75	6
DSFNA204206U	4.20	36.0	75	6
DSFNA204306U	4.30	36.0	75	6
DSFNA204406U	4.40	36.0	75	6
DSFNA204506U	4.50	36.0	75	6
DSFNA204606U	4.60	36.0	75	6
DSFNA204656U	4.65	36.0	75	6
DSFNA204706U	4.70	36.0	75	6
DSFNA204806U	4.80	44.0	75	6
DSFNA204906U	4.90	44.0	75	6
DSFNA205006U	5.00	44.0	75	6
DSFNA205106U	5.10	44.0	75	6
DSFNA205206U	5.20	44.0	75	6
DSFNA205306U	5.30	44.0	75	6
DSFNA205406U	5.40	44.0	75	6
DSFNA205506U	5.50	44.0	75	6
DSFNA205556U	5.55	44.0	75	6
DSFNA205606U	5.60	44.0	75	6
DSFNA205706U	5.70	44.0	75	6
DSFNA205806U	5.80	44.0	75	6
DSFNA205906U	5.90	44.0	75	6
DSFNA206006U	6.00	44.0	75	6
DSFNA206106U	6.10	53.0	91	8
DSFNA206206U	6.20	53.0	91	8
DSFNA206306U	6.30	53.0	91	8
DSFNA206406U	6.40	53.0	91	8
DSFNA206506U	6.50	53.0	91	8
DSFNA206606U	6.60	53.0	91	8
DSFNA206706U	6.70	53.0	91	8
DSFNA206806U	6.80	53.0	91	8
DSFNA206906U	6.90	53.0	91	8

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MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

DSFMA2
DSFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 2 (Page:C26)

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFNA207006U	7.00	53.0	91	8
DSFNA207106U	7.10	53.0	91	8
DSFNA207206U	7.20	53.0	91	8
DSFNA207306U	7.30	53.0	91	8
DSFNA207406U	7.40	53.0	91	8
DSFNA207506U	7.50	53.0	91	8
DSFNA207606U	7.60	53.0	91	8
DSFNA207706U	7.70	53.0	91	8
DSFNA207806U	7.80	53.0	91	8
DSFNA207906U	7.90	53.0	91	8
DSFNA208006U	8.00	53.0	91	8
DSFNA208106U	8.10	61.0	100	10
DSFNA208206U	8.20	61.0	100	10
DSFNA208306U	8.30	61.0	100	10
DSFNA208406U	8.40	61.0	100	10
DSFNA208506U	8.50	61.0	100	10
DSFNA208606U	8.60	61.0	100	10
DSFNA208706U	8.70	61.0	100	10
DSFNA208806U	8.80	61.0	100	10
DSFNA208906U	8.90	61.0	100	10
DSFNA209006U	9.00	61.0	100	10
DSFNA209106U	9.10	61.0	100	10
DSFNA209206U	9.20	61.0	100	10
DSFNA209256U	9.25	61.0	100	10
DSFNA209306U	9.30	61.0	100	10
DSFNA209406U	9.40	61.0	100	10
DSFNA209506U	9.50	61.0	100	10
DSFNA209606U	9.60	61.0	100	10
DSFNA209706U	9.70	61.0	100	10
DSFNA209806U	9.80	61.0	100	10
DSFNA209906U	9.90	61.0	100	10
DSFNA210006U	10.00	61.0	100	10
DSFNA210106U	10.10	71.0	118	12
DSFNA210206U	10.20	71.0	118	12
DSFNA210306U	10.30	71.0	118	12
DSFNA210406U	10.40	71.0	118	12
DSFNA210506U	10.50	71.0	118	12
DSFNA210606U	10.60	71.0	118	12
DSFNA210706U	10.70	71.0	118	12
DSFNA210806U	10.80	71.0	118	12
DSFNA210906U	10.90	71.0	118	12
DSFNA211006U	11.00	71.0	118	12
DSFNA211106U	11.10	71.0	118	12
DSFNA211206U	11.20	71.0	118	12
DSFNA211306U	11.30	71.0	118	12
DSFNA211406U	11.40	71.0	118	12
DSFNA211506U	11.50	71.0	118	12
DSFNA211606U	11.60	71.0	118	12
DSFNA211706U	11.70	71.0	118	12
DSFNA211806U	11.80	71.0	118	12
DSFNA211906U	11.90	71.0	118	12

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

DSFMA2
DSFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFNA212006U	12.00	71.0	118	12
DSFNA212106U	12.10	77.0	125	14
DSFNA212206U	12.20	77.0	125	14
DSFNA212306U	12.30	77.0	125	14
DSFNA212406U	12.40	77.0	125	14
DSFNA212506U	12.50	77.0	125	14
DSFNA212606U	12.60	77.0	125	14
DSFNA212706U	12.70	77.0	125	14
DSFNA212806U	12.80	77.0	125	14
DSFNA212906U	12.90	77.0	125	14
DSFNA213006U	13.00	77.0	125	14
DSFNA213106U	13.10	77.0	125	14
DSFNA213306U	13.30	77.0	125	14
DSFNA213406U	13.40	77.0	125	14
DSFNA213506U	13.50	77.0	125	14
DSFNA213606U	13.60	77.0	125	14
DSFNA213706U	13.70	77.0	125	14
DSFNA213806U	13.80	77.0	125	14
DSFNA213906U	13.90	77.0	125	14
DSFNA214006U	14.00	77.0	125	14
DSFNA214106U	14.10	83.0	125	16
DSFNA214206U	14.20	83.0	125	16
DSFNA214306U	14.30	83.0	125	16
DSFNA214406U	14.40	83.0	125	16
DSFNA214506U	14.50	83.0	125	16
DSFNA214606U	14.60	83.0	125	16
DSFNA214706U	14.70	83.0	125	16
DSFNA214806U	14.80	83.0	125	16
DSFNA214906U	14.90	83.0	125	16
DSFNA215006U	15.00	83.0	125	16
DSFNA215106U	15.10	83.0	125	16
DSFNA215206U	15.20	83.0	125	16
DSFNA215306U	15.30	83.0	125	16
DSFNA215406U	15.40	83.0	125	16
DSFNA215506U	15.50	83.0	125	16
DSFNA215606U	15.60	83.0	125	16
DSFNA215706U	15.70	83.0	125	16
DSFNA215806U	15.80	83.0	125	16
DSFNA215906U	15.90	83.0	125	16
DSFNA216006U	16.00	83.0	125	16
DSFNA216506U	16.50	93.0	150	18
DSFNA217006U	17.00	93.0	150	18
DSFNA217506U	17.50	93.0	150	18
DSFNA218006U	18.00	93.0	150	18
DSFNA218506U	18.50	101.0	150	20
DSFNA219006U	19.00	101.0	150	20
DSFNA219506U	19.50	101.0	150	20
DSFNA220006U	20.00	101.0	150	20

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 2 (Page:C26)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

With Coolant Hole

DSTCA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTCA202006U	2.00	20.0	50	3
DSTCA203006U	3.00	20.0	50	4
DSTCA203106U	3.10	20.0	50	4
DSTCA203176U	3.175	20.0	50	4
DSTCA203206U	3.20	20.0	50	4
DSTCA203256U	3.25	20.0	50	4
DSTCA203306U	3.30	20.0	50	4
DSTCA203406U	3.40	20.0	50	4
DSTCA203506U	3.50	20.0	50	4
DSTCA203606U	3.60	20.0	50	4
DSTCA203706U	3.70	20.0	50	4
DSTCA203806U	3.80	24.0	60	4
DSTCA203906U	3.90	24.0	60	4
DSTCA203976U	3.97	24.0	60	4
DSTCA204006U	4.00	24.0	60	4
DSTHA204106U	4.10	24.0	60	6
DSTHA204206U	4.20	24.0	60	6
DSTHA204306U	4.30	24.0	60	6
DSTHA204406U	4.40	24.0	60	6
DSTHA204506U	4.50	24.0	60	6
DSTHA204606U	4.60	24.0	60	6
DSTHA204656U	4.65	24.0	60	6
DSTHA204706U	4.70	24.0	60	6
DSTHA204806U	4.80	28.0	60	6
DSTHA204906U	4.90	28.0	60	6
DSTHA205006U	5.00	28.0	60	6
DSTHA205106U	5.10	28.0	60	6
DSTHA205206U	5.20	28.0	60	6
DSTHA205306U	5.30	28.0	60	6
DSTHA205406U	5.40	28.0	60	6
DSTHA205506U	5.50	28.0	60	6
DSTHA205566U	5.56	28.0	60	6
DSTHA205606U	5.60	28.0	60	6
DSTHA205706U	5.70	28.0	60	6
DSTHA205806U	5.80	28.0	60	6
DSTHA205906U	5.90	28.0	60	6
DSTHA206006U	6.00	28.0	60	6
DSTHA206106U	6.10	34.0	75	8
DSTHA206206U	6.20	34.0	75	8
DSTHA206306U	6.30	34.0	75	8
DSTHA206356U	6.35	34.0	75	8
DSTHA206406U	6.40	34.0	75	8
DSTHA206506U	6.50	34.0	75	8
DSTHA206606U	6.60	34.0	75	8
DSTHA206706U	6.70	34.0	75	8
DSTHA206806U	6.80	34.0	75	8
DSTHA206906U	6.90	34.0	75	8

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 3 (Page:C27)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

With Coolant Hole

DSTCA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTHA207006U	7.00	34.0	75	8
DSTHA207106U	7.10	41.0	75	8
DSTHA207206U	7.20	41.0	75	8
DSTHA207306U	7.30	41.0	75	8
DSTHA207406U	7.40	41.0	75	8
DSTHA207506U	7.50	41.0	75	8
DSTHA207606U	7.60	41.0	75	8
DSTHA207706U	7.70	41.0	75	8
DSTHA207806U	7.80	41.0	75	8
DSTHA207906U	7.90	41.0	75	8
DSTHA208006U	8.00	41.0	75	8
DSTHA208106U	8.10	47.0	89	10
DSTHA208206U	8.20	47.0	89	10
DSTHA208306U	8.30	47.0	89	10
DSTHA208406U	8.40	47.0	89	10
DSTHA208506U	8.50	47.0	89	10
DSTHA208606U	8.60	47.0	89	10
DSTHA208706U	8.70	47.0	89	10
DSTHA208806U	8.80	47.0	89	10
DSTHA208906U	8.90	47.0	89	10
DSTHA209006U	9.00	47.0	89	10
DSTHA209106U	9.10	47.0	89	10
DSTHA209206U	9.20	47.0	89	10
DSTHA209256U	9.25	47.0	89	10
DSTHA209306U	9.30	47.0	89	10
DSTHA209406U	9.40	47.0	89	10
DSTHA209506U	9.50	47.0	89	10
DSTHA209606U	9.60	47.0	89	10
DSTHA209706U	9.70	47.0	89	10
DSTHA209806U	9.80	47.0	89	10
DSTHA209906U	9.90	47.0	89	10
DSTHA210006U	10.00	47.0	89	10
DSTHA210106U	10.10	55.0	100	12
DSTHA210206U	10.20	55.0	100	12
DSTHA210306U	10.30	55.0	100	12
DSTHA210406U	10.40	55.0	100	12
DSTHA210506U	10.50	55.0	100	12
DSTHA210606U	10.60	55.0	100	12
DSTHA210706U	10.70	55.0	100	12
DSTHA210806U	10.80	55.0	100	12
DSTHA210906U	10.90	55.0	100	12
DSTHA211006U	11.00	55.0	100	12
DSTHA211106U	11.10	55.0	100	12
DSTHA211206U	11.20	55.0	100	12
DSTHA211306U	11.30	55.0	100	12
DSTHA211406U	11.40	55.0	100	12
DSTHA211506U	11.50	55.0	100	12
DSTHA211606U	11.60	55.0	100	12
DSTHA211706U	11.70	55.0	100	12
DSTHA211806U	11.80	55.0	100	12
DSTHA211906U	11.90	55.0	100	12

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 3 (Page:C27)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 3×D

With Coolant Hole

DSTCA2
DSTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSTHA212006U	12.00	55.0	100	12
DSTHA212106U	12.10	60.0	100	14
DSTHA212206U	12.20	60.0	100	14
DSTHA212306U	12.30	60.0	100	14
DSTHA212406U	12.40	60.0	100	14
DSTHA212506U	12.50	60.0	100	14
DSTHA212606U	12.60	60.0	100	14
DSTHA212706U	12.70	60.0	100	14
DSTHA212806U	12.80	60.0	100	14
DSTHA212906U	12.90	60.0	100	14
DSTHA213006U	13.00	60.0	100	14
DSTHA213206U	13.20	60.0	100	14
DSTHA213306U	13.30	60.0	100	14
DSTHA213506U	13.50	60.0	100	14
DSTHA213706U	13.70	60.0	100	14
DSTHA213806U	13.80	60.0	100	14
DSTHA214006U	14.00	60.0	100	14
DSTHA214206U	14.20	65.0	100	16
DSTHA214306U	14.30	65.0	100	16
DSTHA214406U	14.40	65.0	100	16
DSTHA214506U	14.50	65.0	100	16
DSTHA214706U	14.70	65.0	100	16
DSTHA215006U	15.00	65.0	100	16
DSTHA215206U	15.20	65.0	100	16
DSTHA215506U	15.50	65.0	100	16
DSTHA215606U	15.60	65.0	100	16
DSTHA215706U	15.70	65.0	100	16
DSTHA215806U	15.80	65.0	100	16
DSTHA216006U	16.00	65.0	100	16
DSTHA216506U	16.50	73.0	150	18
DSTHA217006U	17.00	73.0	150	18
DSTHA217506U	17.50	73.0	150	18
DSTHA218006U	18.00	73.0	150	18
DSTHA218506U	18.50	79.0	150	20
DSTHA219006U	19.00	79.0	150	20
DSTHA219506U	19.50	79.0	150	20
DSTHA220006U	20.00	79.0	150	20

Cutting Effected Length = 3×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 3 (Page:C27)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

With Coolant Hole

DSFCA2
DSFHA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFCA203006U	3.00	28.0	60	4
DSFCA203176U	3.175	28.0	60	4
DSFCA203256U	3.25	28.0	60	4
DSFCA203306U	3.30	28.0	60	4
DSFCA203406U	3.40	28.0	60	4
DSFCA203506U	3.50	28.0	60	4
DSFCA203576U	3.57	28.0	60	4
DSFCA203706U	3.70	36.0	75	4
DSFCA203806U	3.80	36.0	75	4
DSFCA203976U	3.97	36.0	75	4
DSFCA204006U	4.00	36.0	75	4
DSFHA204106U	4.10	36.0	75	6
DSFHA204206U	4.20	36.0	75	6
DSFHA204306U	4.30	36.0	75	6
DSFHA204406U	4.40	36.0	75	6
DSFHA204506U	4.50	36.0	75	6
DSFHA204606U	4.60	36.0	75	6
DSFHA204656U	4.65	36.0	75	6
DSFHA204706U	4.70	36.0	75	6
DSFHA204806U	4.80	44.0	75	6
DSFHA204906U	4.90	44.0	75	6
DSFHA205006U	5.00	44.0	75	6
DSFHA205106U	5.10	44.0	75	6
DSFHA205206U	5.20	44.0	75	6
DSFHA205306U	5.30	44.0	75	6
DSFHA205406U	5.40	44.0	75	6
DSFHA205506U	5.50	44.0	75	6
DSFHA205556U	5.55	44.0	75	6
DSFHA205606U	5.60	44.0	75	6
DSFHA205706U	5.70	44.0	75	6
DSFHA205806U	5.80	44.0	75	6
DSFHA205906U	5.90	44.0	75	6
DSFHA206006U	6.00	44.0	75	6
DSFHA206106U	6.10	53.0	91	8
DSFHA206206U	6.20	53.0	91	8
DSFHA206306U	6.30	53.0	91	8
DSFHA206406U	6.40	53.0	91	8
DSFHA206506U	6.50	53.0	91	8
DSFHA206606U	6.60	53.0	91	8
DSFHA206706U	6.70	53.0	91	8
DSFHA206806U	6.80	53.0	91	8
DSFHA206906U	6.90	53.0	91	8

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 4 (Page:C27)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

With Coolant Hole

DSFCA2
DSFHA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFHA207006U	7.00	53.0	91	8
DSFHA207106U	7.10	53.0	91	8
DSFHA207206U	7.20	53.0	91	8
DSFHA207306U	7.30	53.0	91	8
DSFHA207406U	7.40	53.0	91	8
DSFHA207506U	7.50	53.0	91	8
DSFHA207606U	7.60	53.0	91	8
DSFHA207706U	7.70	53.0	91	8
DSFHA207806U	7.80	53.0	91	8
DSFHA207906U	7.90	53.0	91	8
DSFHA208006U	8.00	53.0	91	8
DSFHA208106U	8.10	61.0	100	10
DSFHA208206U	8.20	61.0	100	10
DSFHA208306U	8.30	61.0	100	10
DSFHA208406U	8.40	61.0	100	10
DSFHA208506U	8.50	61.0	100	10
DSFHA208606U	8.60	61.0	100	10
DSFHA208706U	8.70	61.0	100	10
DSFHA208806U	8.80	61.0	100	10
DSFHA208906U	8.90	61.0	100	10
DSFHA209006U	9.00	61.0	100	10
DSFHA209106U	9.10	61.0	100	10
DSFHA209206U	9.20	61.0	100	10
DSFHA209256U	9.25	61.0	100	10
DSFHA209306U	9.30	61.0	100	10
DSFHA209406U	9.40	61.0	100	10
DSFHA209506U	9.50	61.0	100	10
DSFHA209606U	9.60	61.0	100	10
DSFHA209706U	9.70	61.0	100	10
DSFHA209806U	9.80	61.0	100	10
DSFHA209906U	9.90	61.0	100	10
DSFHA210006U	10.00	61.0	100	10
DSFHA210106U	10.10	71.0	118	12
DSFHA210206U	10.20	71.0	118	12
DSFHA210306U	10.30	71.0	118	12
DSFHA210406U	10.40	71.0	118	12
DSFHA210506U	10.50	71.0	118	12
DSFHA210606U	10.60	71.0	118	12
DSFHA210706U	10.70	71.0	118	12
DSFHA210806U	10.80	71.0	118	12
DSFHA210906U	10.90	71.0	118	12

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 4 (Page:C27)

WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 5×D

With Coolant Hole

DSFCA2
DSFHA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSFHA211006U	11.00	71.0	118	12
DSFHA211106U	11.10	71.0	118	12
DSFHA211206U	11.20	71.0	118	12
DSFHA211306U	11.30	71.0	118	12
DSFHA211406U	11.40	71.0	118	12
DSFHA211506U	11.50	71.0	118	12
DSFHA211606U	11.60	71.0	118	12
DSFHA211706U	11.70	71.0	118	12
DSFHA211806U	11.80	71.0	118	12
DSFHA211906U	11.90	71.0	118	12
DSFHA212006U	12.00	71.0	118	12
DSFHA212106U	12.10	77.0	125	14
DSFHA212206U	12.20	77.0	125	14
DSFHA212306U	12.30	77.0	125	14
DSFHA212406U	12.40	77.0	125	14
DSFHA212506U	12.50	77.0	125	14
DSFHA212606U	12.60	77.0	125	14
DSFHA212706U	12.70	77.0	125	14
DSFHA212806U	12.80	77.0	125	14
DSFHA212906U	12.90	77.0	125	14
DSFHA213006U	13.00	77.0	125	14
DSFHA213106U	13.10	77.0	125	14
DSFHA213306U	13.30	77.0	125	14
DSFHA213406U	13.40	77.0	125	14
DSFHA213506U	13.50	77.0	125	14
DSFHA213606U	13.60	77.0	125	14
DSFHA213706U	13.70	77.0	125	14
DSFHA213806U	13.80	77.0	125	14
DSFHA213906U	13.90	77.0	125	14
DSFHA214006U	14.00	77.0	125	14
DSFHA214106U	14.10	83.0	125	16
DSFHA214206U	14.20	83.0	125	16
DSFHA214306U	14.30	83.0	125	16
DSFHA214406U	14.40	83.0	125	16
DSFHA214506U	14.50	83.0	125	16
DSFHA214606U	14.60	83.0	125	16
DSFHA214706U	14.70	83.0	125	16
DSFHA214806U	14.80	83.0	125	16
DSFHA214906U	14.90	83.0	125	16
DSFHA215006U	15.00	83.0	125	16
DSFHA215106U	15.10	83.0	125	16
DSFHA215206U	15.20	83.0	125	16
DSFHA215306U	15.30	83.0	125	16
DSFHA215406U	15.40	83.0	125	16
DSFHA215506U	15.50	83.0	125	16
DSFHA215606U	15.60	83.0	125	16
DSFHA215706U	15.70	83.0	125	16
DSFHA215806U	15.80	83.0	125	16
DSFHA215906U	15.90	83.0	125	16
DSFHA216006U	16.00	83.0	125	16
DSFHA216506U	16.50	93.0	150	18
DSFHA217006U	17.00	93.0	150	18
DSFHA217506U	17.50	93.0	150	18
DSFHA218006U	18.00	93.0	150	18
DSFHA218506U	18.50	101.0	150	20
DSFHA219006U	19.00	101.0	150	20
DSFHA219506U	19.50	101.0	150	20
DSFHA220006U	20.00	101.0	150	20

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6537
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 4 (Page:C27)

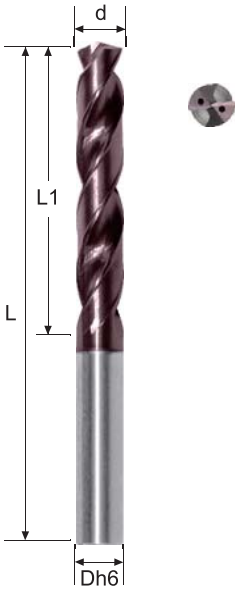
WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 7×D

With Coolant Hole

DSSCF2
DSSHF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSSCF203006U	3.00	30	70	4
DSSCF203106U	3.10	30	70	4
DSSCF203206U	3.20	30	70	4
DSSCF203256U	3.25	30	70	4
DSSCF203306U	3.30	30	70	4
DSSCF203406U	3.40	36	75	4
DSSCF203506U	3.50	36	75	4
DSSCF203606U	3.60	36	75	4
DSSCF203706U	3.70	36	75	4
DSSCF203806U	3.80	38	75	4
DSSCF203906U	3.90	38	75	4
DSSCF204006U	4.00	38	75	4
DSSHF204106U	4.10	38	75	6
DSSHF204206U	4.20	38	75	6
DSSHF204306U	4.30	45	85	6
DSSHF204406U	4.40	45	85	6
DSSHF204506U	4.50	45	85	6
DSSHF204606U	4.60	45	85	6
DSSHF204656U	4.65	45	85	6
DSSHF204706U	4.70	45	85	6
DSSHF204806U	4.80	50	90	6
DSSHF204906U	4.90	50	90	6
DSSHF205006U	5.00	50	90	6
DSSHF205106U	5.10	50	90	6
DSSHF205206U	5.20	50	90	6
DSSHF205306U	5.30	50	90	6
DSSHF205406U	5.40	57	97	6
DSSHF205506U	5.50	57	97	6
DSSHF205706U	5.70	57	97	6
DSSHF205806U	5.80	57	97	6
DSSHF205906U	5.90	57	97	6
DSSHF206006U	6.00	57	97	6
DSSHF206206U	6.20	66	106	8
DSSHF206306U	6.30	66	106	8
DSSHF206356U	6.35	66	106	8
DSSHF206506U	6.50	66	106	8
DSSHF206606U	6.60	66	106	8
DSSHF206706U	6.70	66	106	8
DSSHF206806U	6.80	66	106	8
DSSHF206906U	6.90	76	116	8
DSSHF207006U	7.00	76	116	8
DSSHF207106U	7.10	76	116	8
DSSHF207206U	7.20	76	116	8
DSSHF207506U	7.50	76	116	8
DSSHF207606U	7.60	76	116	8
DSSHF207706U	7.70	76	116	8
DSSHF207806U	7.80	76	116	8

Cutting Effected Length = 7×D

Dimension

- Win 407
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- Four Margins
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 5 (Page:C28)

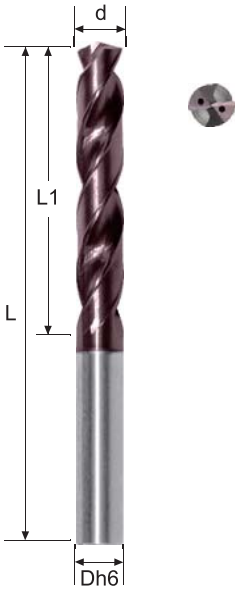
WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 7×D

With Coolant Hole

DSSCF2
DSSHF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSSHF208006U	8.00	76	116	8
DSSHF208106U	8.10	87	131	10
DSSHF208206U	8.20	87	131	10
DSSHF208406U	8.40	87	131	10
DSSHF208506U	8.50	87	131	10
DSSHF208606U	8.60	87	131	10
DSSHF208706U	8.70	87	131	10
DSSHF208806U	8.80	87	131	10
DSSHF208906U	9.00	87	131	10
DSSHF209006U	9.10	95	139	10
DSSHF209106U	9.20	95	139	10
DSSHF209206U	9.30	95	139	10
DSSHF209306U	9.40	95	139	10
DSSHF209506U	9.50	95	139	10
DSSHF209526U	9.52	95	139	10
DSSHF209706U	9.70	95	139	10
DSSHF209806U	9.80	95	139	10
DSSHF210006U	10.00	95	139	10
DSSHF210206U	10.20	106	155	12
DSSHF210306U	10.30	106	155	12
DSSHF210506U	10.50	106	155	12
DSSHF210726U	10.72	106	155	12
DSSHF210806U	10.80	106	155	12
DSSHF211006U	11.00	106	155	12
DSSHF211206U	11.20	114	155	12
DSSHF211506U	11.50	114	155	12
DSSHF211806U	11.80	114	155	12
DSSHF212006U	12.00	114	155	12
DSSHF212106U	12.10	133	182	14
DSSHF212206U	12.20	133	182	14
DSSHF212306U	12.30	133	182	14
DSSHF212506U	12.50	133	182	14
DSSHF212706U	12.70	133	182	14
DSSHF213006U	13.00	133	182	14
DSSHF213506U	13.50	133	182	14
DSSHF214006U	14.00	133	182	14
DSSHF214106U	14.10	152	200	16
DSSHF214206U	14.20	152	200	16
DSSHF214506U	14.50	152	200	16
DSSHF215006U	15.00	152	200	16
DSSHF215506U	15.50	152	200	16
DSSHF215876U	15.87	152	200	16
DSSHF216006U	16.00	152	200	16

Cutting Effected Length = 7×D

Dimension

- Win 407
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- Four Margins
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 5 (Page:C28)

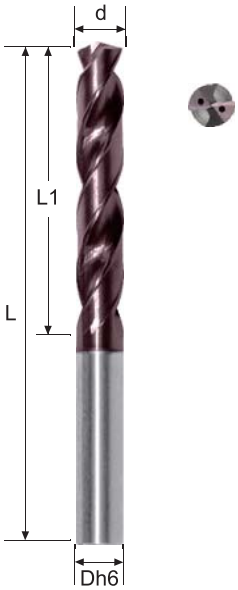
WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 12×D

With Coolant Hole

DSZHF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSZHF203006U	3.00	50	90	6
DSZHF203106U	3.10	50	90	6
DSZHF203176U	3.17	50	90	6
DSZHF203206U	3.20	50	90	6
DSZHF203306U	3.30	50	90	6
DSZHF203406U	3.40	50	90	6
DSZHF203506U	3.50	50	90	6
DSZHF203606U	3.60	50	90	6
DSZHF203706U	3.70	50	90	6
DSZHF203806U	3.80	64	102	6
DSZHF203906U	3.90	64	102	6
DSZHF204006U	4.00	64	102	6
DSZHF204106U	4.10	64	102	6
DSZHF204206U	4.20	64	102	6
DSZHF204306U	4.30	64	102	6
DSZHF204406U	4.40	64	102	6
DSZHF204506U	4.50	64	102	6
DSZHF204606U	4.60	64	102	6
DSZHF204706U	4.70	64	102	6
DSZHF204806U	4.80	78	116	6
DSZHF204906U	4.90	78	116	6
DSZHF205006U	5.00	78	116	6
DSZHF205106U	5.10	78	116	6
DSZHF205206U	5.20	78	116	6
DSZHF205306U	5.30	78	116	6
DSZHF205406U	5.40	78	116	6
DSZHF205506U	5.50	78	116	6
DSZHF205606U	5.60	78	116	6
DSZHF205706U	5.70	78	116	6
DSZHF205806U	5.80	78	116	6
DSZHF205906U	5.90	78	116	6
DSZHF206006U	6.00	78	116	6
DSZHF206106U	6.10	108	146	8
DSZHF206206U	6.20	108	146	8
DSZHF206306U	6.30	108	146	8
DSZHF206356U	6.35	108	146	8
DSZHF206406U	6.40	108	146	8
DSZHF206506U	6.50	108	146	8
DSZHF206606U	6.60	108	146	8
DSZHF206706U	6.70	108	146	8
DSZHF206806U	6.80	108	146	8
DSZHF206906U	6.90	108	146	8
DSZHF207006U	7.00	108	146	8
DSZHF207106U	7.10	108	146	8
DSZHF207206U	7.20	108	146	8
DSZHF207306U	7.30	108	146	8
DSZHF207406U	7.40	108	146	8
DSZHF207506U	7.50	108	146	8
DSZHF207606U	7.60	108	146	8
DSZHF207706U	7.70	108	146	8
DSZHF207806U	7.80	108	146	8
DSZHF207906U	7.90	108	146	8

Cutting Effected Length = 12×D

Dimension

- Win 412
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- Four Margins
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

- Table 5 (Page:C28)

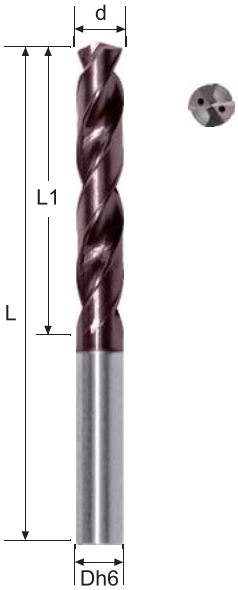
WINSTAR

MICRO GRAIN CARBIDE HIGH PERFORMANCE DRILLS (Endmill Shank) - 12×D

With Coolant Hole

DSZHF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DSZHF208006U	8.00	108	146	8
DSZHF208106U	8.10	120	162	10
DSZHF208206U	8.20	120	162	10
DSZHF208306U	8.30	120	162	10
DSZHF208406U	8.40	120	162	10
DSZHF208506U	8.50	120	162	10
DSZHF208606U	8.60	120	162	10
DSZHF208706U	8.70	120	162	10
DSZHF208806U	8.80	120	162	10
DSZHF208906U	8.90	120	162	10
DSZHF209006U	9.00	120	162	10
DSZHF209106U	9.10	120	162	10
DSZHF209206U	9.20	120	162	10
DSZHF209306U	9.30	120	162	10
DSZHF209406U	9.40	120	162	10
DSZHF209506U	9.50	120	162	10
DSZHF209526U	9.52	120	162	10
DSZHF209606U	9.60	120	162	10
DSZHF209706U	9.70	120	162	10
DSZHF209806U	9.80	120	162	10
DSZHF209906U	9.90	120	162	10
DSZHF210006U	10.00	120	162	10
DSZHF210206U	10.20	156	204	12
DSZHF210506U	10.50	156	204	12
DSZHF211006U	11.00	156	204	12
DSZHF211506U	11.50	156	204	12
DSZHF212006U	12.00	156	204	12

Cutting Effected Length = 12×D

Dimension

- Win 412
- 140 Degree Tip Angle
- 25~35 Degree Helix Angle
- With Coolant Hole
- Four Margins
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON
- TITANIUM STEELS

Recommend Cutting Condition

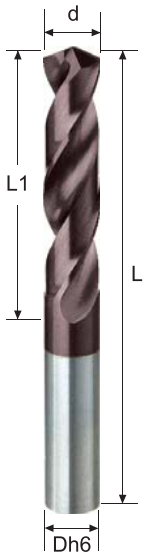
- Table 5 (Page:C28)

WINSTAR

MICRO GRAIN CARBIDE GENERAL PURPOSE DRILLS (Straight Shank) - 3×D

DGTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Cutting Effected Length = 3×D

Dimension

- Sim. SIN6539
- 130 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON

Recommend Cutting Condition

- Table 6 (Page:C28)

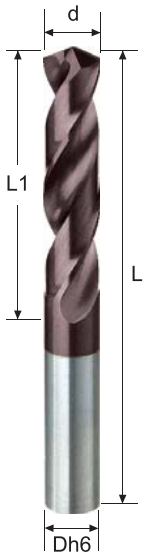
Order No.	Dia. (d)	CL (L1)	OAL (L)
DGTNA202005U	2.00	12	38
DGTNA202105U	2.10	12	38
DGTNA202205U	2.20	13	40
DGTNA202305U	2.30	13	40
DGTNA202385U	2.38	14	43
DGTNA202405U	2.40	14	43
DGTNA202505U	2.50	14	43
DGTNA202605U	2.60	14	43
DGTNA202705U	2.70	16	46
DGTNA202785U	2.78	16	46
DGTNA202805U	2.80	16	46
DGTNA202905U	2.90	16	46
DGTNA203005U	3.00	16	46
DGTNA203105U	3.10	18	49
DGTNA203175U	3.17	18	49
DGTNA203205U	3.20	18	49
DGTNA203305U	3.30	18	49
DGTNA203405U	3.40	20	52
DGTNA203505U	3.50	20	52
DGTNA203575U	3.57	20	52
DGTNA203605U	3.60	20	52
DGTNA203705U	3.70	20	52
DGTNA203805U	3.80	22	55
DGTNA203905U	3.90	22	55
DGTNA203975U	3.97	22	55
DGTNA204005U	4.00	22	55
DGTNA204105U	4.10	22	55
DGTNA204205U	4.20	24	58
DGTNA204305U	4.30	24	58
DGTNA204375U	4.37	24	58
DGTNA204405U	4.40	24	58
DGTNA204505U	4.50	24	58
DGTNA204605U	4.60	24	58
DGTNA204705U	4.70	24	58
DGTNA204765U	4.76	26	62
DGTNA204805U	4.80	26	62
DGTNA204905U	4.90	26	62
DGTNA205005U	5.00	26	62
DGTNA205105U	5.10	26	62
DGTNA205205U	5.20	26	62
DGTNA205305U	5.30	26	62
DGTNA205405U	5.40	28	66
DGTNA205505U	5.50	28	66
DGTNA205605U	5.60	28	66
DGTNA205705U	5.70	28	66
DGTNA205805U	5.80	28	66
DGTNA205905U	5.90	28	66
DGTNA206005U	6.00	28	66
DGTNA206105U	6.10	31	70
DGTNA206205U	6.20	31	70
DGTNA206305U	6.30	31	70
DGTNA206355U	6.35	31	70
DGTNA206405U	6.40	31	70
DGTNA206505U	6.50	31	70
DGTNA206605U	6.60	31	70
DGTNA206705U	6.70	31	70
DGTNA206805U	6.80	34	74
DGTNA206905U	6.90	34	74

WINSTAR

MICRO GRAIN CARBIDE GENERAL PURPOSE DRILLS (Straight Shank) - 3×D

DGTNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Cutting Effected Length = 3×D

Dimension

- Sim. SIN6539
- 130 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON

Recommend Cutting Condition

- Table 6 (Page:C28)

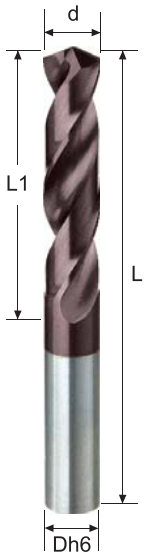
Order No.	Dia. (d)	CL (L1)	OAL (L)
DGTNA207005U	7.00	34	74
DGTNA207105U	7.10	34	74
DGTNA207145U	7.14	34	74
DGTNA207205U	7.20	34	74
DGTNA207305U	7.30	34	74
DGTNA207405U	7.40	34	74
DGTNA207505U	7.50	34	74
DGTNA207605U	7.60	37	79
DGTNA207705U	7.70	37	79
DGTNA207805U	7.80	37	79
DGTNA207905U	7.90	37	79
DGTNA207945U	7.94	37	79
DGTNA208005U	8.00	37	79
DGTNA208105U	8.10	37	79
DGTNA208205U	8.20	37	79
DGTNA208305U	8.30	37	79
DGTNA208405U	8.40	37	79
DGTNA208505U	8.50	37	79
DGTNA208605U	8.60	37	79
DGTNA208705U	8.70	37	79
DGTNA208735U	8.73	40	84
DGTNA208805U	8.80	40	84
DGTNA208905U	8.90	40	84
DGTNA209005U	9.00	40	84
DGTNA209105U	9.10	40	84
DGTNA209205U	9.20	40	84
DGTNA209305U	9.30	40	84
DGTNA209405U	9.40	40	84
DGTNA209505U	9.50	40	84
DGTNA209705U	9.70	43	89
DGTNA209805U	9.80	43	89
DGTNA209905U	9.90	43	89
DGTNA210005U	10.00	43	89
DGTNA210105U	10.10	43	89
DGTNA210205U	10.20	43	89
DGTNA210305U	10.30	43	89
DGTNA210405U	10.40	43	89
DGTNA210505U	10.50	43	89
DGTNA210605U	10.60	43	89
DGTNA210805U	10.80	47	95
DGTNA210905U	10.90	47	95
DGTNA211005U	11.00	47	95
DGTNA211105U	11.10	47	95
DGTNA211205U	11.20	47	95
DGTNA211505U	11.50	47	95
DGTNA211605U	11.60	47	95
DGTNA211805U	11.80	47	95
DGTNA211905U	11.90	51	102
DGTNA212005U	12.00	51	102
DGTNA212505U	12.50	51	102
DGTNA212705U	12.70	51	102
DGTNA213005U	13.00	51	102
DGTNA213505U	13.50	54	107
DGTNA214005U	14.00	54	107
DGTNA214505U	14.50	56	111
DGTNA215005U	15.00	56	111
DGTNA215505U	15.50	58	115
DGTNA216005U	16.00	58	115

WINSTAR

MICRO GRAIN CARBIDE GENERAL PURPOSE DRILLS (Straight Shank) - 5×D

DGFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)
DGFNA205005U	5.00	34	73
DGFNA205105U	5.10	38	76
DGFNA205205U	5.20	38	76
DGFNA205305U	5.30	38	76
DGFNA205405U	5.40	38	76
DGFNA205505U	5.50	38	76
DGFNA205605U	5.60	41	81
DGFNA205705U	5.70	41	81
DGFNA205805U	5.80	41	81
DGFNA205905U	5.90	41	81
DGFNA206005U	6.00	41	81
DGFNA206105U	6.10	41	81
DGFNA206205U	6.20	41	81
DGFNA206305U	6.30	41	81
DGFNA206405U	6.40	41	81
DGFNA206505U	6.50	41	81
DGFNA206605U	6.60	43	83
DGFNA206705U	6.70	43	83
DGFNA206805U	6.80	43	83
DGFNA206905U	6.90	43	83
DGFNA207005U	7.00	43	83
DGFNA207105U	7.10	45	87
DGFNA207205U	7.20	45	87
DGFNA207305U	7.30	45	87
DGFNA207405U	7.40	45	87
DGFNA207505U	7.50	45	87
DGFNA207605U	7.60	48	90
DGFNA207705U	7.70	48	90
DGFNA207805U	7.80	48	90
DGFNA207905U	7.90	48	90
DGFNA208005U	8.00	48	90
DGFNA208105U	8.10	53	96
DGFNA208205U	8.20	53	96
DGFNA208305U	8.30	53	96
DGFNA208405U	8.40	53	96
DGFNA208505U	8.50	53	96
DGFNA208605U	8.60	55	98
DGFNA208705U	8.70	55	98

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6539
- 130 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON

Recommend Cutting Condition

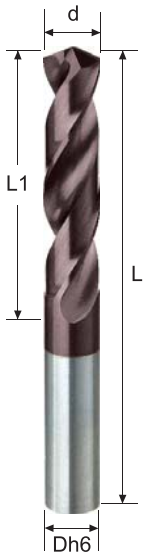
- Table 7 (Page:C29)

WINSTAR

MICRO GRAIN CARBIDE GENERAL PURPOSE DRILLS (Straight Shank) - 5×D

DGFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)
DGFNA208805U	8.80	55	98
DGFNA209005U	9.00	55	98
DGFNA209105U	9.10	58	102
DGFNA209205U	9.20	58	102
DGFNA209305U	9.30	58	102
DGFNA209505U	9.50	58	102
DGFNA209605U	9.60	60	105
DGFNA209705U	9.70	60	105
DGFNA209805U	9.80	60	105
DGFNA210005U	10.00	60	105
DGFNA210205U	10.20	66	112
DGFNA210305U	10.30	66	112
DGFNA210405U	10.40	66	112
DGFNA210505U	10.50	66	112
DGFNA210605U	10.60	68	114
DGFNA210705U	10.70	68	114
DGFNA210805U	10.80	68	114
DGFNA210905U	10.90	68	114
DGFNA211005U	11.00	68	114
DGFNA211105U	11.10	71	118
DGFNA211205U	11.20	71	118
DGFNA211405U	11.40	71	118
DGFNA211505U	11.50	71	118
DGFNA211605U	11.60	73	121
DGFNA211705U	11.70	73	121
DGFNA211805U	11.80	73	121
DGFNA211905U	11.90	73	121
DGFNA212005U	12.00	73	121
DGFNA212505U	12.50	76	135
DGFNA212705U	12.70	78	137
DGFNA213005U	13.00	78	137
DGFNA213505U	13.50	84	144
DGFNA214005U	14.00	86	147
DGFNA214505U	14.50	89	151
DGFNA215005U	15.00	91	153
DGFNA215505U	15.50	94	157
DGFNA216005U	16.00	96	160

Cutting Effected Length = 5×D

Dimension

- Sim. SIN6539
- 130 Degree Tip Angle
- 25~35 Degree Helix Angle
- Without Coolant Hole
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON

Recommend Cutting Condition

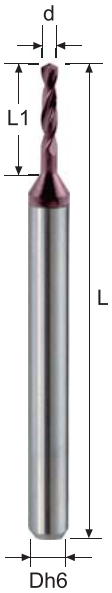
- Table 7 (Page:C29)

WINSTAR

MICRO GRAIN CARBIDE MICRO DRILLS (Endmill Shank) - Shank Dia. 3mm

DGMNB2

P	M	K	N	S	H
☑	☑	☐	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DGMNB200505U	0.50	3.0	38	3
DGMNB200605U	0.60	3.0	38	3
DGMNB200705U	0.70	3.0	38	3
DGMNB200805U	0.80	4.0	38	3
DGMNB200905U	0.90	4.0	38	3
DGMNB201005U	1.00	4.0	38	3
DGMNB201105U	1.10	6.0	38	3
DGMNB201205U	1.20	6.0	38	3
DGMNB201305U	1.30	6.0	38	3
DGMNB201405U	1.40	6.0	38	3
DGMNB201505U	1.50	6.0	38	3
DGMNB201605U	1.60	8.0	38	3
DGMNB201705U	1.70	8.0	38	3
DGMNB201805U	1.80	8.0	38	3
DGMNB201905U	1.90	8.0	38	3
DGMNB202005U	2.00	8.0	38	3
DGMNB202105U	2.10	8.0	38	3
DGMNB202205U	2.20	8.0	38	3
DGMNB202305U	2.30	8.0	38	3
DGMNB202405U	2.40	8.0	38	3
DGMNB202505U	2.50	8.0	38	3
DGMNB202605U	2.60	8.0	38	3
DGMNB202705U	2.70	8.0	38	3
DGMNB202805U	2.80	8.0	38	3
DGMNB202905U	2.90	8.0	38	3
DGMNB203005U	3.00	8.0	38	3

Dimension

- Win 038B
- 130 Degree Tip Angle
- 25~35 Degree Helix Angle
- S-Fire Coating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS

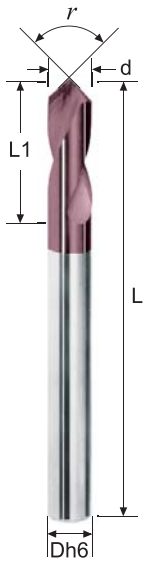
Recommend Cutting Condition

- Table 8 (Page:C29)

MICRO GRAIN CARBIDE SPOTTING DRILLS

DTTNA2
DTLNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



(r) 90 Degree Order No.	(r) 120 Degree Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DTTNA203002U	DTTNA203004U	3	8	50	3
DTTNA204002U	DTTNA204004U	4	10	50	4
DTTNA205002U	DTTNA205004U	5	13	50	5
DTTNA206002U	DTTNA206004U	6	15	50	6
DTTNA208002U	DTTNA208004U	8	20	60	8
DTTNA210002U	DTTNA210004U	10	25	75	10
DTTNA212002U	DTTNA212004U	12	30	75	12
DTTNA216002U	DTTNA216004U	16	35	100	16
DTTNA203002	DTTNA203004	3	8	50	3
DTTNA204002	DTTNA204004	4	10	50	4
DTTNA205002	DTTNA205004	5	13	50	5
DTTNA206002	DTTNA206004	6	15	50	6
DTTNA208002	DTTNA208004	8	20	60	8
DTTNA210002	DTTNA210004	10	25	75	10
DTTNA212002	DTTNA212004	12	30	75	12
DTTNA216002	DTTNA216004	16	35	100	16

MICRO GRAIN CARBIDE SPOTTING DRILLS - LONG SHANK

(r) 90 Degree Order No.	(r) 120 Degree Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DTLNA204002U	DTLNA204004U	4	10	75	4
DTLNA205002U	DTLNA205004U	5	13	75	5
DTLNA206002U	DTLNA206004U	6	15	100	6
DTLNA208002U	DTLNA208004U	8	20	100	8
DTLNA210002U	DTLNA210004U	10	25	150	10
DTLNA212002U	DTLNA212004U	12	30	150	12
DTLNA216002U	DTLNA216004U	16	35	150	16
DTLNA204002	DTLNA204004	4	10	75	4
DTLNA205002	DTLNA205004	5	13	75	5
DTLNA206000	DTLNA206004	6	15	100	6
DTLNA208002	DTLNA208004	8	20	100	8
DTLNA210002	DTLNA210004	10	25	150	10
DTLNA212002	DTLNA212004	12	30	150	12
DTLNA216002	DTLNA216004	16	35	150	16

Dimension

- 90 Degree Tip Angle
- 120 Degree Tip Angle
- S-Fire Coating
- Uncoating

Tolerance

- d h7
- D h6

Material

- ALLOY STEELS
- STAINLESS STEELS
- CAST IRON

Recommend Cutting Condition

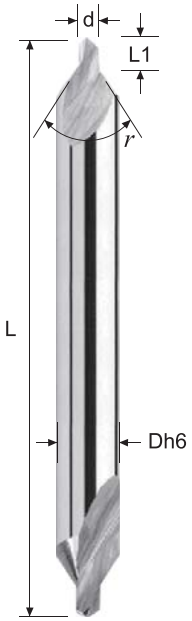
- Table 9 (Page:C30)

WINSTAR

MICRO GRAIN CARBIDE CENTER DRILLS

DTCNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



(r) 60 Degree Order No.	(r) 90 Degree Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DCTNA201001	DCTNA201002	1.00	1.6	32	3
DCTNA201251	DCTNA201252	1.25	1.9	32	3
DCTNA201601	DCTNA201602	1.60	2.4	32	4
DCTNA202001	DCTNA202002	2.00	2.9	40	5
DCTNA202501	DCTNA202502	2.50	3.6	45	6
DCTNA203001	DCTNA203002	3.00	3.9	60	8
DCTNA203151	DCTNA203152	3.15	3.9	60	8
DCTNA204001	DCTNA204002	4.00	5.0	75	10
DCTNA205001	DCTNA205002	5.00	6.3	75	12

Dimension

- 120 Degree Tip Angle
- 60 Point Angle
- 90 Point Angle
- Uncoating

Tolerance

- d h7
- D h6

Material

- STEEL ~ HRC 30
- CAST IRON

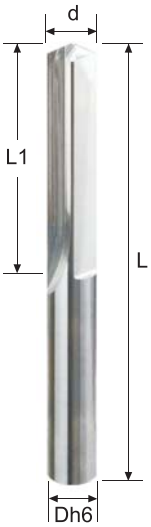
Recommend Cutting Condition

- Table 10 (Page:C30)

MICRO GRAIN CARBIDE STRAIGHT FLUTE DRILLS - 3×D

DRTNA2
DRFNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DRTNA204005	4.00	22	66	4
DRTNA205005	5.00	26	66	5
DRTNA206005	6.00	28	66	6
DRTNA207005	7.00	34	79	7
DRTNA208005	8.00	37	79	8
DRTNA209005	9.00	40	89	9
DRTNA210005	10.00	43	89	10
DRTNA212005	12.00	51	102	12
DRTNA214005	14.00	54	107	14
DRTNA216005	16.00	56	115	16

MICRO GRAIN CARBIDE STRAIGHT FLUTE DRILLS - 5×D

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)
DRFNA204005	4.00	36	74	4
DRFNA205005	5.00	44	82	5
DRFNA206005	6.00	44	82	6
DRFNA207005	7.00	53	91	7
DRFNA208005	8.00	53	91	8
DRFNA209005	9.00	61	102	9
DRFNA210005	10.00	61	102	10
DRFNA212005	12.00	71	118	12
DRFNA214005	14.00	77	124	14
DRFNA216005	16.00	83	130	16

Dimension

- 130 Degree Tip Angle
- Material : CO 10%, WC 90%

Tolerance

- d h7
- D h6

Material

- STEEL
- COPPER
- ALUMINUM

Recommend Cutting Condition

- Table 11 (Page:C31)

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 1 G400 Series DSTMA, DSTNA

CUTTING EFFECTED LENGTH = 3×D

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	108 M/min		81 M/min		54 M/min		111 M/min		100 M/min		45 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	11,500	1,040	8,600	770	5,700	510	11,680	1,970	10,640	1,800	4,800	290
5MM	6,900	780	5,200	590	3,400	380	7,040	1,490	6,400	1,350	2,900	220
8MM	4,300	720	3,200	540	2,100	350	4,400	1,390	4,000	1,260	1,800	200
10MM	3,400	640	2,600	490	1,700	320	3,520	1,240	3,200	1,130	1,400	180
12MM	2,900	600	2,100	430	1,400	290	2,880	1,110	2,640	1,020	1,200	160
16MM	2,100	490	1,600	380	1,100	260	2,160	950	2,000	880	900	140
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

TABLE 2 G400 Series DSFMA, DSFNA

CUTTING EFFECTED LENGTH = 5×D

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	97 M/min		73 M/min		49 M/min		99 M/min		90 M/min		41 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	10,300	930	7,700	690	5,200	470	10,480	1,770	9,520	1,610	4,300	260
5MM	6,200	700	4,600	520	3,100	350	6,320	1,330	5,760	1,220	2,600	200
8MM	3,900	660	2,900	490	1,900	320	3,920	1,230	3,600	1,130	1,600	180
10MM	3,100	580	2,300	430	1,500	280	3,120	1,100	2,880	1,010	1,300	160
12MM	2,600	530	1,900	390	1,300	270	2,640	1,020	2,400	920	1,100	150
16MM	1,900	450	1,500	350	1,000	240	2,000	880	1,760	780	810	130
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 3 G400 Series DSTCF, DSTHF

CUTTING EFFECTED LENGTH = 3×D, WITH COOLANT

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	119 M/min		89 M/min		59 M/min		121 M/min		111 M/min		50 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	12,600	1,130	9,500	860	6,300	570	12,880	2,170	11,680	1,970	5,300	320
5MM	7,600	860	5,700	640	3,800	430	7,680	1,620	7,040	1,490	3,200	240
8MM	4,700	790	3,500	590	2,400	400	4,800	1,510	4,400	1,390	2,000	220
10MM	3,800	710	2,800	530	1,900	360	3,840	1,350	3,520	1,240	1,600	200
12MM	3,200	660	2,400	490	1,600	330	3,200	1,230	2,880	1,110	1,300	180
16MM	2,400	560	1,800	420	1,200	280	2,400	1,060	2,160	950	990	160
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

TABLE 4 G400 Series DSFCF, DSFHF

CUTTING EFFECTED LENGTH = 5×D, WITH COOLANT

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	107 M/min		80 M/min		53 M/min		109 M/min		99 M/min		45 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	11,300	1,020	8,500	770	5,700	510	11,600	1,960	10,480	1,770	4,700	280
5MM	6,800	770	5,100	570	3,400	380	6,960	1,470	6,320	1,330	2,800	210
8MM	4,300	720	3,200	540	2,100	350	4,320	1,360	3,920	1,230	1,800	200
10MM	3,400	640	2,600	490	1,700	320	3,440	1,210	3,120	1,100	1,400	180
12MM	2,800	570	2,100	430	1,400	290	2,880	1,110	2,640	1,020	1,200	160
16MM	2,100	490	1,600	380	1,100	260	2,160	950	2,000	880	890	140
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 5 G400 Series DSSCF, DSSHF, DSZHF

CUTTING EFFECTED LENGTH = 7×D, 12×D, WITH COOLANT

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	95 M/min		71 M/min		48 M/min		96 M/min		88 M/min		40 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	10,100	910	7,600	680	5,000	450	10,240	1,730	9,360	1,580	4,200	250
5MM	6,100	690	4,500	510	3,000	340	6,160	1,300	5,600	1,180	2,500	190
8MM	3,800	640	2,800	470	1,900	320	3,840	1,210	3,520	1,110	1,600	180
10MM	3,000	560	2,300	430	1,500	280	3,120	1,100	2,800	980	1,300	160
12MM	2,500	510	1,900	390	1,300	270	2,560	980	2,320	890	1,100	150
16MM	1,900	450	1,400	330	900	210	1,920	850	1,760	780	790	120
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

TABLE 6 G300 Series DGTNA

CUTTING EFFECTED LENGTH = 3×D

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	97 M/min		73 M/min		49 M/min		99 M/min		90 M/min		41 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	10,300	930	7,700	690	5,200	470	10,480	1,770	9,520	1,610	4,300	260
5MM	6,200	700	4,600	520	3,100	350	6,320	1,330	5,760	1,220	2,600	200
8MM	3,900	660	2,900	490	1,900	320	3,920	1,230	3,600	1,130	1,600	180
10MM	3,100	580	2,300	430	1,500	280	3,120	1,100	2,880	1,010	1,300	160
12MM	2,600	530	1,900	390	1,300	270	2,640	1,020	2,400	920	1,100	150
16MM	1,900	450	1,500	350	1,000	240	2,000	880	1,760	780	810	130
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 7 G300 Series DGFNA

CUTTING EFFECTED LENGTH = 5×D

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		ALLOY STEEL		SG CAST IRON		CAST IRON		STAINLESS	
CODE	SS 400		S50C, SCM		SKD 61		FC 250		FCD 400		SUS 304	
HARDNESS	–		–		HRC 30~40		> HB 240		–		–	
Vc	86 M/min		65 M/min		43 M/min		88 M/min		80 M/min		36 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	9,200	830	6,900	620	4,600	410	9,360	1,580	8,480	1,430	3,800	230
5MM	5,500	620	4,100	460	2,800	320	5,600	1,180	5,120	1,080	2,300	170
8MM	3,400	570	2,600	440	1,700	290	3,520	1,110	3,200	1,010	1,400	160
10MM	2,800	530	2,100	390	1,400	260	2,800	980	2,560	900	1,100	140
12MM	2,300	470	1,700	350	1,100	230	2,320	890	2,160	830	1,000	140
16MM	1,700	400	1,300	310	900	210	1,760	780	1,600	710	720	110
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.											

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

TABLE 8 Micro Series DGMNB

WORKING MATERIAL	MILD STEEL		ALLOY STEEL		SG CAST IRON		SKD CAST IRON		STAINLESS	
CODE	45C, S50C, SCM		SCM, SKT, SKD		GG 25		GG 40		SUS 304	
HARDNESS	HRC < 20		HRC 20 ~30		> HB 240		> HB 300		–	
Vc	58 M/min		41 M/min		53 M/min		46 M/min		19 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
0.50MM	31,300	625	22,100	400	28,600	720	24,900	550	10,200	70
1.00MM	15,600	630	11,000	380	14,300	750	12,400	550	5,100	70
1.50MM	10,500	640	7,400	400	9,500	720	8,200	550	3,400	70
2.00MM	7,800	640	5,500	380	7,100	720	6,200	555	2,600	70
2.50MM	6,300	630	4,400	410	5,700	720	5,000	540	2,000	70
2.95MM	5,400	700	3,700	450	4,800	810	4,200	605	1,700	75
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.									

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 9 DT Series DTTNA, DTLNA

WORKING MATERIAL	MILD STEEL		CARBON STEEL / ALLOY STEEL		SG CAST IRON		STAINLESS		ALLUMINUM ALLOY	
CODE	SS 400		S50C, SCM		FC 250		SUS 304		A 5052	
HARDNESS	–		HRC < 20		–		–		HRC < 20	
Vc	70 M/min		60 M/min		50 M/min		50 M/min		50 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
5MM	4,400	350	3,800	270	4,400	350	1,300	430	7,650	1,000
8MM	2,800	290	2,400	250	2,800	370	800	340	4,800	820
10MM	2,200	280	1,900	240	2,200	350	640	320	3,800	760
12MM	1,800	260	1,600	210	1,800	300	530	300	3,200	640
16MM	1,400	230	1,200	200	1,400	280	400	270	2,400	600
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.									

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

TABLE 10 DC Series DCTNA

WORKING MATERIAL	CARBON STEEL / ALLOY STEEL		ALLOY STEEL		TITANIUM		CAST IRON		STAINLESS	
CODE	45C, S50C, SCM		SCM, SKT, SKD		–		FC / FCD		SUS 304	
HARDNESS	HRC < 20		HRC < 20		–		–		–	
Vc	60 M/min		50 M/min		50 M/min		50 M/min		50 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
1MM	19,100	382	15,900	206	15,900	239	15,900	205	15,900	255
2MM	9,550	382	7,960	207	7,960	239	7,960	240	7,960	315
3MM	9,370	382	5,300	207	5,300	239	5,300	210	5,300	210
5MM	3,820	382	3,180	207	3,180	239	3,180	255	3,180	315
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.									

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.

RECOMMEND CUTTING CONDITION FOR DRILL

TABLE 11 DR Series DRTNA, DRFNA

WORKING MATERIAL	BRONZE		SILICON-ALUMINUM ALLOY		CAST IRON	
CODE	–		Si > 10%		–	
HARDNESS	HRC ≦ 25		–		HRC ≦ 22	
Vc	80 M/min		140 M/min		120 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
5MM	5,100	410	8,920	1,430	7,640	960
6MM	4,250	340	7,430	1,190	6,370	800
8MM	3,190	260	5,570	890	4,780	600
10MM	2,550	200	4,460	710	3,820	480
12MM	2,120	170	3,720	600	3,190	400
16MM	1,590	130	2,790	450	2,390	300
Remarks	※ Uncoated Drills Reduce 30% RPM & FEED Form Coating One.					

The FEED & RPM may be changed depending on the M/C Conditions, Lubricating & Cooling systems.