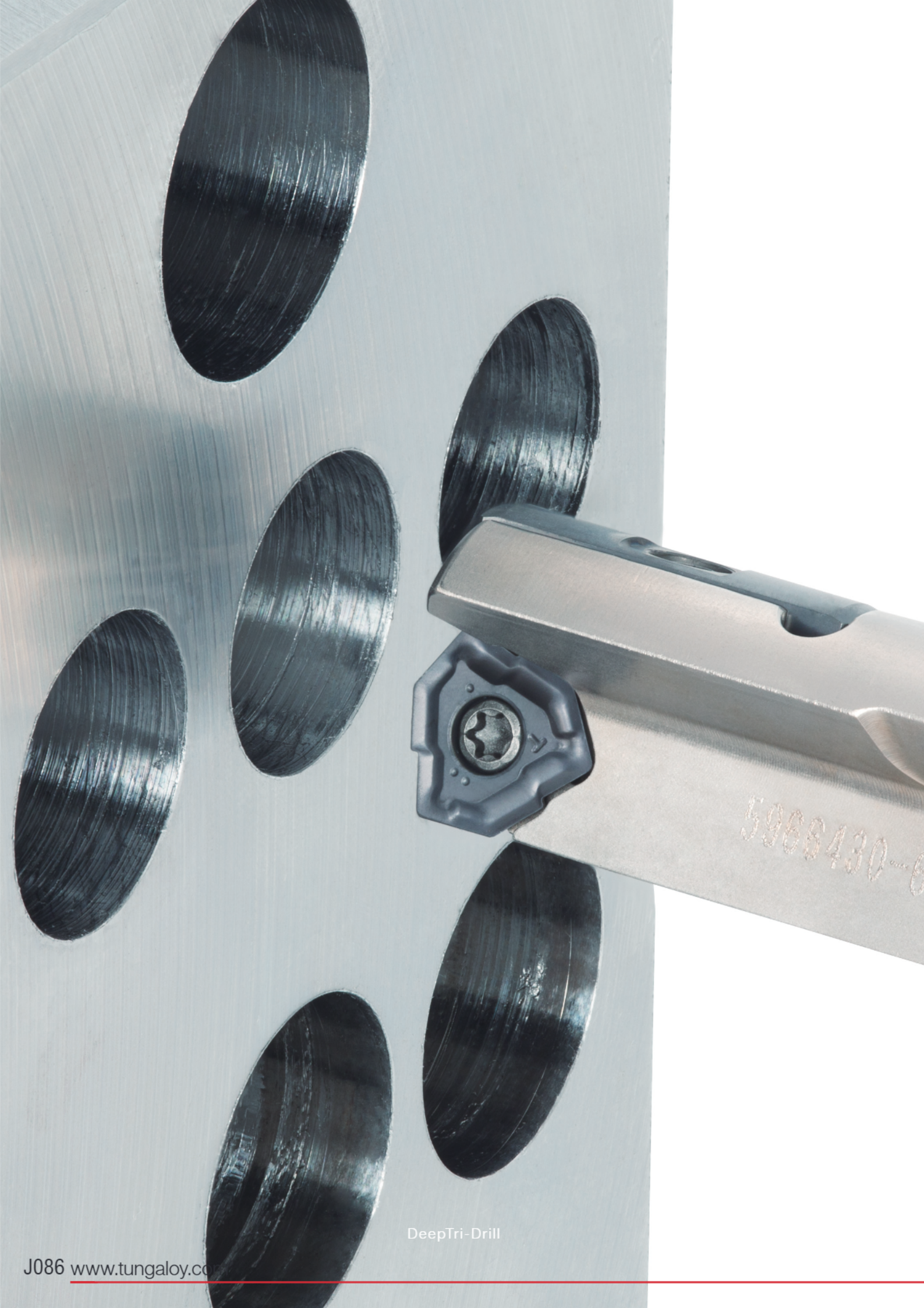
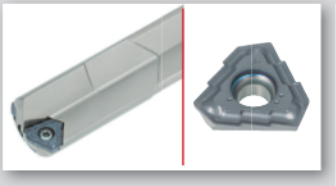


DeepTri-Drill

Deep Hole Drill



DEEP TRI DRILL

Excellent productivity and stability in deep hole drilling

ø12 mm - ø39.1 mm / L/D = 8, 10, 15, 20, 25, for machining centers
OAL < 1650 mm for gundrill machines (standard line-ups)

J007, J088
J089 - J111

GUNDRILL

Brazed gundrills suitable for small diameter deep hole drilling

ø3 mm - ø12.2 mm / OAL ≤ 1650 mm (standard line-ups)

J007, J088
J112 - J113

TRI-FINE

Direct mount drill head with 3-cornered inserts

ø16 mm - ø28 mm

J007, J114
J118 - J121

FINE-BEAM

Direct mount deep hole drilling heads

ø25 mm - ø65 mm

J007, J114
J122 - J127

UNIDEX

Indexable deep hole drilling heads with adjustable diameters

ø38 mm - ø106.99 mm

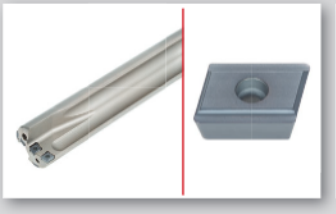
J007, J114
J128 - J133

Brazed BTA tool

New solution for BTA drilling with two types of tools: single tube and double tube

ø8 - ø65

J007, J114
J134 - J146



HF drills for deep hole drilling

Indexable deep hole drills for large diameter with high productivity

ø30 mm - ø63 mm, hole depth: L/D=14

J007, J147 - J148

Indexable Gundrill guide

Indexable Gundrills & Brazed Gundrills

Drill type		Lathes & machining centers			Gundrill machines			Brazed tool
		MCTR	MCTRCH	MCTR	TRLG	TRLGCH	TRLG	SLJ
Indexable Gundrills Brazed Gundrill								
Drill diameter (mm)		ø12 - ø28	ø14 - ø28	ø28.01 - ø40	ø12 - ø28	ø14 - ø28	ø28.01 - ø40	ø3 - ø12.2
Drilling depth - MCTR Tool over all length - TRLG, SLJ		Max L/D = 25	Max L/D = 25	Max L/D = 25	400 mm - 2400 mm	400 mm - 2400 mm	400 mm - 2400 mm	ø3 - ø4.1 : Max = 800 mm ø4.1 - ø4.9 : Max = 1250 mm ø4.9 - ø12.2 : Max = 2000 mm
Hole tolerance*1		+ 0.05 / - 0.1	+ 0.05 / - 0.12	+ 0.05 / - 0.1	+ 0.05 / - 0.1	+ 0.05 / - 0.12	+ 0.05 / - 0.1	+0.03 / -0.01
Surface finish Ra (µm)*1		1	1	1	1	1	1	3 - 25
Machine	Deep hole drilling machines	-	-	-	-	-	-	-
	NC machines	○	○	○	-	-	-	-
	Lathes	○	○	○	△	△	△	△
	Machining centers M/C	○	○	○	△	△	△	△
	Gundrill machines	-	-	-	○	○	○	○
Workpiece material	P Steel	★★★	★★★	★★★	★★★	★★★	★★★	★★
	M Stainless	★★	★★	★★	★★	★★	★★	★
	K Cast iron	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	N Non-ferrous	★★	★★	★★	★★	★★	★★	★★★
	S Superalloys	★★	★★	★★	★★	★★	★★	★
	H Hard materials (≥40HRC)	★★★	★★★	★★★	★★★	★★★	★★★	★
Insert type		LOGT / TOHT	TOHT	FBH / FBM	LOGT / TOHT	TOHT	FBH / FBM	-
Page		J090 - J093	J094	J095 - J099	J100 - J101	J102	J103 - J111	J112 - J113

*1: Just for reference

★★★(Excellent) ◄► ★(Standard)

DEEP TRI DRILL

Indexable gundrill for extreme productivity and stability

Ultimate efficiency

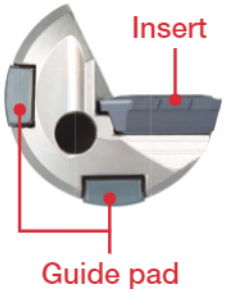
Unique chipbreakers on the cutting edge enable impressive chip control and high feed rates.

Excellent chip control

- Chip splitters breaks chips into smaller segments to facilitate smooth Chip evacuation process
- Its smooth chip evacuation ability allows the use in standard lathes and machining centers

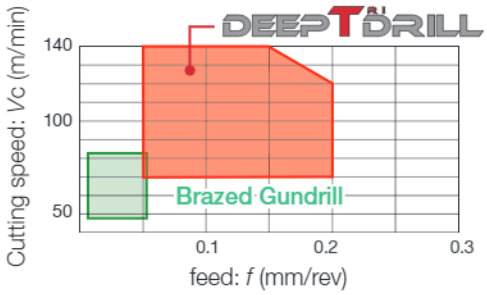
NDJ chipbreaker

- Low cutting force
- For general purpose



Performance comparison with other types of drills

P S55C



Chip control

P S55C Drill diameter : DC = 21 mm

Cutting speed : *Vc* = 100 m/min
feed : *f* = 0.15 mm/rev

Vc = 60 m/min
f = 0.05 mm/rev

Two bodies available for machining centers, lathes, and gundrill machines

MCTR : for machining centers and lathes

Tool dia. : DC = 12 - 39.1 mm
*Max. DC = 40: Available tailor-made tools
L/D : 8, 10, 15, 20, 25

TRLG : for gundrill machines

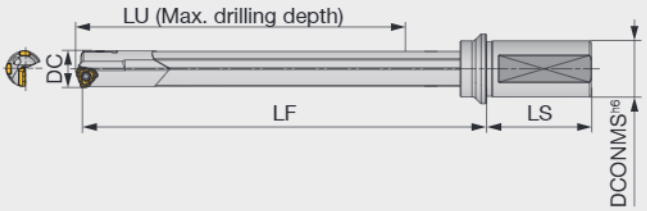
Tool dia. : DC = 12 - 30 mm
*Max. DC = 40: Available tailor-made tools
Overall length: 800, 1000, 1500, 1650 mm
* Can be tailored up to 2400 mm overall length

Reference pages: J090 - J111, Technical references → L086

DEEP TRI DRILL

MCTR L/D=10

Drill body for lathes and machining centers, L/D = 10, tool diameter ø16 - ø28 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR16.00XM25A-10	16	25	172.2	56	209	TOHT08...	GP05-075, GP05-18-075-DC
MCTR16.50XM25A-10	16.5	25	172.2	56	209	TOHT08...	GP05-075, GP05-18-075-DC
MCTR17.00XM25A-10	17	25	182.2	56	220	TOHT08...	GP05-075, GP05-18-075-DC
MCTR18.00XM25A-10	18	25	192.2	56	232	TOHT08...	GP05-075, GP05-18-075-DC
MCTR19.00XM25-10	19	25	203	56	243	TOHT09...	GP06-085, GP06-20-085-DC
MCTR20.00XM32-10	20	32	213	60	255	TOHT09...	GP06-085, GP06-20-085-DC
MCTR21.00XM32-10	21	32	223.2	60	266	TOHT10...	GP06-085, GP06-20-085-DC
MCTR22.00XM32-10	22	32	233.4	60	278	TOHT11...	GP06-100, GP06-20-100-DC
MCTR23.00XM32-10	23	32	243.4	60	289	TOHT11...	GP06-100, GP06-20-100-DC
MCTR24.00XM32-10	24	32	253.4	60	301	TOHT11...	GP06-100, GP06-20-100-DC
MCTR25.00XM32-10	25	32	263.4	60	312	TOHT11...	GP06-100, GP06-20-100-DC
MCTR26.00XM40-10	26	40	273.7	70	324	TOHT12...	GP06, GP06-20-120-DC
MCTR27.00XM40-10	27	40	283.7	70	335	TOHT12...	GP06, GP06-20-120-DC
MCTR28.00XM40-10	28	40	283.7	70	337	TOHT12...	GP06, GP06-20-120-DC
MCTR17.45XU25.4A-10	17.45	25.4	182.2	56	220	TOHT08..	GP05-075, GP05-18-075-DC
MCTR18.24XU25.4-10	18.24	25.4	193	56	232	TOHT09..	GP06-085, GP06-20-085-DC
MCTR18.64XU25.4-10	18.64	25.4	193	56	232	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.05XU25.4-10	19.05	25.4	203	56	243	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.94XU31.75-10	19.94	31.75	213	60	255	TOHT09..	GP06-085, GP06-20-085-DC
MCTR20.62XU31.75-10	20.62	31.75	213.2	60	255	TOHT10..	GP06-085, GP06-20-085-DC
MCTR22.23XU31.75-10	22.23	31.75	233.4	60	278	TOHT11..	GP06-100, GP06-20-100-DC
MCTR23.80XU31.75-10	23.8	31.75	253.4	60	301	TOHT11..	GP06-100, GP06-20-100-DC
MCTR25.40XU31.75-10	25.4	31.75	263.7	60	312	TOHT12..	GP06, GP06-20-120-DC
MCTR26.97XU31.75X-10	26.97	31.75	283.7	60	335	TOHT12..	GP06, GP06-20-120-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
16 - 28	0 / - 0.07	+ 0.05 / - 0.1

*Just for reference

SPARE PARTS

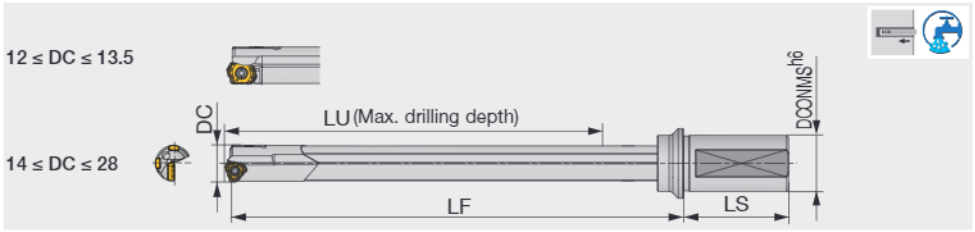



Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR16... - MCTR20.00...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR20.62... - MCTR21...	SR34-506	T-9F	SR34-508	T-7F
MCTR22... - MCTR25.00...	SR14-571/S	T-10/5	SR34-508	T-7F
MCTR25.4... - MCTR28...	SR14-506	T-15F	SR34-508	T-7F

Recommended clamping torque (N·m): SR34-506=0.9, SR34-508=0.9, SR14-560/S=1.2, SR14-571/S=3.2, SR14-506=4.8

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

Drill body for lathes and machining centers, L/D = 15, tool diameter ø12 - ø28 mm



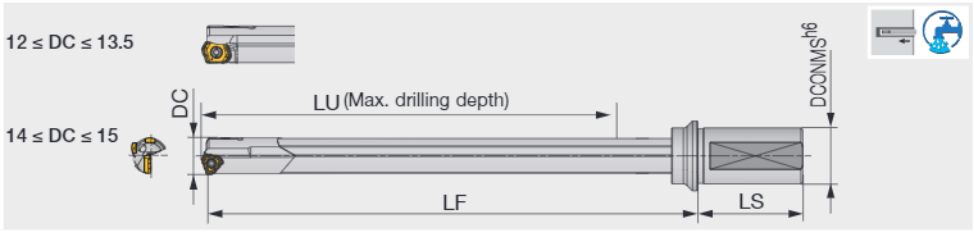
Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR12.00XM20-15	12	20	196.8	50	225	LOGT06...	GP04-055, GP04-16-055-DC
MCTR12.50XM20-15	12.5	20	196.8	50	226	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.00XM25-15	13	25	211.8	56	245	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.50XM25-15	13.5	25	211.8	56	245	LOGT06...	GP04-055, GP04-16-055-DC
MCTR14.00XM25-15	14	25	227	56	245	TOHT07...	GP05-060, GP05-18-060-DC
MCTR14.50XM25-15	14.5	25	227	56	262	TOHT07...	GP05-060, GP05-18-060-DC
MCTR15.00XM25-15	15	25	242	56	278	TOHT07...	GP05-060, GP05-18-060-DC
MCTR16.00XM25A-15	16	25	257.2	56	294	TOHT08...	GP05-075, GP05-18-075-DC
MCTR16.50XM25A-15	16.5	25	257.2	56	294	TOHT08...	GP05-075, GP05-18-075-DC
MCTR17.00XM25A-15	17	25	272.2	56	310	TOHT08...	GP05-075, GP05-18-075-DC
MCTR17.50XM25A-15	17.5	25	272.2	56	310	TOHT08...	GP05-075, GP05-18-075-DC
MCTR18.00XM25A-15	18	25	287.2	56	327	TOHT08...	GP05-075, GP05-18-075-DC
MCTR18.50XM25-15	18.5	25	288	56	327	TOHT09...	GP06-085, GP06-20-085-DC
MCTR19.00XM25-15	19	25	303	56	343	TOHT09...	GP06-085, GP06-20-085-DC
MCTR19.50XM25-15	19.5	25	303	56	343	TOHT09...	GP06-085, GP06-20-085-DC
MCTR20.00XM32-15	20	32	318	60	360	TOHT09...	GP06-085, GP06-20-085-DC
MCTR21.00XM32-15	21	32	333.2	60	376	TOHT10...	GP06-085, GP06-20-085-DC
MCTR22.00XM32-15	22	32	348.4	60	393	TOHT11...	GP06-100, GP06-20-100-DC
MCTR23.00XM32-15	23	32	363.4	60	409	TOHT11...	GP06-100, GP06-20-100-DC
MCTR24.00XM32-15	24	32	378.4	60	426	TOHT11...	GP06-100, GP06-20-100-DC
MCTR25.00XM32-15	25	32	393.4	60	442	TOHT11...	GP06-100, GP06-20-100-DC
MCTR26.00XM40-15	26	40	408.7	70	459	TOHT12...	GP06, GP06-20-120-DC
MCTR27.00XM40-15	27	40	423.7	70	475	TOHT12...	GP06, GP06-20-120-DC
MCTR28.00XM40-15	28	40	423.7	70	477	TOHT12...	GP06, GP06-20-120-DC
MCTR12.70XU25.4-15	12.7	25.4	196.8	56	229	LOGT06..	GP04-055, GP04-16-055-DC
MCTR13.49XU25.4-15	13.49	25.4	211.8	56	245	LOGT06..	GP04-055, GP04-16-055-DC
MCTR14.27XU25.4-15	14.27	25.4	227	56	261	TOHT07..	GP05-060, GP05-18-060-DC
MCTR15.88XU25.4-15	15.88	25.4	242	56	279	TOHT07..	GP05-060, GP05-18-060-DC
MCTR17.45XU25.4A-15	17.45	25.4	272.2	56	310	TOHT08..	GP05-075, GP05-18-075-DC
MCTR18.24XU25.4-15	18.24	25.4	288	56	327	TOHT09..	GP06-085, GP06-20-085-DC
MCTR18.64XU25.4-15	18.64	25.4	288	56	327	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.05XU25.4-15	19.05	25.4	303	56	343	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.94XU31.75-15	19.94	31.75	318	60	360	TOHT09..	GP06-085, GP06-20-085-DC
MCTR20.62XU31.75-15	20.62	31.75	318.2	60	360	TOHT10..	GP06-085, GP06-20-085-DC
MCTR22.23XU31.75-15	22.23	31.75	348.4	60	393	TOHT11..	GP06-100, GP06-20-100-DC
MCTR23.80XU31.75-15	23.8	31.75	378.4	60	426	TOHT11..	GP06-100, GP06-20-100-DC
MCTR25.40XU31.75-15	25.4	31.75	393.7	60	442	TOHT12..	GP06, GP06-20-120-DC
MCTR26.97XU31.75X-15	26.97	31.75	423.7	60	475	TOHT12..	GP06, GP06-20-120-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
12 - 28	0 / - 0.07	+ 0.05 / - 0.1

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DEEP TRI DRILL
MCTR L/D=20

Drill body for lathes and machining centers, L/D = 20, tool diameter ø12 - ø15 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR12.00XM20-20	12	20	261.8	50	290	LOGT06...	GP04-055, GP04-16-055-DC
MCTR12.50XM20-20	12.5	20	261.8	50	291	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.00XM25-20	13	25	281.8	56	315	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.50XM25-20	13.5	25	281.8	56	315	LOGT06...	GP04-055, GP04-16-055-DC
MCTR14.00XM25-20	14	25	302	56	336	TOHT07...	GP05-060, GP05-18-060-DC
MCTR14.50XM25-20	14.5	25	302	56	337	TOHT07...	GP05-060, GP05-18-060-DC
MCTR15.00XM25-20	15	25	322	56	358	TOHT07...	GP05-060, GP05-18-060-DC

øDc	Tool diameter tolerance	Hole diameter tolerance*
12 - 15	0 / - 0.07	+ 0.05 / - 0.1

SPARE PARTS



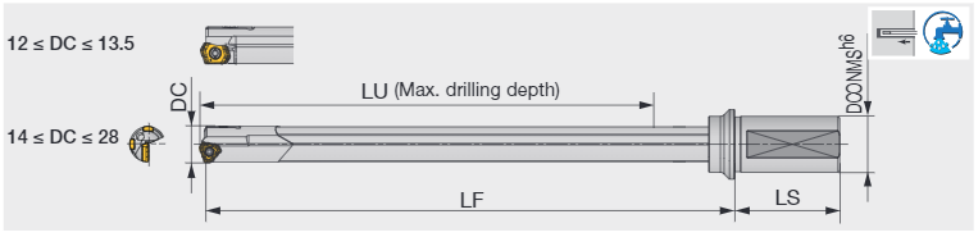

Designation	insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR12...-MCTR13.5...	SR10503833L040	T-7F	CSPB-2L043	IP-6F
MCTR14...-MCTR15...	SR14-560/S	T-8F	SR34-508	T-7F

Recommended clamping torque (N·m): CSPB-2L043=0.7, SR34-508=0.9, SR14-560/S=1.2, SR10503833L040=1.3

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

MCTR L/D=25

Drill body for lathes and machining centers, L/D = 25, tool diameter ø12 - ø28 mm



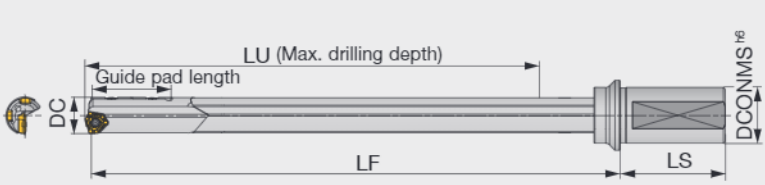
Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR12.00XM20-25	12	20	326.8	50	355	LOGT06...	GP04-055, GP04-16-055-DC
MCTR12.50XM20-25	12.5	20	326.8	50	356	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.00XM25-25	13	25	351.8	56	385	LOGT06...	GP04-055, GP04-16-055-DC
MCTR13.50XM25-25	13.5	25	351.8	56	385	LOGT06...	GP04-055, GP04-16-055-DC
MCTR14.00XM25-25	14	25	377	56	411	TOHT07...	GP05-060, GP05-18-060-DC
MCTR14.50XM25-25	14.5	25	377	56	412	TOHT07...	GP05-060, GP05-18-060-DC
MCTR15.00XM25-25	15	25	402	56	438	TOHT07...	GP05-060, GP05-18-060-DC
MCTR16.00XM25A-25	16	25	427.2	56	464	TOHT08...	GP05-075, GP05-18-075-DC
MCTR16.50XM25A-25	16.5	25	427.2	56	464	TOHT08...	GP05-075, GP05-18-075-DC
MCTR17.00XM25A-25	17	25	452.2	56	490	TOHT08...	GP05-075, GP05-18-075-DC
MCTR17.50XM25A-25	17.5	25	452.2	56	490	TOHT08...	GP05-075, GP05-18-075-DC
MCTR18.00XM25A-25	18	25	477.2	56	517	TOHT08...	GP05-075, GP05-18-075-DC
MCTR18.50XM25-25	18.5	25	478	56	517	TOHT09...	GP06-085, GP06-20-085-DC
MCTR19.00XM25-25	19	25	503	56	543	TOHT09...	GP06-085, GP06-20-085-DC
MCTR19.50XM25-25	19.5	25	503	56	543	TOHT09...	GP06-085, GP06-20-085-DC
MCTR20.00XM32-25	20	32	528	60	570	TOHT09...	GP06-085, GP06-20-085-DC
MCTR21.00XM32-25	21	32	553.2	60	596	TOHT10...	GP06-085, GP06-20-085-DC
MCTR22.00XM32-25	22	32	578.4	60	623	TOHT11...	GP06-100, GP06-20-100-DC
MCTR23.00XM32-25	23	32	603.4	60	649	TOHT11...	GP06-100, GP06-20-100-DC
MCTR24.00XM32-25	24	32	628.4	60	676	TOHT11...	GP06-100, GP06-20-100-DC
MCTR25.00XM32-25	25	32	653.4	60	702	TOHT11...	GP06-100, GP06-20-100-DC
MCTR26.00XM40-25	26	40	678.7	70	729	TOHT12...	GP06, GP06-20-120-DC
MCTR27.00XM40-25	27	40	703.7	70	755	TOHT12...	GP06, GP06-20-120-DC
MCTR28.00XM40-25	28	40	703.7	70	757	TOHT12...	GP06, GP06-20-120-DC
MCTR12.70XU25.4-25	12.7	25.4	326.8	56	359	LOGT06..	GP04-055, GP04-16-055-DC
MCTR13.49XU25.4-25	13.49	25.4	351.8	56	385	LOGT06..	GP04-055, GP04-16-055-DC
MCTR14.27XU25.4-25	14.27	25.4	377	56	411	TOHT07..	GP05-060, GP05-18-060-DC
MCTR15.88XU25.4-25	15.88	25.4	402	56	439	TOHT07..	GP05-060, GP05-18-060-DC
MCTR17.45XU25.4A-25	17.45	25.4	452.2	56	490	TOHT08..	GP05-075, GP05-18-075-DC
MCTR18.24XU25.4-25	18.24	25.4	478	56	517	TOHT09..	GP06-085, GP06-20-085-DC
MCTR18.64XU25.4-25	18.64	25.4	478	56	517	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.05XU25.4-25	19.05	25.4	503	56	543	TOHT09..	GP06-085, GP06-20-085-DC
MCTR19.94XU31.75-25	19.94	31.75	528	60	570	TOHT09..	GP06-085, GP06-20-085-DC
MCTR20.62XU31.75-25	20.62	31.75	528.2	60	570	TOHT10..	GP06-085, GP06-20-085-DC
MCTR22.23XU31.75-25	22.23	31.75	578.4	60	623	TOHT11..	GP06-100, GP06-20-100-DC
MCTR23.80XU31.75-25	23.8	31.75	628.4	60	676	TOHT11..	GP06-100, GP06-20-100-DC
MCTR25.40XU31.75-25	25.4	31.75	653.7	60	702	TOHT12..	GP06, GP06-20-120-DC
MCTR26.97XU31.75X-25	26.97	31.75	703.7	60	755	TOHT12..	GP06, GP06-20-120-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
12 - 28	0 / - 0.07	+ 0.05 / - 0.1

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DEEP TRI DRILL
MCTRCH L/D=25

Drill body for lathes and machining centers, available for crossed hole, L/D = 25, tool diameter ø14 - ø28 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad	Guide pad length
MCTRCH14.00XM25-25	14	25	377	56	411	TOHT07...	GP05-060, GP05-18-060-DC	36
MCTRCH15.00XM25-25	15	25	402	56	438	TOHT07...	GP05-060, GP05-18-060-DC	36
MCTRCH16.00XM25A-25	16	25	427.2	56	464	TOHT08...	GP05-075, GP05-18-075-DC	36
MCTRCH18.00XM25A-25	18	25	477.2	56	517	TOHT08...	GP05-075, GP05-18-075-DC	36
MCTRCH19.00XM25-25	19	25	503	56	543	TOHT09...	GP06-085, GP06-20-085-DC	40
MCTRCH20.00XM32-25	20	32	528	60	570	TOHT09...	GP06-085, GP06-20-085-DC	40
MCTRCH23.00XM32-25	23	32	603.4	60	649	TOHT11...	GP06-100, GP06-20-100-DC	40
MCTRCH24.00XM32-25	24	32	628.4	60	676	TOHT11...	GP06-100, GP06-20-100-DC	40
MCTRCH28.00XM40-25	28	40	703.7	70	757	TOHT12...	GP06, GP06-20-120-DC	40
MCTRCH14.68XU25.4-25	14.68	25.4	377	56	412	TOHT07...	GP05-060, GP05-18-060-DC	36
MCTRCH15.06XU25.4-25	15.06	25.4	402	56	438	TOHT07...	GP05-060, GP05-18-060-DC	36
MCTRCH18.24XU25.4-25	18.24	25.4	478	56	517	TOHT09...	GP06-085, GP06-20-085-DC	40
MCTRCH18.64XU25.4-25	18.64	25.4	478	56	517	TOHT09...	GP06-085, GP06-20-085-DC	40
MCTRCH23.80XU31.75-25	23.8	31.75	628.4	60	676	TOHT11...	GP06-100, GP06-20-100-DC	40

DC	Tool diameter tolerance	Hole diameter tolerance*
ø14 - ø28	0 / - 0.09	+ 0.05 / - 0.12

SPARE PARTS



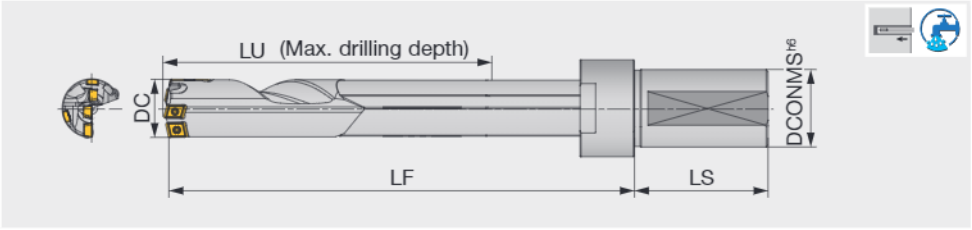

Designation	insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTRCH14... - MCTRCH20...	SR14-560/S	T-8F	SR34-508	T-7F
MCTRCH23... - MCTRCH24...	SR14-571/S	T-10/5	SR34-508	T-7F
MCTRCH28...	SR14-506	T-15F	SR34-508	T-7F

Recommended clamping torque (N·m): SR34-508=0.9, SR14-560/S=1.2, SR14-571/S=3.2, SR14-506=4.8

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

MCTR L/D=8

Drill body for lathes and machining centers, L/D = 8, tool diameter ø33.1, ø39.1 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR33.10XFM40-8	33.1	40	272	69	350	FBM07**-C, FBM06**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR39.10XFM40-8	39.1	40	320	69	407	FBM08**-C, FBM07**-I, FBH09**-P	GP08, GP08-25-155-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
33.1, 39.1	0 / - 0.07	+ 0.05 / - 0.1

*Max. DC = 40: Available tailor-made tools

SPARE PARTS

Designation	insert						Guide pad	
	Central		Intermediate		Peripheral		Screw	Wrench
	Screw	Wrench	Screw	Wrench	Screw	Wrench		
MCTR33.1..., MCTR39.1...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-3S	T-9F

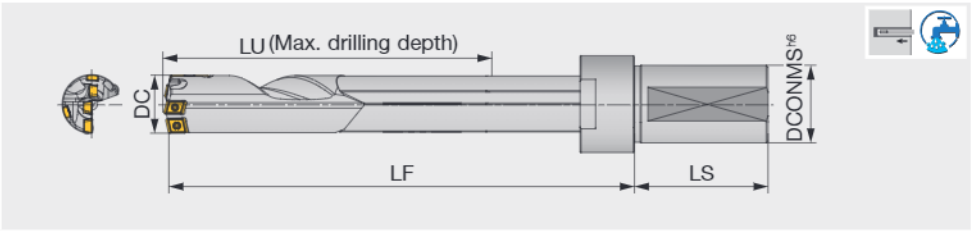
Recommended clamping torque (N·m): CSTB-2.5=1.3, CSTB-3S=2.3

Caution:
The drill pipe is blackened to increase the resistance to corrosion, and the finished surface may appear uneven.
This, however, will not affect the performance of the drill.

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DEEP TRI DRILL
MCTR L/D=10

Drill body for lathes and machining centers, L/D = 10, tool diameter ø29 - ø36 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR29.00XFM40-10	29	40	292.6	69	360	FBM07**-C, FBM06**-I, FBH06**-P	GP06, GP06-20-120-DC
MCTR30.00XFM40-10	30	40	312.9	69	383	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR31.00XFM40-10	31	40	312.9	69	383	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR32.00XFM40-10	32	40	323	69	395	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR33.00XFM40-10	33	40	333.1	69	406	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR34.00XFM40-10	34	40	343	69	418	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR35.00XFM40-10	35	40	353.1	69	428	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR36.00XFM40-10	36	40	363.1	69	441	FBM08**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR28.58XFU31.75-10	28.58	31.75	292.6	69	360	FBM07**-C, FBM06**-I, FBH06**-P	GP06, GP06-20-120-DC
MCTR31.75XFU31.75-10	31.75	31.75	323	69	395	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR34.93XFU31.75-10	34.93	31.75	353.1	69	428	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR38.10XFU31.75-10	38.1	31.75	393.4	69	474	FBM08**-C, FBM07**-I, FBH09**-P	GP08, GP08-25-155-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
28.58 - 38.1	0 / - 0.07	+ 0.05 / - 0.1

*Max. DC = 40: Available tailor-made tools

SPARE PARTS

Designation	insert						Guide pad	
	Central		Intermediate		Peripheral		Screw	Wrench
	Screw	Wrench	Screw	Wrench	Screw	Wrench		
MCTR28.58... - MCTR29...	CSTB-2.5	T-8F	CSTB-2.2	T-7F	CSTB-2.2	T-7F	SR34-508	T-7F
MCTR30... - MCTR33...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	SR34-508	T-7F
MCTR34... - MCTR38.1...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-3S	T-9F

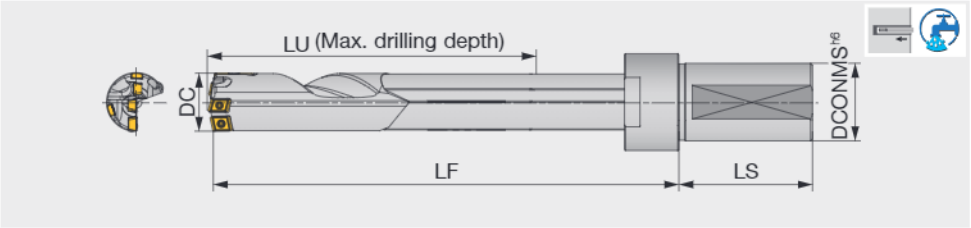
Recommended clamping torque (N·m): SR34-508=0.9, CSTB-2.2=1, CSTB-2.5=1.3, CSTB-3S=2.3,

Caution:
The drill pipe is blackened to increase the resistance to corrosion, and the finished surface may appear uneven.
This, however, will not affect the performance of the drill.

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

MCTR L/D=15

Drill body for lathes and machining centers, L/D = 15, tool diameter ø29 - ø36 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR29.00XFM40-15	29	40	437.6	69	505	FBM07**-C, FBM06**-I, FBH06**-P	GP06, GP06-20-120-DC
MCTR30.00XFM40-15	30	40	467.9	69	538	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR31.00XFM40-15	31	40	467.9	69	538	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR32.00XFM40-15	32	40	483	69	555	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR33.00XFM40-15	33	40	498.1	69	571	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR34.00XFM40-15	34	40	513	69	588	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR35.00XFM40-15	35	40	528.1	69	603	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR36.00XFM40-15	36	40	543.1	69	621	FBM08**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR28.58XFU31.75-15	28.58	31.75	437.6	69	505	FBM07**-C, FBM06**-I, FBH06**-P	GP06, GP06-20-120-DC
MCTR31.75XFU31.75-15	31.75	31.75	483	69	555	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR34.93XFU31.75-15	34.93	31.75	528.1	69	603	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR38.10XFU31.75-15	38.1	31.75	588.4	69	669	FBM08**-C, FBM07**-I, FBH09**-P	GP08, GP08-25-155-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
28.58 - 38.1	0 / - 0.07	+ 0.05 / - 0.1

*Max. DC = 40: Available tailor-made tools

SPARE PARTS

Designation	insert						Guide pad	
	Central		Intermediate		Peripheral		Screw	Wrench
	Screw	Wrench	Screw	Wrench	Screw	Wrench		
MCTR28.58... - MCTR29...	CSTB-2.5	T-8F	CSTB-2.2	T-7F	CSTB-2.2	T-7F	SR34-508	T-7F
MCTR30... - MCTR33...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	SR34-508	T-7F
MCTR34... - MCTR38...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-3S	T-9F

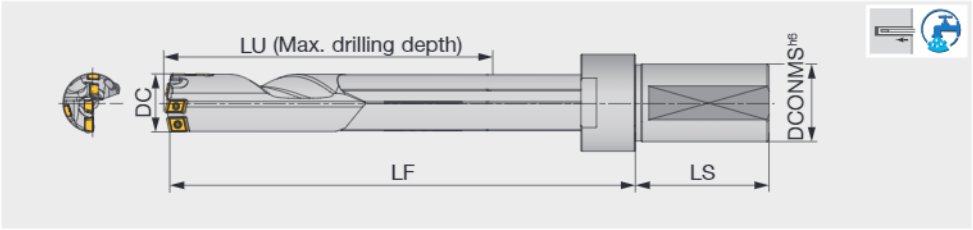
Recommended clamping torque (N·m): SR34-508=0.9, CSTB-2.2=1, CSTB-2.5=1.3, CSTB-3S=2.3,

Caution:
The drill pipe is blackened to increase the resistance to corrosion, and the finished surface may appear uneven.
This, however, will not affect the performance of the drill.

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DEEP TRI DRILL
MCTR L/D=25

Drill body for lathes and machining centers, L/D = 25, tool diameter ø29 - ø36 mm



Designation	DC	DCONMS	LU	LS	LF	Insert	Guide pad
MCTR30.00XFM40-25	30	40	777.9	69	848	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR28.58XFU31.75-25*	28.58	31.75	727.6	69	795	FBM07**-C, FBM06**-I, FBH06**-P	GP06, GP06-20-120-DC
MCTR31.75XFU31.75-25*	31.75	31.75	803	69	875	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
MCTR34.93XFU31.75-25*	34.93	31.75	878.1	69	953	FBM07**-C, FBM07**-I, FBH08**-P	GP07, GP07-20-120-DC
MCTR38.10XFU31.75-25*	38.1	31.75	978.4	69	1059	FBM08**-C, FBM07**-I, FBH09**-P	GP08, GP08-25-155-DC

will be released in 2019.

DC	Tool diameter tolerance	Hole diameter tolerance*
28.58 - 38.1	0 / - 0.07	+ 0.05 / - 0.1

*Max. DC = 40: Available tailor-made tools

SPARE PARTS

Designation	insert						Guide pad	
	Central		Intermediate		Peripheral		Screw	Wrench
	Screw	Wrench	Screw	Wrench	Screw	Wrench		
MCTR28...	CSTB-2.5	T-8F	CSTB-2.2	T-7F	CSTB-2.2	T-7F	SR34-508	T-7F
MCTR30... - MCTR31...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	SR34-508	T-7F
MCTR34... - MCTR38...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-3S	T-9F

Recommended clamping torque (N·m): SR34-508=0.9, CSTB-2.2=1, CSTB-2.5=1.3, CSTB-3S=2.3,

Caution:
The drill pipe is blackened to increase the resistance to corrosion, and the finished surface may appear uneven.
This, however, will not affect the performance of the drill.

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DESIGNATION FOR TAILOR MADE TOOLS

For tailor-made drills, use the below guide line to make the designation (Cat. No).

MCTR	18.50	XM	25	-	22
①	②		③		④

① Series	
MCTR	DeepTri-Drill (For machining centers and lathes)
MCTRCH	DeepTri-Drill (For gundrill machines, cross hole specification)

② Drill diameter DC (mm)	
18.50	18.50

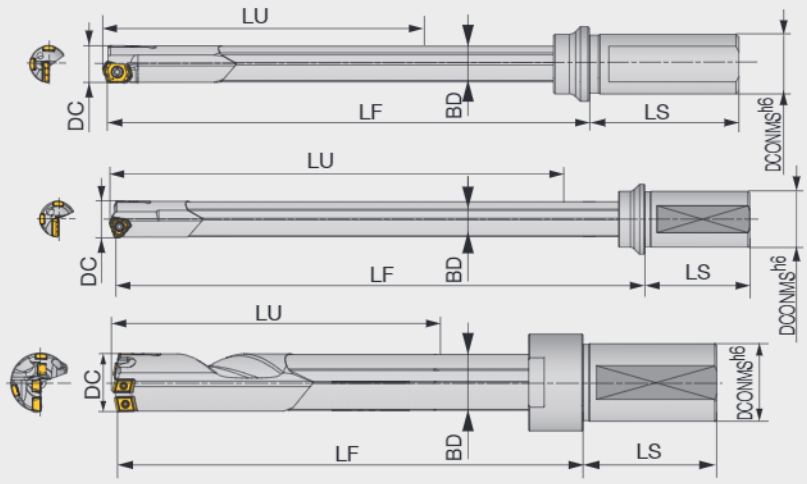
③ Driver diameter DCONMS (mm)	
25	25

④ L/D ratio

12 ≤ DC < 14

14 ≤ DC ≤ 28

28 < DC ≤ 40



AVAILABLE RANGE OF TAILOR MADE DRILL BODIES

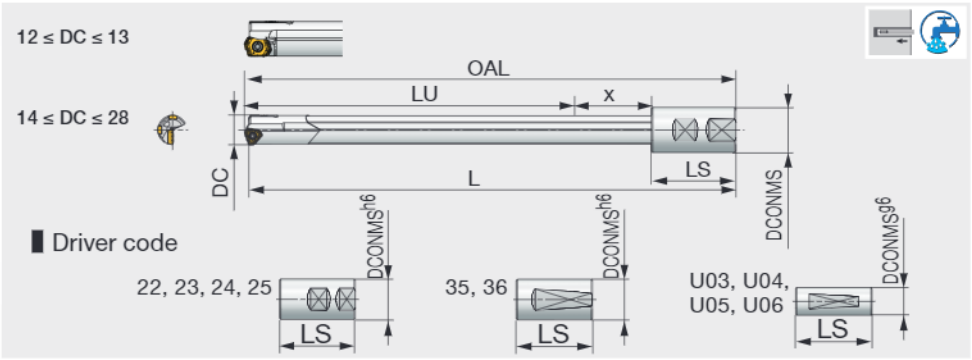
DC	DCONMS	LU	LS	LF
12 - 12.49	20	124.8 - 326.8	50	153 - 225
12.5 - 12.99	20	123.8 - 326.8	50	153 - 226
13 - 13.99	25	122.8 - 351.8	56	156 - 245
14 - 14.49	25	122 - 377	56	156 - 411
14.5 - 14.99	25	122 - 377	56	157 - 412
15 - 15.99	25	130 - 402	56	166 - 438
16 - 16.79	25	138.2 - 427.2	56	175 - 464
16.8 - 17.69	25	146.2 - 452.2	56	184 - 490
17.7 - 18.69	25	154.2 - 478	56	194 - 517
18.7 - 19.69	25	163 - 503	56	203 - 543
19.7 - 20.69	32	171 - 528.2	60	213 - 570
20.7 - 21.69	32	179.2 - 553.2	60	222 - 596
21.7 - 22.69	32	187.2 - 578.4	60	232 - 623
22.7 - 23.69	32	195.4 - 603.4	60	241 - 649
23.7 - 24.69	32	203.4 - 628.4	60	251 - 676
24.7 - 25.69	32	211.4 - 653.7	60	260 - 702

DC	DCONMS	LU	LS	LF
25.7 - 26.69	40	219.7 - 678.7	70	270 - 719
26.7 - 27.69	40	227.7 - 703.7	70	279 - 745
27.7 - 28	40	227.7 - 703.7	70	281 - 747
28.01 - 29	40	148.7 - 728.7	69	215 - 795
29.01 - 29.99	40	153.7 - 753.7	69	222 - 822
30 - 31	40	158.7 - 778.7	69	228 - 848
31.01 - 32	40	163.7 - 803.7	69	235 - 875
32.01 - 33	40	168.7 - 828.7	69	241 - 901
33.01 - 34	40	173.7 - 853.7	69	248 - 928
34.01 - 35	40	178.7 - 878.7	69	253 - 953
35.01 - 36	40	183.7 - 903.7	69	261 - 981
36.01 - 37	40	188.7 - 928.7	69	266 - 1006
37.01 - 38	40	193.7 - 953.7	69	274 - 1034
38.01 - 39	40	198.7 - 978.7	69	279 - 1059
39.01 - 40	40	203.7 - 1003.7	69	287 - 1087

DEEP TRI DRILL

TRLG

Drill body for gundrill machines, tool diameter ø12 - ø28 mm



Designation	DC	L	DCONMS	LU	OAL	LS	x	Driver code	Insert	Guide pad
TRLG12.00X800-U03	12	800	19.05	713.8	801.8	70	18	U03	LOGT06...	GP04-055, GP04-16-055-DC
TRLG12.00X800-22	12	800	20	733.8	801.8	50	18	22	LOGT06...	GP04-055, GP04-16-055-DC
TRLG12.00X1000-U03	12	1000	19.05	913.8	1001.8	70	18	U03	LOGT06...	GP04-055, GP04-16-055-DC
TRLG12.00X1000-22	12	1000	20	933.8	1001.8	50	18	22	LOGT06...	GP04-055, GP04-16-055-DC
TRLG12.00X1650-U03	12	1650	19.05	1563.8	1651.8	70	18	U03	LOGT06...	GP04-055, GP04-16-055-DC
TRLG12.00X1650-22	12	1650	20	1583.8	1651.8	50	18	22	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X800-U04	13	800	25.4	711.8	801.8	70	20	U04	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X800-23	13	800	25	725.8	801.8	56	20	23	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X1000-U04	13	1000	25.4	911.8	1001.8	70	20	U04	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X1000-23	13	1000	25	925.8	1001.8	56	20	23	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X1650-U04	13	1650	25.4	1561.8	1651.8	70	20	U04	LOGT06...	GP04-055, GP04-16-055-DC
TRLG13.00X1650-23	13	1650	25	1575.8	1651.8	56	20	23	LOGT06...	GP04-055, GP04-16-055-DC
TRLG14.00X800-23	14	800	25	725	802	56	21	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.00X800-U04	14	800	25.4	711	802	70	21	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.00X1000-23	14	1000	25	925	1002	56	21	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.00X1000-U04	14	1000	25.4	911	1002	70	21	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.00X1650-23	14	1650	25	1575	1652	56	21	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.00X1650-U04	14	1650	25.4	1561	1652	70	21	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X800-23	14.5	800	25	724	802	56	22	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X800-U04	14.5	800	25.4	710	802	70	22	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X1000-23	14.5	1000	25	924	1002	56	22	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X1000-U04	14.5	1000	25.4	910	1002	70	22	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X1650-23	14.5	1650	25	1574	1652	56	22	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG14.50X1650-U04	14.5	1650	25.4	1560	1652	70	22	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X800-23	15	800	25	723	802	56	23	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X800-U04	15	800	25.4	709	802	70	23	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X1000-23	15	1000	25	923	1002	56	23	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X1000-U04	15	1000	25.4	909	1002	70	23	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X1650-23	15	1650	25	1573	1652	56	23	23	TOHT07...	GP05-060, GP05-18-060-DC
TRLG15.00X1650-U04	15	1650	25.4	1559	1652	70	23	U04	TOHT07...	GP05-060, GP05-18-060-DC
TRLG16.00X800-23A	16	800	25	722.2	802.2	56	24	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG16.00X800-U04A	16	800	25.4	708.2	802.2	70	24	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG16.00X1000-23A	16	1000	25	922.2	1002.2	56	24	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG16.00X1000-U04A	16	1000	25.4	908.2	1002.2	70	24	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG16.00X1500-23A	16	1500	25	1422.2	1502.2	56	24	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG16.00X1500-U04A	16	1500	25.4	1408.2	1502.2	70	24	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG17.00X800-23A	17	800	25	721.2	802.2	56	25	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG17.00X800-U04A	17	800	25.4	707.2	802.2	70	25	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG17.00X1000-23A	17	1000	25	921.2	1002.2	56	25	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG17.00X1000-U04A	17	1000	25.4	907.2	1002.2	70	25	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.00X800-23A	18	800	25	719.2	802.2	56	27	23	TOHT08...	GP05-075, GP05-18-075-DC

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

Designation	DC	L	DCONMS	LU	OAL	LS	x	Driver code	Insert	Guide pad
TRLG18.00X800-U04A	18	800	25.4	705.2	802.2	70	27	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.00X1000-23A	18	1000	25	919.2	1002.2	56	27	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.00X1000-U04A	18	1000	25.4	905.2	1002.2	70	27	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.00X1500-23A	18	1500	25	1419.2	1502.2	56	27	23	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.00X1500-U04A	18	1500	25.4	1405.2	1502.2	70	27	U04	TOHT08...	GP05-075, GP05-18-075-DC
TRLG18.50X1500-23	18.5	1500	25	1420	1503	56	27	23	TOHT09...	GP06-085, GP06-20-085-DC
TRLG18.50X1500-U04	18.5	1500	25.4	1406	1503	70	27	U04	TOHT09...	GP06-085, GP06-20-085-DC
TRLG19.00X800-23	19	800	25	719	803	56	28	23	TOHT09...	GP06-085, GP06-20-085-DC
TRLG19.00X800-U04	19	800	25.4	705	803	70	28	U04	TOHT09...	GP06-085, GP06-20-085-DC
TRLG19.00X1000-23	19	1000	25	919	1003	56	28	23	TOHT09...	GP06-085, GP06-20-085-DC
TRLG19.00X1000-U04	19	1000	25.4	905	1003	70	28	U04	TOHT09...	GP06-085, GP06-20-085-DC
TRLG20.00X800-24	20	800	32	713	803	60	30	24	TOHT09...	GP06-085, GP06-20-085-DC
TRLG20.00X800-U05	20	800	31.75	703	803	70	30	U05	TOHT09...	GP06-085, GP06-20-085-DC
TRLG20.00X1000-24	20	1000	32	913	1003	60	30	24	TOHT09...	GP06-085, GP06-20-085-DC
TRLG20.00X1000-U05	20	1000	31.75	903	1003	70	30	U05	TOHT09...	GP06-085, GP06-20-085-DC
TRLG21.00X1000-24	21	1000	32	912.2	1003.2	60	31	24	TOHT10...	GP06-085, GP06-20-085-DC
TRLG21.00X1000-U05	21	1000	31.75	902.2	1003.2	70	31	U05	TOHT10...	GP06-085, GP06-20-085-DC
TRLG22.00X1000-24	22	1000	32	910.4	1003.4	60	33	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG22.00X1000-U05	22	1000	31.75	900.4	1003.4	70	33	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG22.00X1500-24	22	1500	32	1410.4	1503.4	60	33	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG22.00X1500-U05	22	1500	31.75	1400.4	1503.4	70	33	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG23.00X1000-24	23	1000	32	909.4	1003.4	60	34	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG23.00X1000-U05	23	1000	31.75	899.4	1003.4	70	34	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG23.00X1500-24	23	1500	32	1409.4	1503.4	60	34	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG23.00X1500-U05	23	1500	31.75	1399.4	1503.4	70	34	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG24.00X1000-24	24	1000	32	907.4	1003.4	60	36	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG24.00X1000-U05	24	1000	31.75	897.4	1003.4	70	36	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG24.00X1500-24	24	1500	32	1407.4	1503.4	60	36	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG24.00X1500-U05	24	1500	31.75	1397.4	1503.4	70	36	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG25.00X1000-24	25	1000	32	906.4	1003.4	60	37	24	TOHT11...	GP06-100, GP06-20-100-DC
TRLG25.00X1000-U05	25	1000	31.75	896.4	1003.4	70	37	U05	TOHT11...	GP06-100, GP06-20-100-DC
TRLG26.00X1000-25	26	1000	40	894.7	1003.7	70	39	25	TOHT12...	GP06, GP06-20-120-DC
TRLG26.00X1000-U06	26	1000	38.1	894.7	1003.7	70	39	U06	TOHT12...	GP06, GP06-20-120-DC
TRLG27.00X1000-25	27	1000	40	893.7	1003.7	70	40	25	TOHT12...	GP06, GP06-20-120-DC
TRLG27.00X1000-U06	27	1000	38.1	893.7	1003.7	70	40	U06	TOHT12...	GP06, GP06-20-120-DC
TRLG28.00X1000-25	28	1000	40	891.7	1003.7	70	42	25	TOHT12...	GP06, GP06-20-120-DC
TRLG28.00X1000-U06	28	1000	38.1	891.7	1003.7	70	42	U06	TOHT12...	GP06, GP06-20-120-DC
TRLG12.70X1219-U04	12.7	1219	25.4	1131.8	1220.8	70	19	U04	LOGT06..	GP04-055, GP04-16-055-DC
TRLG12.70X1524-U04	12.7	1524	25.4	1436.8	1525.8	70	19	U04	LOGT06..	GP04-055, GP04-16-055-DC
TRLG13.49X1219-U04	13.49	1219	25.4	1130.8	1220.8	70	20	U04	LOGT06..	GP04-055, GP04-16-055-DC
TRLG13.49X1527-U04	13.49	1527	25.4	1438.8	1528.8	70	20	U04	LOGT06..	GP04-055, GP04-16-055-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
12 - 28	0 / - 0.07	+ 0.05 / - 0.1

SPARE PARTS




Designation	insert		Guide pad	
	Screw	Wrench	Screw	Wrench
TRLG12... - TRLG13...	SR10503833L040	T-7F	CSPB-2L043	IP-6F
TRLG14... - TRLG20...	SR14-560/S	T-8F	SR34-508	T-7F
TRLG21...	SR34-506	T-9F	SR34-508	T-7F
TRLG22... - TRLG25...	SR14-571/S	T-10/5	SR34-508	T-7F
TRLG26... - TRLG28...	SR14-506	T-15F	SR34-508	T-7F

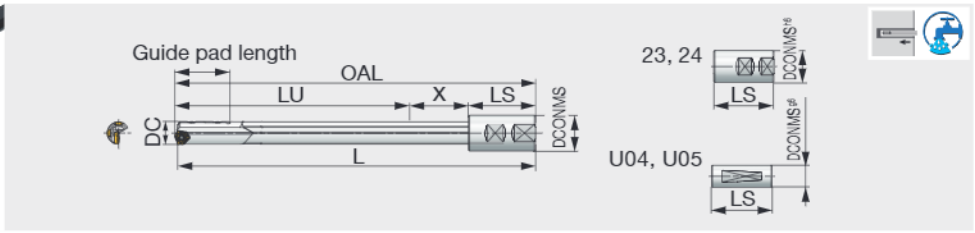
Recommended clamping torque (N·m): CSPB-2L043=0.7, SR34-508=0.9, SR34-506=0.9, SR14-560/S=1.2, SR10503833L040=1.3, SR14-571/S=3.2, SR14-506=4.8

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DEEP TRI DRILL

TRLGCH

Drill body for gundrill machines, available for crossed hole, tool diameter ø12 - ø28 mm



Designation	DC	L	DCONMS	LU	OAL	LS	X	Driver code	Insert	Guide pad	Guide pad length
TRLGCH15.00X1650-U04	15	1650	25.4	1559	1652	70	23	U04	TOHT07...	GP05-060, GP05-18-060-DC	36
TRLGCH18.00X1650-U04A	18	1650	25.4	1555.2	1652.2	70	27	U04	TOHT08...	GP05-075, GP05-18-075-DC	36
TRLGCH23.00X1650-U05	23	1650	31.75	1549.4	1653.4	70	34	U05	TOHT11...	GP06-100, GP06-20-100-DC	40
TRLGCH24.00X1650-U05	24	1650	31.75	1547.4	1653.4	70	36	U05	TOHT11...	GP06-100, GP06-20-100-DC	40
TRLGCH15.00X1650-23	15	1650	25	1573	1652	56	23	23	TOHT07...	GP05-060, GP05-18-060-DC	36
TRLGCH18.00X1650-23A	18	1650	25	1569.2	1652.2	56	27	23	TOHT08...	GP05-075, GP05-18-075-DC	36
TRLGCH23.00X1650-24	23	1650	32	1559.4	1653.4	60	34	24	TOHT11...	GP06-100, GP06-20-100-DC	40
TRLGCH24.00X1650-24	24	1650	32	1557.4	1653.4	60	36	24	TOHT11...	GP06-100, GP06-20-100-DC	40
TRLGCH14.68X1830-U05	14.68	1830	31.75	1740	1832	70	22	U05	TOHT07...	GP05-060, GP05-18-060-DC	36
TRLGCH15.06X1830-U05	15.06	1830	31.75	1739	1832	70	23	U05	TOHT07...	GP05-060, GP05-18-060-DC	36
TRLGCH18.24X1830-U05	18.24	1830	31.75	1736	1833	70	27	U05	TOHT09...	GP06-085, GP06-20-085-DC	40
TRLGCH18.64X1830-U05	18.64	1830	31.75	1736	1833	70	27	U05	TOHT09...	GP06-085, GP06-20-085-DC	40
TRLGCH23.42X1830-U05	23.42	1830	31.75	1729.4	1833.4	70	34	U05	TOHT11...	GP06-100, GP06-20-100-DC	40
TRLGCH23.80X1830-U05	23.8	1830	31.75	1727.4	1833.4	70	36	U05	TOHT11...	GP06-100, GP06-20-100-DC	40

DC	Tool diameter tolerance	Hole diameter tolerance*
ø14.68 - ø24	0 / - 0.09	+ 0.05 / - 0.12

SPARE PARTS



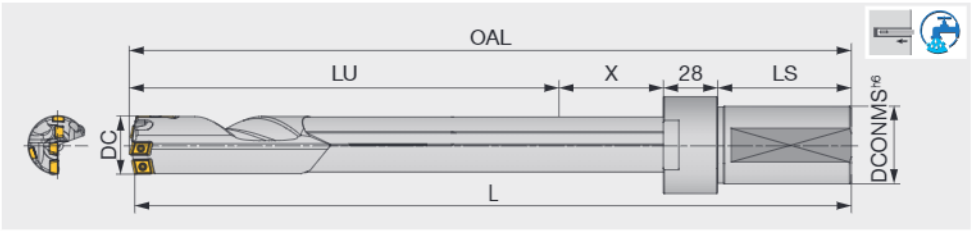

Designation	insert		Guide pad	
	Screw	Wrench	Screw	Wrench
TRLGCH14... - TRLGCH15...	SR14-560/S	T-8F	SR34-508	T-7F
TRLGCH18.0**A	SR14-560/S	T-8F	SR34-508	T-7F
TRLGCH18.2... - TRLGCH18.6...	SR14-560/S	T-8F	SR34-508	T-7F
TRLGCH23... - TRLGCH24...	SR14-571/S	T-9F	SR34-508	T-7F

Recommended clamping torque (N·m): SR14-560/S=1.2, SR14-571/S=3.2, SR34-508=0.9

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

TRLG

Drill body for gundrill machines, tool diameter ø30 mm



Designation	DC	L	DCONMS	LU	OAL	LS	X	Driver code	Insert	Guide pad
TRLG30.00X1000-FM40	30	1000	40	860.9	1002.9	69	45	FM40	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
TRLG30.00X1650-FM40	30	1650	40	1510.9	1652.9	69	45	FM40	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC
TRLG30.00X1650-FU38.1	30	1650	38.1	1510.9	1652.9	69	45	FU38.1	FBM07**-C, FBM07**-I, FBH08**-P	GP06, GP06-20-120-DC

DC	Tool diameter tolerance	Hole diameter tolerance*
30	0 / - 0.07	+ 0.05 / - 0.1

*Max. DC = 40: Available tailor-made tools

SPARE PARTS

Designation	insert						Guide pad	
	Central		Intermediate		Peripheral		Screw	Wrench
	Screw	Wrench	Screw	Wrench	Screw	Wrench		
TRLG30...	CSTB-2.5	T-8F	CSTB-2.5	T-8F	CSTB-2.5	T-8F	SR34-508	T-7F

Recommended clamping torque (N·m): CSTB-2.5=1.3, SR34-508=0.9

Caution:
The drill pipe is blackened to increase the resistance to corrosion, and the finished surface may appear uneven.
This, however, will not affect the performance of the drill.

Reference pages: Inserts, Guide pads → J105 - J108, Standard cutting conditions → J109

DESIGNATION FOR TAILOR MADE TOOLS

For tailor-made drills, use the below guide line to make the designation (Cat. No).

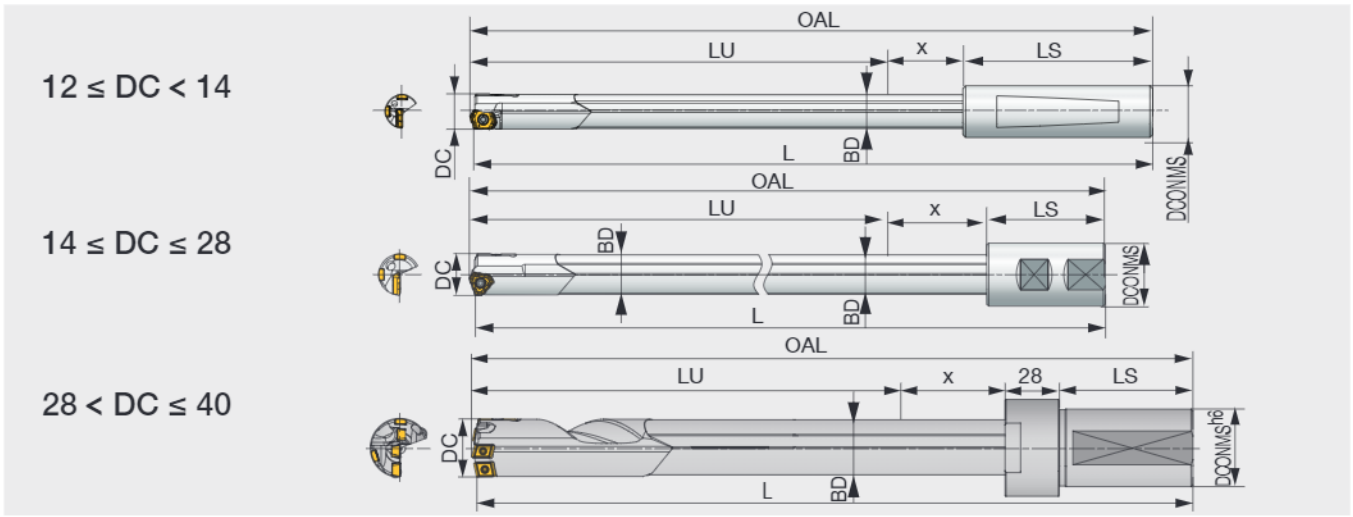
①	②		③		④
TRLG	18.50	X	900	-	23

① Series	
TRLG	DeepTri-Drill (for gundrill machines)
TRLGCH	DeepTri-Drill (For gundrill machines, cross hole specification)

② Drill diameter DC (mm)	
18.50	18.50

③ Overall length: L (mm)	
900	900

④ Driver code	
23	23



AVAILABLE RANGE OF TAILOR MADE DRILL BODIES

DC	L	x
12 - 12.49	400 - 2400	18
12.5 - 12.99	400 - 2400	19
13 - 13.99	400 - 2400	20
14 - 14.49	400 - 2400	21
14.5 - 14.99	400 - 2400	22
15 - 15.99	400 - 2400	23
16 - 16.79	400 - 2400	24
16.8 - 17.69	400 - 2400	25
17.7 - 18.69	400 - 2400	27
18.7 - 19.69	400 - 2400	28
19.7 - 20.69	400 - 2400	30
20.7 - 21.69	400 - 2400	31
21.7 - 22.69	400 - 2400	33
22.7 - 23.69	400 - 2400	34
23.7 - 24.69	400 - 2400	36
24.7 - 25.69	400 - 2400	37

DC	L	x
25.7 - 26.69	400 - 2400	39
26.7 - 27.69	400 - 2400	40
27.7 - 28	400 - 2400	42
28.01 - 29	400 - 2400	42
29.01 - 29.99	400 - 2400	44
30 - 31	400 - 2400	45
31.01 - 32	400 - 2400	47
32.01 - 33	400 - 2400	48
33.01 - 34	400 - 2400	50
34.01 - 35	400 - 2400	50
35.01 - 36	400 - 2400	53
36.01 - 37	400 - 2400	53
37.01 - 38	400 - 2400	56
38.01 - 39	400 - 2400	56
39.01 - 40	400 - 2400	59

Please provide the driver shape depending on your request

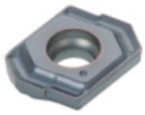
TUBE DIAMETER

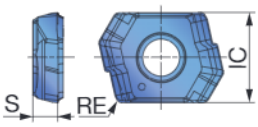
DC	BD
12 - 12.49	11.5
12.5 - 12.99	12
13 - 13.49	12.5
13.5 - 13.99	13
14 - 14.49	13.5
14.5 - 14.99	14
15 - 15.99	14.5
16 - 16.79	15.5
16.8 - 17.69	16.2
17.7 - 18.69	17.2
18.7 - 19.69	18.2
19.7 - 20.69	19
20.7 - 21.69	20
21.7 - 22.69	21
22.7 - 23.69	22
23.7 - 24.69	23

DC	BD
24.7 - 25.69	24
25.7 - 26.69	25
26.7 - 27.69	26
27.7 - 28	27
28.01 - 29	27
29.01 - 29.99	28
30 - 31	29
31.01 - 32	30
32.01 - 33	31
33.01 - 34	32
34.01 - 35	32
35.01 - 36	34
36.01 - 37	34
37.01 - 38	36
38.01 - 39	36
39.01 - 40	38

INSERT

LOGT-NDJ





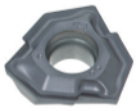
P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

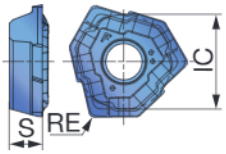
★ : First choice
☆ : Second choice

Designation	DCN	DCX	Coated AH725	S	RE
LOGT060204R-NDJ	12	13.99	●	2	0.4

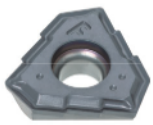
●: Line - up
Package quantity = 10 pcs.

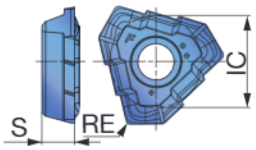
TOHT-NDL (07..., 08...)





TOHT-NDL (09... - 12...)





P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

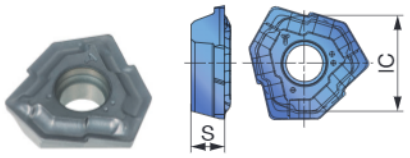
★ : First choice
☆ : Second choice

Designation	DCN	DCX	Coated AH725	IC	S	RE
TOHT070304R-NDL	14	15.99	●	7.69	2.3	0.4
TOHT080305R-NDL	16	18	●	8.55	2.8	0.5
TOHT090305R-NDL	18.01	20	●	8.32	3	0.5
TOHT100305R-NDL	20.01	21.99	●	9.23	3.3	0.5
TOHT110405R-NDL	22	25	●	10.4	3.8	0.5
TOHT120405R-NDL	25.01	28	●	11.59	4.3	0.5

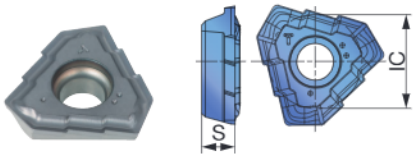
●: Line - up
Package quantity = 10 pcs.

INSERT

TOHT-NDJ (070..., 080...)



TOHT-NDJ (090... - 120...)



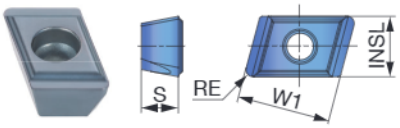
P	Steel	★	
M	Stainless	★	
K	Cast iron	★	
N	Non-ferrous	★	
S	Superalloys	★	
H	Hard materials	★	

★ : First choice
☆ : Second choice

Designation	DCN	DCX	Coated AH725	IC	S
TOHT070304R-NDJ	14	15.99	●	7.69	2.3
TOHT080305R-NDJ	16	18	●	8.55	2.8
TOHT090305R-NDJ	18.01	20	●	8.32	3
TOHT100305R-NDJ	20.01	21.99	●	9.23	3.3
TOHT110405R-NDJ	22	25	●	10.4	3.8
TOHT120405R-NDJ	25.01	28	●	11.59	4.3

●: Line - up
Package quantity = 10 pcs.

FBM-C (For central)



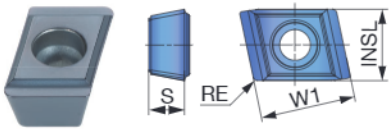
P	Steel	★	
M	Stainless	★	
K	Cast iron	★	
N	Non-ferrous	★	
S	Superalloys	★	
H	Hard materials	★	

★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated UC2220	S	DCN	DCX	RE
FBM06504LG-C	6.5	10	●	4	28.01	35	0.8
FBM08004LG-C	8	10	●	4	35.01	40	0.8

●: Line - up
Package quantity = 10 pcs.

FBM-I (For intermediate)



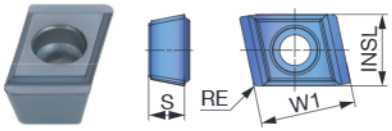
P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated	S	DCN	DCX	RE
			UC2220				
FBM05503RG-I	5.5	8		3	28.01	29.99	0.4
FBM06504RG-I	6.5	10	●	4	30	40	0.4
FBM08004RG-I	8	10	●	4	41.01	51	0.4

●: Line - up
Package quantity = 10 pcs.

FBH-P (For peripheral)



P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

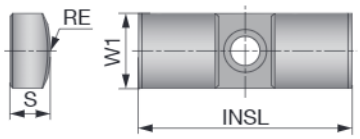
★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated	S	DCN	DCX	RE
			UC2220				
FBH06003RG-P	6	8	●	3	28.01	29.99	0.4
FBH07504RG-P	7.5	10	●	4	30	38	0.4
FBH09004RG-P	9	10	●	4	38.01	40	0.4

●: Line - up
Package quantity = 10 pcs.

GUIDE PAD

GP04, 05, 06, 07, 08



P	Steel	☆	★	☆
M	Stainless	☆	★	☆
K	Cast iron	☆	★	☆
N	Non-ferrous	☆	★	☆
S	Superalloys	☆	★	☆
H	Hard materials	☆	★	☆

★ : First choice
☆ : Second choice

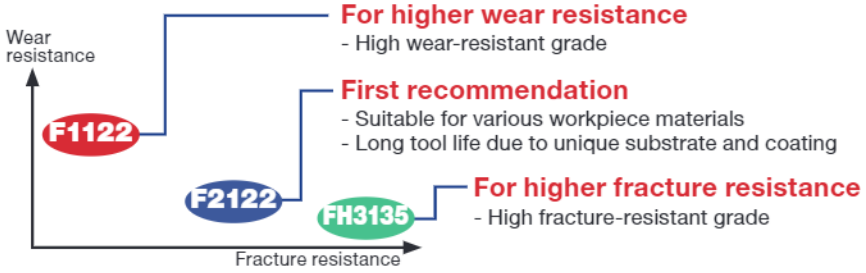
Designation	DCN	DCX	Coated			W1	INSL	S	RE
			F1122	F2122	FH3135				
GP04-055	12	13.99	●	●		4	16	2	5.5
GP04-16-055-DC	12	13.99			●	4	16	2	5.5
GP05-060	14	15.99	●	●		5	18	2.5	6
GP05-18-060-DC	14	15.99			●	5	18	2.5	6
GP05-075	16	18	●	●		5	18	2.5	7.5
GP05-18-075-DC	16	18			●	5	18	2.5	7.5
GP06-085	18.01	21	●	●		6	20	3	8.5
GP06-20-085-DC	18.01	21			●	6	20	3	8.5
GP06-100	21.01	25	●	●		6	20	3	10
GP06-20-100-DC	21.01	25			●	6	20	3	10
GP06	25.01	33	●	●		6	20	3	12
GP06-20-120-DC	25.01	33			●	6	20	3	12
GP07	33.01	38	●	●		7	20	3.5	12
GP07-20-120-DC	33.01	38			●	7	20	3.5	12
GP08	38.01	40	●	●		8	25	4.5	15.5
GP08-25-155-DC	38.01	40			●	8	25	4.5	15.5

●: Line - up
Package quantity = 5 pcs.

REPLACING GUIDE PADS

Guide pads are subject to wear, like inserts

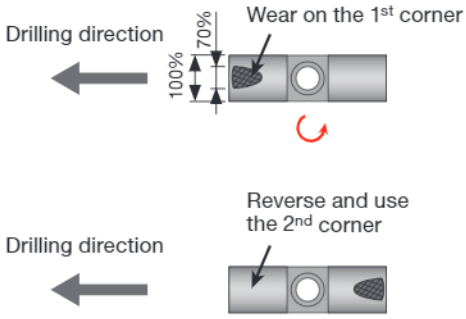
- The guide pad has two corners.
- Each guide pad can be used on two sides. When the first corner wears out a 70% of the width, reverse the guide pad to use the second corner.
- Replace with a new guide pad when the second corner wears out.



For higher wear resistance
- High wear-resistant grade

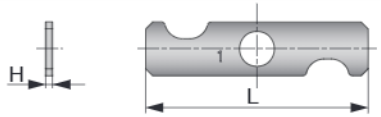
First recommendation
- Suitable for various workpiece materials
- Long tool life due to unique substrate and coating

For higher fracture resistance
- High fracture-resistant grade

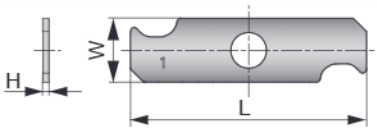


SHIM

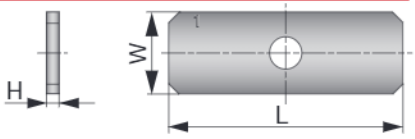
SHIMSET-GP04



SHIMSET-GP05



SHIMSET-GP06



Designation	DC	W	L	H
SHIMSET-GP04	12 - 13.99	4	16	0.01 - 0.05
SHIMSET-GP05	14 - 18	5	18	0.01 - 0.05
SHIMSET-GP06	18.01 - 33	5	18	0.01 - 0.05

Note: Shim thickness: 0.01 / 0.02 / 0.03 / 0.04 / 0.05 mm
Package quantity = 5 pcs. (1pc per each thickness)
Note: Shim sheets are sold as set.

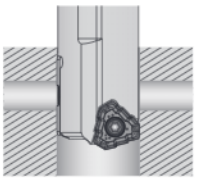
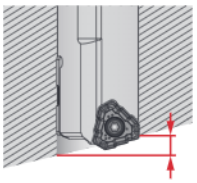
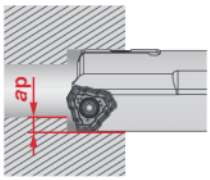
Shim sheet combinations by adjusting diameter

Adjustment diameter	Shim thickness in guide pad of diameter side.	Shim thickness in guide pad of bearing side.	Required number of shim set
+0.01	0.01	-	1
+0.02	0.02	0.01	1
+0.03	0.03	0.01 + 0.02	1
+0.04	0.04	0.01 + 0.03	1
+0.05	0.05	0.02 + 0.03	1
+0.06	0.01 + 0.05	0.02 + 0.04	1
+0.07	0.02 + 0.05	0.03 + 0.04	1
+0.08	0.03 + 0.05	0.04 + 0.04	2
+0.09	0.04 + 0.05	0.04 + 0.05	2
+0.1	0.05 + 0.05	0.04 + 0.04 + 0.02	2

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Priority	Chip breaker	Cutting speed *Vc* (m/min)	feed: *f* (mm/rev) ø12 - ø13.99	ø14 - ø18	ø18.01 - ø28	ø28.01 - ø40
P	Low carbon steel (C < 0.3) SS400, SM490, S25C, etc. E275A, E355D, C25, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.1	0.03 - 0.1	-
		First recommendation	NDJ/G	80 - 140	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.1 - 0.2
	Carbon steel (C > 0.3) S45C, S55C, etc. C45, C55, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.1	0.03 - 0.12	-
		First recommendation	NDJ/G	80 - 140	0.05 - 0.16	0.05 - 0.16	0.05 - 0.2	0.1 - 0.2
	Low alloy steel (C < 0.3) SCM415, etc. 18CrMo4, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.1	0.03 - 0.1	-
		First recommendation	NDJ/G	80 - 140	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.1 - 0.2
	Alloy steel (C > 0.3) SCM440, SCr420, etc. 42CrMo4, 20Cr4, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.1	0.03 - 0.12	-
		First recommendation	NDJ/G	80 - 120	0.05 - 0.16	0.05 - 0.16	0.05 - 0.2	0.1 - 0.2
M	Stainless steel (Austenitic) SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.06	0.03 - 0.06	-
		First recommendation	NDJ/G	60 - 100	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.1 - 0.15
	Stainless steel (Martensitic, Ferritic) SUS430, SUS416, etc. X6Cr17, X12CrS13, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.06	0.03 - 0.06	-
		First recommendation	NDJ/G	60 - 100	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.1 - 0.15
	Stainless steel (Precipitation hardening) SUS630, etc. X5CrNiCuNb16-4, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.06	0.03 - 0.06	-
		First recommendation	NDJ/G	60 - 100	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.1 - 0.15
K	Grey cast iron FC250, etc. 250, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.15	0.05 - 0.18	-
		First recommendation	NDJ/G	80 - 140	0.05 - 0.25	0.05 - 0.25	0.05 - 0.3	0.1 - 0.3
	Ductile cast iron FCD700, etc. 600-3, etc.	Lower feed	NDL	50 - 100	-	0.03 - 0.15	0.05 - 0.18	-
		First recommendation	NDJ/G	80 - 140	0.05 - 0.25	0.05 - 0.25	0.05 - 0.3	0.1 - 0.3
N	Aluminium alloys	Lower feed	NDL	80 - 160	-	0.03 - 0.15	0.03 - 0.15	-
		First recommendation	NDJ/G	100 - 200	0.05 - 0.2	0.05 - 0.2	0.05 - 0.2	0.1 - 0.25
S	Heat resistant alloys Inconel 718, etc.	Lower feed	NDL	20 - 50	-	0.03 - 0.06	0.03 - 0.08	-
		First recommendation	NDJ/G	20 - 50	0.04 - 0.08	0.04 - 0.08	0.04 - 0.1	0.06 - 0.13
	Titanium alloys Ti-6Al-4V, etc.	Lower feed	NDL	30 - 60	-	0.03 - 0.1	0.03 - 0.12	-
		First recommendation	NDJ/G	30 - 60	0.05 - 0.13	0.05 - 0.13	0.05 - 0.15	0.1 - 0.18
H	Hardened steel ≥ 40HRC	Lower feed	NDL	40 - 100	-	0.03 - 0.08	0.03 - 0.08	-
		First recommendation	NDJ/G	50 - 100	0.04 - 0.08	0.04 - 0.08	0.04 - 0.1	0.06 - 0.13

APPLICATION RANGE

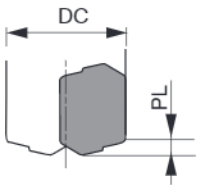
Feed *f* (mm/rev)	0.03 - 0.05	0.03 - 0.05	0.1 - 0.3
Application	OK Cross hole drilling 	OK Inclined exit  16 mm or less (for standard drill)	OK Boring 

Note 1) When drilling cross holes or exiting the inclined surface, make sure the guide-pads are suitable.
Note 2) A pilot hole is needed prior to a boring operation. ap ≥ 1 mm is recommended for boring operations.

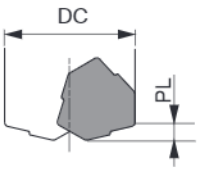
SHAPES OF THE HOLE BOTTOM

DC	Insert	Maximum difference PL
12 - 13.99	LOGT06	1.8
14 - 15.99	TOHT07	2
16 - 18	TOHT08	2.2
18.01 - 20	TOHT09	3
20.01 - 21.99	TOHT10	3.2
22 - 25	TOHT11	3.4
25.01 - 28	TOHT12	3.7

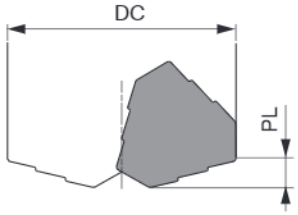
LOGT06...



TOHT07..., 08...

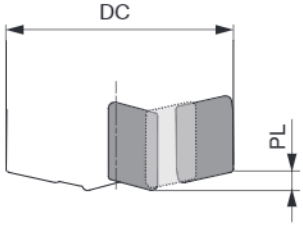


TOHT09... - TOHT12...



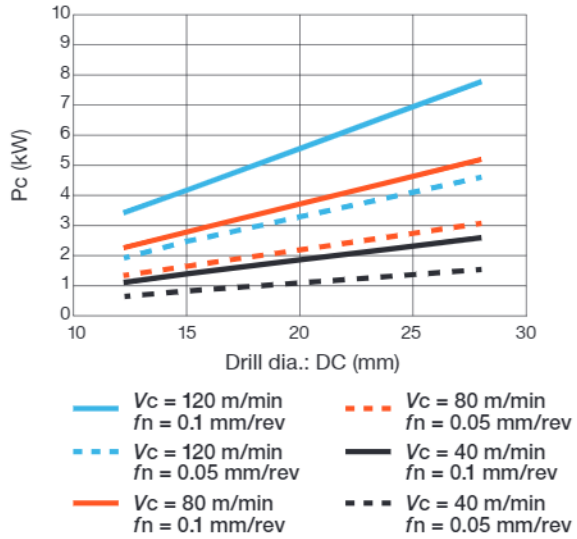
DC	Insert Central	Insert Intermediate	Insert Peripheral	Maximum difference PL
28.01 - 29	FBM06504LG-C	FBM05503RG-I	FBH06003RG-P	2.6
29.01 - 29.99	FBM06504LG-C	FBM05503RG-I	FBH06003RG-P	2.6
30 - 31	FBM06504LG-C	FBM06504RG-I	FBH07504RG-P	2.9
31.01 - 32	FBM06504LG-C	FBM06504RG-I	FBH07504RG-P	3
32.01 - 33	FBM06504LG-C	FBM06504RG-I	FBH07504RG-P	3.1
33.01 - 34	FBM06504LG-C	FBM06504RG-I	FBH07504RG-P	3
34.01 - 35	FBM06504LG-C	FBM06504RG-I	FBH07504RG-P	3.1
35.01 - 36	FBM08004LG-C	FBM06504RG-I	FBH07504RG-P	3.1
36.01 - 37	FBM08004LG-C	FBM06504RG-I	FBH07504RG-P	3
37.01 - 38	FBM08004LG-C	FBM06504RG-I	FBH07504RG-P	3.1
38.01 - 39	FBM08004LG-C	FBM06504RG-I	FBH09004RG-P	3.4
39.01 - 40	FBM08004LG-C	FBM06504RG-I	FBH09004RG-P	3.3

FBM...

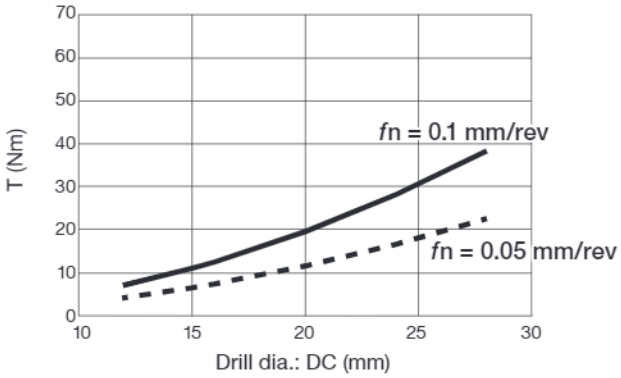


REQUIRED SPINDLE POWER AND COOLANT PRESSURE

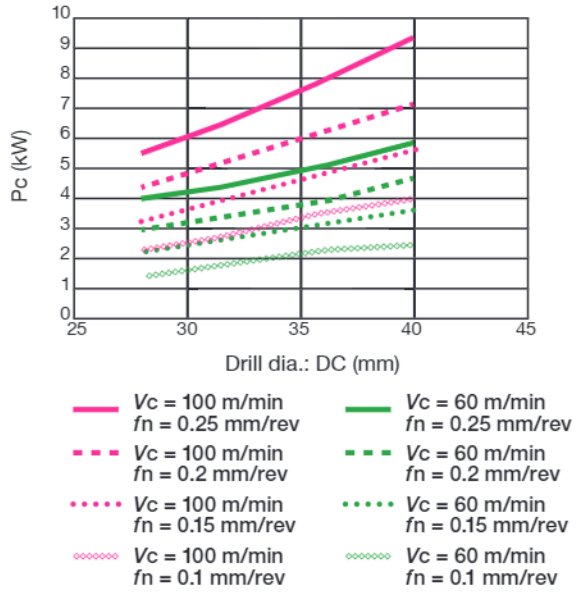
Net power (S45C, C45)



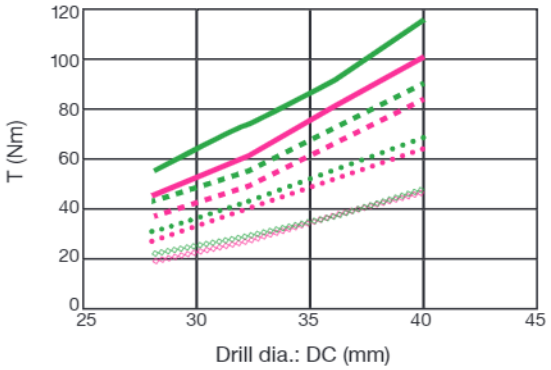
Torque (S45C, C45)



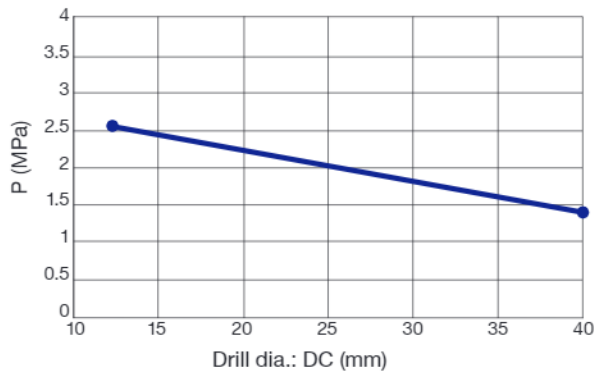
Net power (S45C, C45)



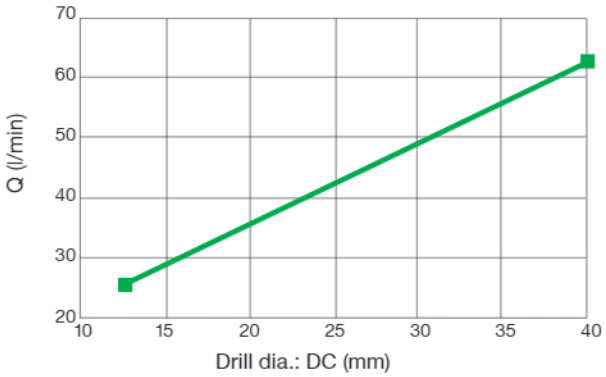
Torque (S45C, C45)



Coolant pressure (Recommended value)

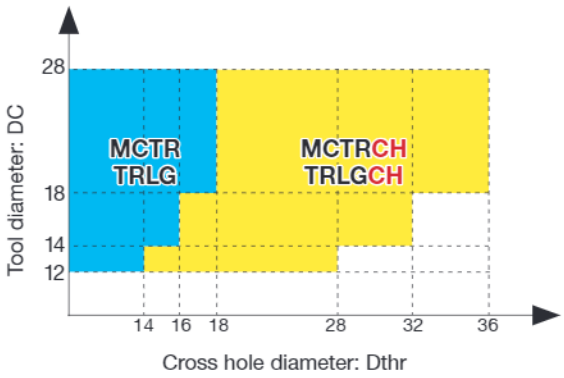


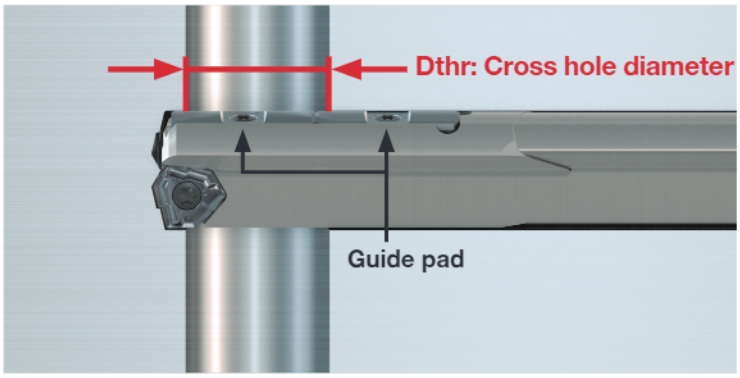
Coolant flow rate (Recommended value)



DEEPTRI DRILL

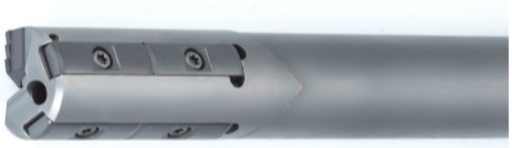
PROPER DEEPTRI-DRILL MODEL FOR SUITABLE CROSS HOLE DISTANCE.





CAUTIONS FOR CROSS HOLE DRILLING

- Decrease the feed rate when the drill head comes in contact with a cross hole. (f = 0.03 - 0.05 mm/rev)
- Retract the gundrill with a slow rotation. (n = 100 min^{-1}, Vf = 300 mm/min)
- When the gundrill is rapidly pulled out without rotating, the insert and/or guide pads may come in contact with burrs on the cross holes on the way back, resulting in damages

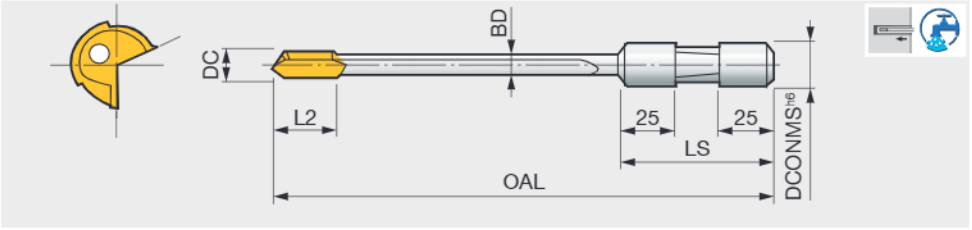


A tailor-made tool for a cross hole distance over 16 mm

GUNDRILL

GunDrill SLJ

Brazed gundrill, tool diameter ø3 - ø12.2 mm



Designation	DC	DCONMS	L2	OAL
SLJ0300L0400NA	3	12.7	15	400
SLJ0300L0600NA	3	12.7	15	600
SLJ0500L0600NA	5	12.7	25	600
SLJ0550L0600NA	5.5	19.05	25	600
SLJ0600L0600NA	6	19.05	25	600
SLJ0700L0600NA	7	19.05	25	600
SLJ0800L0600NA	8	19.05	25	600
SLJ1000L0600NA	10	19.05	30	600
SLJ0500L1000NA	5	12.7	25	1000
SLJ0600L1000NA	6	19.05	25	1000
SLJ0700L1000NA	7	19.05	25	1000
SLJ0800L1000NA	8	19.05	25	1000
SLJ1000L1000NA	10	19.05	30	1000
SLJ0600L1250NA	6	19.05	25	1250
SLJ0610L1250NA	6.1	19.05	25	1250
SLJ0620L1250NA	6.2	19.05	25	1250
SLJ0700L1250NA	7	19.05	25	1250
SLJ0800L1250NA	8	19.05	25	1250
SLJ0810L1250NA	8.1	19.05	25	1250
SLJ0820L1250NA	8.2	19.05	25	1250
SLJ1000L1250NA	10	19.05	30	1250
SLJ1010L1250NA	10.1	19.05	30	1250
SLJ1020L1250NA	10.2	19.05	30	1250
SLJ1200L1250NA	12	19.05	30	1250
SLJ1210L1250NA	12.1	19.05	30	1250
SLJ1220L1250NA	12.2	19.05	30	1250
SLJ0600L1650NA	6	19.05	25	1650
SLJ0610L1650NA	6.1	19.05	25	1650
SLJ0620L1650NA	6.2	19.05	25	1650
SLJ0700L1650NA	7	19.05	25	1650
SLJ0800L1650NA	8	19.05	25	1650
SLJ0810L1650NA	8.1	19.05	25	1650
SLJ0820L1650NA	8.2	19.05	25	1650
SLJ1000L1650NA	10	19.05	30	1650
SLJ1010L1650NA	10.1	19.05	30	1650
SLJ1020L1650NA	10.2	19.05	30	1650
SLJ1200L1650NA	12	19.05	30	1650
SLJ1210L1650NA	12.1	19.05	30	1650
SLJ1220L1650NA	12.2	19.05	30	1650

TUBE DIAMETER

DC	BD
3 - 3.19	2.9
3.2 - 3.39	3.1
3.4 - 3.59	3.3
3.6 - 3.89	3.5
3.9 - 4.09	3.7
4.1 - 4.29	3.9
4.3 - 4.49	4.1
4.5 - 4.89	4.3
4.9 - 5.19	4.7

DC	BD
5.2 - 5.49	5
5.5 - 5.79	5.3
5.8 - 5.99	5.6
6 - 6.19	5.8
6.2 - 6.59	5.9
6.6 - 7.09	6.4
7.1 - 7.59	6.9
7.6 - 8.09	7.4
8.1 - 8.69	7.9

DC	BD
8.7 - 9.19	8.5
9.2 - 9.69	9
9.7 - 10.39	9.5
10.4 - 10.89	10
10.9 - 11.39	10.6
11.4 - 11.99	11.1
12 - 12.2	11.7

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Heat treatment	Hardness HB	Hardness HRC	Cutting speed *Vc* (m/min)	feed *f* (mm/rev)
P	Free-cutting carbon steel		160 - 190	(5) - (11)	130	Refer to Fig. 1
	C10C ~ C15 S10C ~ S15C	Cold drawn				
	S30C ~ S50C C30 ~ C50	Cold drawn	200 - 230	(12) - 20	100	
	S35C ~ S50C C30 ~ C50	Hardened and tempered	250 - 300	25 - 32	80	
	Carbon steels		110 ~ 120		130	
	S10C ~ S35C C10 ~ C30	Annealed				
	S10C ~ S50C C10 ~ C50	Annealed	120 ~ 185	~ (9)	120	
	S50C ~ C50 ~	Annealed	170 ~ 200	(5) ~ (13)	100	
	S20C ~ S30C C20 ~ C30	Hardened and tempered	210 ~ 250	(16) ~ 24	90	Refer to Fig. 2
	S30C ~ S55C C30 ~ C55	Hardened and tempered	260 ~ 310	26 ~ 33	70	
	S50C ~ C50 ~	Hardened and tempered	320 ~ 375	34 ~ 40	50	
	S50C ~ C55 ~	Hardened and tempered	380 ~ 440	41 ~ 47	40	
	Alloy steels	Annealed	150 ~ 230	~ (20)	90	Refer to Fig. 2
		Annealed or Hardened and tempered	240 ~ 310	23 ~ 33	70	Refer to Fig. 2
			315 ~ 370	34 ~ 40	50	Refer to Fig. 3
			380 ~ 440	40 ~ 47	40	
			450 ~ 500	48 ~ 51	30	
	Cast steels	Hardened and tempered	140 ~ 180	~ (8)	100	Refer to Fig. 2
		Annealed	190 ~ 240	(11) ~ 22	90	
	Tool steels	Annealed	150 ~ 200	~ (13)	70	Refer to Fig. 3
		Annealed	210 ~ 300	(16) ~ 32	50	
M	Stainless steels Ferritic SUS405, 430 X6Cr17	Annealed	150 ~ 200	~ (13)	70	Refer to Fig. 3
	Austenitic SUS304, 305 X5CrNi18-9	Annealed	160 ~ 220	~ (18)	50	
	Martensitic SUS403, 410 X12Cr13	Annealed Hardened and tempered	160 ~ 220	~ (18)	70	
			300 ~ 350	32 ~ 38	50	
K	Grey cast iron		110 ~ 180		90	Refer to Fig. 4
			190 ~ 220		80	
			220 ~ 260		70	
	Ductile cast iron		120 ~ 170		80	Refer to Fig. 5
			180 ~ 240		65	
			240 ~ 280		55	
			260 ~ 320		40	
	Malleable cast irons		110 ~ 180		90	
			190 ~ 220		80	
			220 ~ 260		70	
N	Cast aluminium alloys Aluminium die cast alloys	Annealed	5000load		180	Refer to Fig. 4
			40 ~ 100			
	Copper alloys	Annealed	120 ~ 160		< 150	Refer to Fig. 4
			160 ~ 205		< 150	Refer to Fig. 5
H	Bearing steels		150 ~ 210		70	Refer to Fig. 3
	High-resistant alloys				20	
	High speed steels		210 ~ 285	(16) ~ 30	50	

Fig. 1 Carbon steels

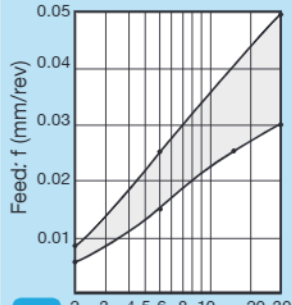


Fig. 2 Alloy steels

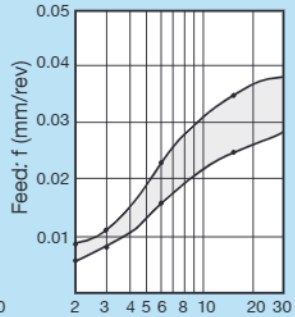


Fig. 3 Tool steels and other special steels

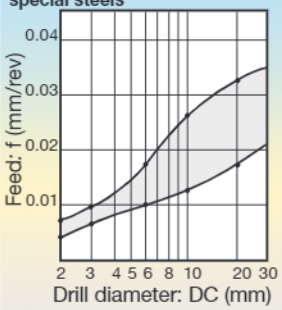


Fig. 4 Cast irons, aluminium alloys

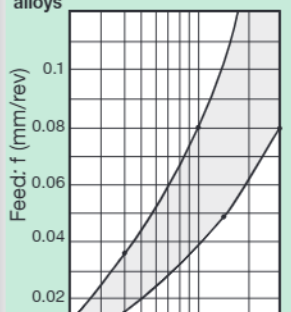
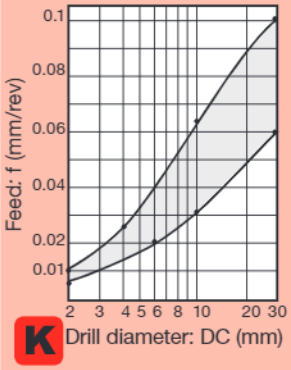
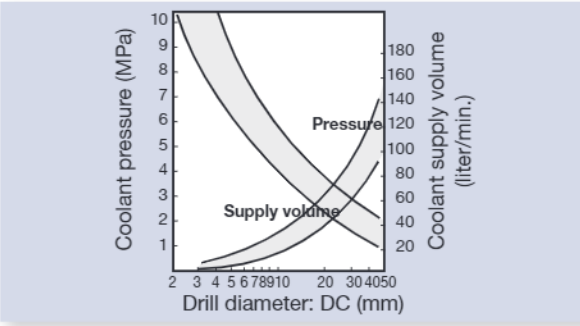


Fig. 5 Ductile and malleable cast irons



Coolant supply pressure and volume



Guidelines for attainable accuracies

Workpiece material	Surface roughness (µm)	Roundness (µm)	Cylindricity (µm)	Oversizing (µm)
Carbon and alloy steels	6 ~ 25	5 ~ 10	10 ~ 15	- 5 ~ 30
Cast irons	3 ~ 15	3 ~ 5	5 ~ 10	- 5 ~ 15
Aluminium alloys, Copper alloys	0.3 ~ 6	3 ~ 5	5 ~ 10	- 10 ~ 5

Note: Over size values given in the table are based on the drill diameter.

Cutting fluid

A water-insoluble fluid is recommended when machining with gun drills.
When using water soluble fluid, use the fluid for heavy duty cutting in higher concentration.
A water-insoluble fluid must be taken care for Fire prevention

Drill Head Category

Solid drilling - Indexable drill heads -

Applications		STS (Single Tube System)			DTS (Double Tube System)		
		TRI-FINE	FINE-BEAM	UNIDEX	TRI-FINE	FINE-BEAM	UNIDEX
		FNTR	FNBM	KUSTS	FNTR-D	FNBM-D	KUDTS
Solid drill head							
Drill diameter (mm)		ø16 - ø28	ø25 - ø65	ø38 - ø293.99	ø18.4 - ø28	ø25 - ø65	ø38 - ø183.99
Thread type	External quadruple thread	○	○	○	○	○	○
	Internal single thread	○	○	○	-	-	-
Hole tolerance*1		IT10	IT10	IT10	IT10	IT10	IT10
Surface finish Ra (μm)*1		2	2	3	2	2	3
Machine	Deep hole drilling machines	○	○	○	○	○	○
	NC machines	-	-	-	○	○	○
	Lathes	-	-	-	○	○	○
	Machining centers M/C	-	-	-	○	○	○
	Gundrill machines	-	-	-	-	-	-
Workpiece material	P Steel	★★★	★★★	★★★	★★★	★★★	★★★
	M Stainless	★★★	★★★	★★★	★★★	★★★	★★★
	K Cast iron	★★★	★★★	★★★	★★★	★★★	★★★
	N Non-ferrous	★★★	★★★	★★★	★★★	★★★	★★★
	S Superalloys	★★	★★	★★	★★	★★	★★
	H Hard materials (≥40HRC)	★★	★★	★★	★★	★★	★★
Insert type		TOHT	FBH / FBM	NPMX / TPMX (508 / 1123)	TOHT	FBH / FBM	NPMX / TPMX (508 / 1123)
Plus Cartridge and Guide pad +1 mm - +5 mm		-	-	○	-	-	○
Page		J118 - J121	J122 - J123 J125 - J127	J128 - J129 J132 - J133	J119 - J121	J124 - J127	J130 - J133

*1: Just for reference

★★★(Excellent) ◄—► ★(Standard)

Solid drilling - Brazed drill heads -

Applications		STS (Single Tube System)			DTS (Double Tube System)
		MBU	UTE	BTU	ETU
Brazed drilling heads					
Drill diameter (mm)		ø8 - ø14.79	ø12.6 - ø20	ø12.6 - ø65	ø18.4 - ø65
Thread type	External single thread	○	-	-	-
	External double thread	-	○*1	○*1	-
	External quadruple thread	-	○*2	○*2	○
	Internal single thread	-	-	-	-
Hole tolerance*3		IT9	IT9	IT9	IT9
Surface finish Ra (μm)*3		2	2	2	2
Machine	Deep hole drilling machines	○	○	○	○
	NC machines	-	-	-	○
	Lathes	-	-	-	○
	Machining centers M/C	-	-	-	○
	Gundrill machines	-	-	-	-
Workpiece material	P Steel	★★★	★★★	★★★	★★★
	M Stainless	★★★	★★★	★★★	★★★
	K Cast iron	★★★	★★★	★★★	★★★
	N Non-ferrous	★★★	★★★	★★★	★★★
	S Superalloys	★★	★★	★★	★★
	H Hard materials (≥40HRC)	★★	★★	★★	★★
Page		J134, J139	J135, J139	J136 - J137, J139	J138 - J139

*1: UTE & BTU Drill head : ø12.6 mm - ø15.59 mm, External double thread
*2: UTE & BTU Drill head : ø15.6 mm -, External quadruple thread
*3: Just for reference

★★★ (Excellent) ◄—► ★ (Standard)

Drill Tube Category

Drill Tubes

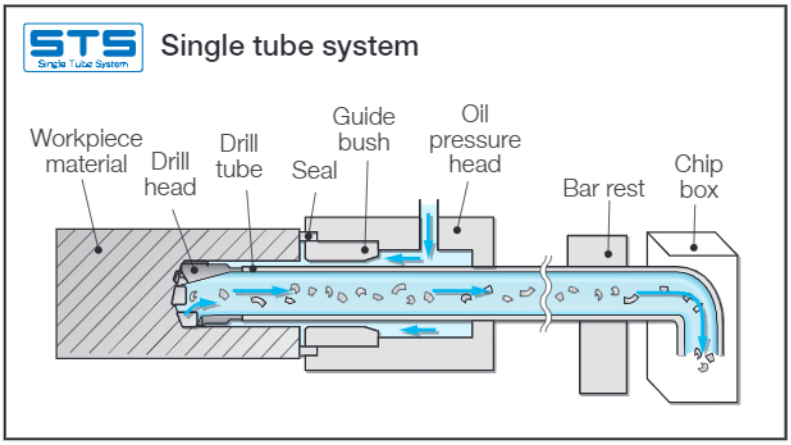
Applications				STS (Single Tube System)				DTS (Double Tube System)	
				UMBB	ST	ST	UB	OT	IT
Drill tubes									
Tube diameter (mm)				ø7.1 - ø12	ø11 - ø13	ø14 - ø274	ø12 - ø274	ø18 - ø166	ø10 - ø130
Thread type				Internal single thread	Internal double thread	Internal quadruple thread	External single thread	Internal quadruple thread	-
Drill Head	Indexable	Solid	FNTR	-	-	○	○	○	○
			FNBM	-	-	○	○	○	○
			KUSTS	-	-	○	○	-	-
			KUDTS	-	-	-	-	○	○
	Brazed	Solid	MBU	○	-	-	-	-	-
			UTE	-	○	○	-	-	-
			BTU	-	○	○	-	-	-
			ETU	-	-	-	-	○	○
Drill diameter (mm)				ø8 - ø14.79	ø12.6 - ø15.59	ø15.6 - ø291.99	ø14.5 - ø293.99	ø18.4 - ø183.99	ø18.4 - ø183.99
Solid				○	○	○	○	○	○
Counter				-	-	○*1	○*1	○*1	○
Trepanning				-	-	○*2	○*2	-	-
Page				J140	J140	J140	J142	J144	J144

*1. Counter : ST / UB / OT Tube - Drill diameter ø25 mm or more
*2. Trepanning : ST / UB Tube - Drill diameter ø100 mm or more

Single Tube System (STS) and Double Tube System (DTS)

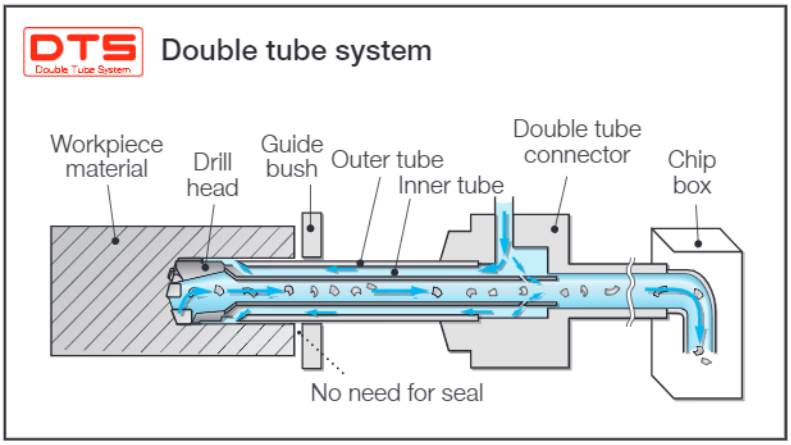
Single Tube System (STS)

The STS may also be referred to as the BTA system in the deep hole drilling process. A large volume of coolant is pumped under high pressure to the cutting area in the workpiece. Chips are then forced out through the drill tube at the back and they do not touch workpiece allowing super surface finish. STS is a very good method to obtain holes of high productivity and high accuracy by using a dedicated drilling machine and a sealing with the workpiece.



Double Tube System (DTS)

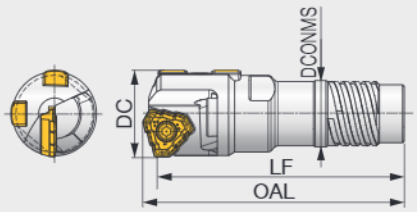
The DTS is characterized by its two tube construction and is therefore known as the double tube system. A sealing system and pressure head, which is required in the Single Tube System (STS) is not necessary for the DTS and it is therefore suitable for conventional general purpose machines such as lathes or machining centers.
In general, because of less efficient chip evacuation than the STS the recommended max drilling depth is 1000mm. However, the unique DTC-R tube connector that is capable of supplying high pressure coolant can successfully achieve drilling depths of up to 2000 mm.



TRI-FINE

TRI-FINE STS-EX

Indexable head with external quadruple thread for single tube system



Designation	DC	Drill tube		OAL	LF	DCONMS	Insert	Guide pad
		Designation	Dia. (mm)					
FNTR-0097S-16.00	16	ST0097	14	57	55	12.6	TOHT080305R	GP06-075
FNTR-0098S-17.00	17	ST0098	15	57	55	13.6	TOHT080305R	GP06-075
FNTR-0000S-20.00	20	ST0000	17	59	56	15.5	TOHT090305R	GP06-085
FNTR-00S-21.00	21	ST00	18	63	60	16	TOHT100305R	GP06-085
FNTR-01S-22.00	22	ST01	20	69	65.5	18	TOHT110405R	GP06-100
FNTR-01S-24.00	24	ST01	20	69	65.5	18	TOHT110405R	GP06-100
FNTR-02S-25.00	25	ST02	22	69	65.5	19.5	TOHT110405R	GP06-100
FNTR-02S-25.40	25.4	ST02	22	69	65.5	19.5	TOHT120405R	GP06
FNTR-02S-26.00	26	ST02	22	69	65.5	19.5	TOHT120405R	GP06
FNTR-03S-28.00	28	ST03	24	69	65.5	21	TOHT120405R	GP06

INSERT SPARE PARTS

Designation	Screw	Wrench
TOHT080305R	CSTB-2.5S	T-8F
TOHT080305R	CSTB-2.5S	T-8F
TOHT090305R	CSTB-2.5S	T-8F
TOHT100305R	CSTB-3S	T-9F
TOHT110405R	CSTB-3.5H	T-15F
TOHT110405R	CSTB-3.5H	T-15F
TOHT110405R	CSTB-3.5H	T-15F
TOHT120405R	CSTB-4S	T-15F
TOHT120405R	CSTB-4S	T-15F
TOHT120405R	CSTB-4S	T-15F

GUIDE PAD SPARE PARTS

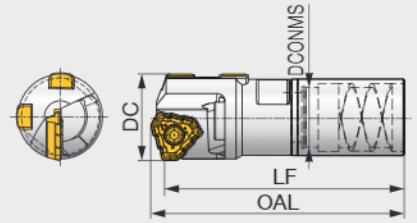
Designation	Screw	Wrench
GP06-075	CSTB-2.2S	T-7F
GP06-075	CSTB-2.2S	T-7F
GP06-085	CSTB-2.2S	T-7F
GP06-085	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F

Recommended clamping torque (N·m): CSTB-2.2S=1, CSTB-2.5S=1.3, CSTB-3S=2.3, CSTB-3.5H=3, CSTB-4S=3

TRI-FINE

TRI-FINE STS-IN

Indexable head with internal single thread for single tube system



Designation	DC	Drill tube		OAL	LF	DCONMS	Insert	Guide pad
		Designation	Dia. (mm)					
FNTR-13N-1-16.00	16	UB13-1	13	55.5	53.5	10.8	TOHT080305R	GP06-075
FNTR-14N-2-18.00	18	UB14-2	14	55.5	53.5	12.1	TOHT080305R	GP06-075
FNTR-18N-20.00	20	UB18	18	61	58	14.5	TOHT090305R	GP06-085
FNTR-20N-22.00	22	UB20	20	63.5	60	16	TOHT110405R	GP06-100
FNTR-20N-24.00	24	UB20	20	63.5	60	16	TOHT110405R	GP06-100
FNTR-22N-25.00	25	UB22	22	63.5	60	17	TOHT110405R	GP06-100
FNTR-22N-26.00	26	UB22	22	68.5	65	17	TOHT120405R	GP06
FNTR-24N-28.00	28	UB24	24	68.5	65	19	TOHT120405R	GP06

INSERT SPARE PARTS

Designation	Screw	Wrench
TOHT080305R	CSTB-2.5S	T-8F
TOHT080305R	CSTB-2.5S	T-8F
TOHT090305R	CSTB-2.5S	T-8F
TOHT110405R	CSTB-3.5H	T-15F
TOHT110405R	CSTB-3.5H	T-15F
TOHT110405R	CSTB-3.5H	T-15F
TOHT120405R	CSTB-4S	T-15F
TOHT120405R	CSTB-4S	T-15F

GUIDE PAD SPARE PARTS

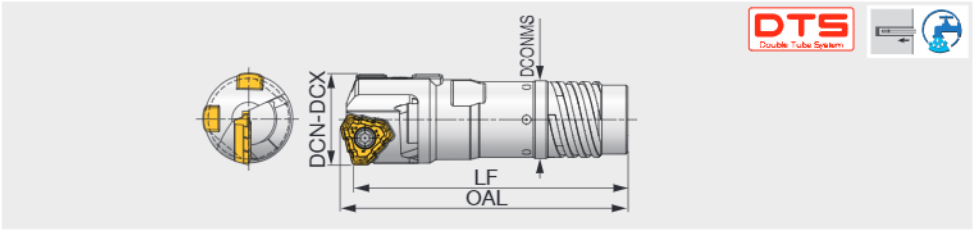
Designation	Screw	Wrench
GP06-075	CSTB-2.2S	T-7F
GP06-075	CSTB-2.2S	T-7F
GP06-085	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F

Recommended clamping torque (N·m): CSTB-2.2S=1, CSTB-2.5S, CSTB-3S=2.3, CSTB-3.5H=3, CSTB-4S=3

TRI-FINE

TRI-FINE DTS

Indexable head with external quadruple thread for double tube system



Designation	DCN	DCX	Outer tube		OAL	LF	DCONMS	Insert	Guide pad
			Designation	Dia. (mm)					
FNTR-00D-xx.xx	18.41	20	OT00	18	62	59	16	TOHT090305R	GP06-085
FNTR-01D-xx.xx	20.01	21	OT01	19.5	66.5	63.5	18	TOHT100305R	GP06-085
FNTR-01D-xx.xx	21.01	21.8	OT01	19.5	66.5	63.5	18	TOHT100305R	GP06-100
FNTR-02D-xx.xx	21.81	21.99	OT02	21.5	66.5	63.5	19.5	TOHT100305R	GP06-100
FNTR-02D-xx.xx	22	24.1	OT02	21.5	69	65.5	19.5	TOHT110405R	GP06-100
FNTR-03D-xx.xx	24.11	25	OT03	23.5	69	65.5	21	TOHT110405R	GP06-100
FNTR-03D-xx.xx	25.01	26.4	OT03	23.5	71	67.5	21	TOHT120405R	GP06
FNTR-04D-xx.xx	26.41	28	OT04	26	74	70.5	23.5	TOHT120405R	GP06

e.g. Designation for tool diameter ø20 mm : FNTR-00D-20.00

INSERT SPARE PARTS

Designation	Screw	Wrench
TOHT090305R	CSTB-2.5S	T-8F
TOHT100305R	CSTB-3S	T-9F
TOHT100305R	CSTB-3S	T-9F
TOHT100305R	CSTB-3S	T-9F
TOHT110405R	CSTB-3.5H	T-15F
TOHT110405R	CSTB-3.5H	T-15F
TOHT120405R	CSTB-4S	T-15F
TOHT120405R	CSTB-4S	T-15F

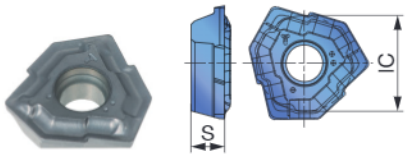
GUIDE PAD SPARE PARTS

Designation	Screw	Wrench
GP06-085	CSTB-2.2S	T-7F
GP06-085	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06-100	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F
GP06	CSTB-2.2S	T-7F

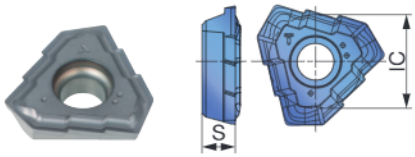
Recommended clamping torque (N·m): CSTB-2.2S=1, CSTB-2.5S, CSTB-3S=2.3, CSTB-3.5H=3, CSTB-4S=3

INSERT

TOHT-NDJ (070..., 080...)



TOHT-NDJ (090... - 120...)



P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

★ : First choice
☆ : Second choice

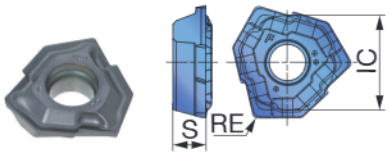
Designation	DCN	DCX	Coated	IC	S
			AH725		
TOHT080305R-NDJ	16	18	●	8.55	2.8
TOHT090305R-NDJ	18.01	20	●	8.32	3
TOHT100305R-NDJ	20.01	21.99	●	9.23	3.3
TOHT110405R-NDJ	22	25	●	10.4	3.8
TOHT120405R-NDJ	25.01	28	●	11.59	4.3

●: Line - up
Package quantity = 10 pcs.

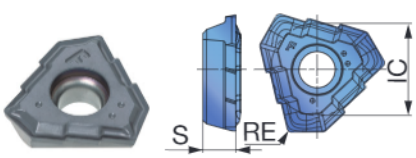
Reference pages: Inserts → J119 - J120, Guide pads → J121,
Drill tube (STS) → J140 -, Drill tube (DTS) → J144

INSERT

TOHT-NDL (07..., 08...)



TOHT-NDL (09... - 12...)



P	Steel	★
M	Stainless	★
K	Cast iron	★
N	Non-ferrous	★
S	Superalloys	★
H	Hard materials	★

★ : First choice
☆ : Second choice

Designation	DCN	DCX	Coated	IC	S	RE
			AH725			
TOHT070304R-NDL	14	15.99	●	7.69	2.3	0.4
TOHT080305R-NDL	16	18	●	8.55	2.8	0.5
TOHT090305R-NDL	18.01	20	●	8.32	3	0.5
TOHT100305R-NDL	20.01	21.99	●	9.23	3.3	0.5
TOHT110405R-NDL	22	25	●	10.4	3.8	0.5
TOHT120405R-NDL	25.01	28	●	11.59	4.3	0.5

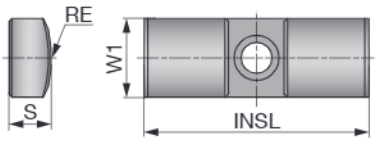
●: Line - up
Package quantity = 10 pcs.

ISO classification for Insert grade

	Grade	ISO area						
		10	15	20	25	30	35	40
P	AH725		■	■	■	■		
M	AH725			■	■	■		
K	AH725		■	■	■			
S	AH725		■	■	■			
N	AH725		■	■	■			
H	AH725			■	■	■		

GUIDE PAD

GP06



P	Steel	☆	★	☆
M	Stainless	☆	★	☆
K	Cast iron	☆	★	☆
N	Non-ferrous	☆	★	☆
S	Superalloys	☆	★	☆
H	Hard materials	☆	★	☆

★ : First choice
☆ : Second choice

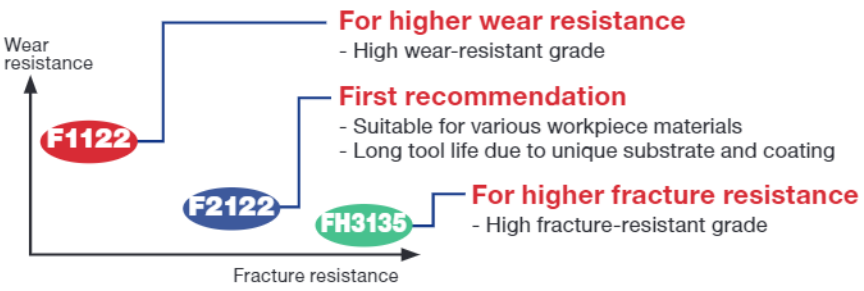
Designation	DCN	DCX	Coated F1122	Coated F2122	Coated FH3135	W1	INSL	S	RE
GP06-075	16	18	●	●		6	20	3	7.5
GP06-085	18.01	21	●	●		6	20	3	8.5
GP06-20-085-DC	18.01	21			●	6	20	3	8.5
GP06-100	21.01	25	●	●		6	20	3	10
GP06-20-100-DC	21.01	25			●	6	20	3	10
GP06	25.01	33	●	●		6	20	3	12
GP06-20-120-DC	25.01	33			●	6	20	3	12

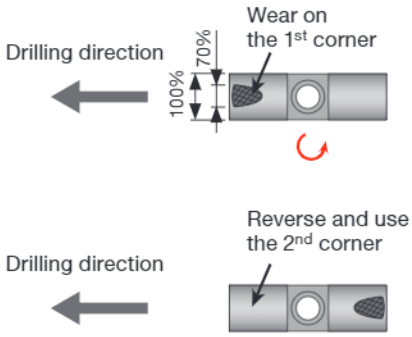
●: Line - up
Package quantity = 5 pcs.

REPLACING GUIDE PADS

Guide pads are subject to wear, like inserts

- The guide pad has two corners.
- Each guide pad can be used on two sides. When the first corner wears out a 70% of the width, reverse the guide pad to use the second corner.
- Replace with a new guide pad when the second corner wears out.



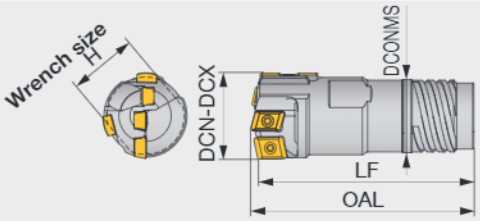


GP	06-075	F2122
Series	Size	Grade

FINE-BEAM

FINE BEAM STS-EX

Direct mount indexable head with external quadruple thread for single tube system (STS), tool diameter: ø25 - ø65 mm



Designation	DCN	DCX	Drill tube		Drill head			
			Designation	Dia. (mm)	OAL	LF	DCONMS	H
FNBM-02S-xx.xx	25	26.4	ST02	22	73	70	19.5	19
FNBM-03S-xx.xx	26.41	28.7	ST03	24	73	70	21	21
FNBM-04S-xx.xx	28.71	31	ST04	26	78	75	23.5	24
FNBM-05S-xx.xx	31.01	33.3	ST05	28	78	75	25.5	26
FNBM-06S-xx.xx	33.31	36.2	ST06	30	83	80	28	28
FNBM-07S-xx.xx	36.21	39.6	ST07	33	93	90	30	30
FNBM-08S-xx.xx	39.61	43	ST08	36	99	95	33	32
FNBM-09S-xx.xx	43.01	47	ST09	39	104	100	36	36
FNBM-10S-xx.xx	47.01	51.7	ST10	43	104	100	39	38
FNBM-11S-xx.xx	51.71	56.2	ST11	47	114	110	43	46
FNBM-12S-xx.xx	56.21	65	ST12	51	120	115	47.5	50
FNBM-13S-xx.xx	60.61	65	ST13	56	120	115	51	54

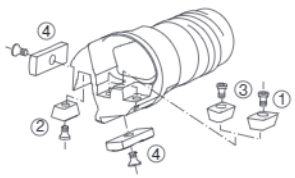
e.g. Designation for tool diameter ø30 mm : FNBM-04S-30.00

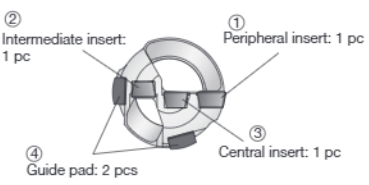
SPARE PARTS

Tool diameter DCN - DCX (mm)	Insert									Guide pad		
	①Peripheral			②Intermediate			③Central			④		
	Insert	Screw	Wrench	Insert	Screw	Wrench	Insert	Screw	Wrench	Guide pad	Screw	Wrench
25.00 - 28.00	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM05503LG-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM060308L-HF-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
28.01 - 29.99	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM06504LG-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
30.00 - 35.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM06504LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
35.01 - 38.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
38.01 - 39.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
39.01 - 41.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504R	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
41.01 - 44.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
44.01 - 45.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
45.01 - 47.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
47.01 - 51.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
51.01 - 54.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
54.01 - 57.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
57.01 - 60.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
60.01 - 64.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
64.01 - 65.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM12504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM130404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F

G type chipbreaker	HF type chipbreaker
FBH06003RG-P	FBH060308R-HF-P
FBH07504RG-P	FBH080408R-HF-P
FBH09004RG-P	FBH090408R-HF-P
FBH11004RG-P	FBH110408R-HF-P
FBH13004RG-P	FBH130408R-HF-P
FBM05503RG-I	FBM060304R-HF-I
FBM06504RG-I	FBM070404R-HF-I
FBM08004RG-I	FBM080404R-HF-I
FBM09504RG-I	FBM100404R-HF-I
FBM12504RG-I	FBM130404R-HF-I
FBM05503LG-C	FBM060308L-HF-C
FBM06504LG-C	FBM070408L-HF-C
FBM08004LG-C	FBM080408L-HF-C
FBM09504LG-C	FBM100408L-HF-C
FBM12504LG-C	FBM130408L-HF-C

Please see the page J125 - J127 for the grades of inserts and guide pads.
Drill heads come with clamping screws and wrenches but do not include inserts and guide pads.
Please purchase inserts and guide pads separately.
Recommended clamping torque (N·m): CSTB-2.2/CSTB-2.2S = 1, SR14-560-HG = 1.2, CSTB-3S = 2.3, CSTB-3.5 = 3.5





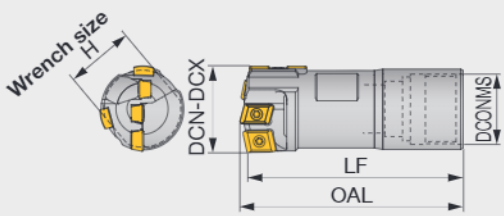
The designation of insert with G type and HF type is different, even in the same shape.
Please refer to the table on the left to check the insert designation. Both inserts can be mounted on the drill head.

Reference pages: Inserts → J125 - J126, Guide pads → J127, Drill tube (STS) → J140

FINE-BEAM

FINE BEAM STS-IN

Direct mount indexable head with internal single thread for single tube system (STS), tool diameter: ø25 - ø65 mm



Designation	DCN	DCX	Drill tube		Drill head			
			Designation	Dia. (mm)	OAL	LF	DCONMS	H
FNBM-22N-xx.xx	25	26.99	UB22	22	73	70	20	19
FNBM-24N-xx.xx	27	29	UB24	24	73	70	22	21
FNBM-24N-xx.xx	29.01	29.99	UB24	24	73	70	22	24
FNBM-26N-xx.xx	30	31.99	UB26	26	78	75	24	24
FNBM-28N-xx.xx	32	33.99	UB28	28	78	75	26	26
FNBM-30N-xx.xx	34	36.99	UB30	30	93	90	27	28
FNBM-33N-xx.xx	37	39.99	UB33	33	98	95	30	30
FNBM-36N-xx.xx	40	43.99	UB36	36	104	100	33	32
FNBM-39N-xx.xx	44	46.99	UB39	39	109	105	37	36
FNBM-43N-xx.xx	47	51.99	UB43	43	109	105	41	38
FNBM-47N-xx.xx	52	56.99	UB47	47	114	110	44	46
FNBM-51N-xx.xx	57	60.99	UB51	51	120	115	49	46
FNBM-56N-xx.xx	61	65	UB56	56	120	115	53	54

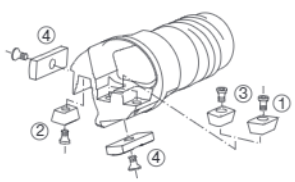
e.g. Designation for tool diameter ø30 mm : FNBM-26N-30.00

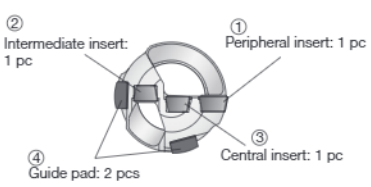
SPARE PARTS

Tool diameter DCN - DCX (mm)	Insert									Guide pad		
	①Peripheral			②Intermediate			③Central			④		
	Insert	Screw	Wrench	Insert	Screw	Wrench	Insert	Screw	Wrench	Guide pad	Screw	Wrench
25.00 - 28.00	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM05503LG-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM060308L-HF-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
28.01 - 29.99	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM06504LG-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
30.00 - 35.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM06504LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
35.01 - 38.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
38.01 - 39.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
39.01 - 41.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504R	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
41.01 - 44.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
44.01 - 45.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
45.01 - 47.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
47.01 - 51.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
51.01 - 54.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
54.01 - 57.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
57.01 - 60.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
60.01 - 64.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
64.01 - 65.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM12504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM130404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F

G type chipbreaker	HF type chipbreaker
FBH06003RG-P	FBH060308R-HF-P
FBH07504RG-P	FBH080408R-HF-P
FBH09004RG-P	FBH090408R-HF-P
FBH11004RG-P	FBH110408R-HF-P
FBH13004RG-P	FBH130408R-HF-P
FBM05503RG-I	FBM060304R-HF-I
FBM06504RG-I	FBM070404R-HF-I
FBM08004RG-I	FBM080404R-HF-I
FBM09504RG-I	FBM100404R-HF-I
FBM12504RG-I	FBM130404R-HF-I
FBM05503LG-C	FBM060308L-HF-C
FBM06504LG-C	FBM070408L-HF-C
FBM08004LG-C	FBM080408L-HF-C
FBM09504LG-C	FBM100408L-HF-C
FBM12504LG-C	FBM130408L-HF-C

Please see the page J125 - J127 for the grades of inserts and guide pads.
Drill heads come with clamping screws and wrenches but do not include inserts and guide pads.
Please purchase inserts and guide pads separately.
Recommended clamping torque (N·m): CSTB-2.2/CSTB-2.2S = 1, SR14-560-HG = 1.2, CSTB-3S = 2.3, CSTB-3.5 = 3.5





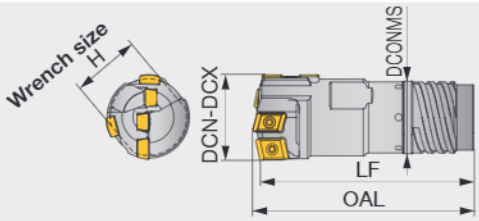
The designation of insert with G type and HF type is different, even in the same shape.
Please refer to the table on the left to check the insert designation. Both inserts can be mounted on the drill head.

Reference pages: Inserts → J125 - J126, Guide pads → J127, Drill tube (STS) → J142

FINE-BEAM

FINE BEAM DTS

Direct mount indexable head with external quadruple thread for double tube system (DTS), tool diameter: ø25 - ø65 mm



Designation	DCN	DCX	Outer tube		Drill head			
			Designation	Dia. (mm)	OAL	LF	DCONMS	H
FNBM-03D-xx.xx	25	26.4	OT03	23.5	73	70	21	19
FNBM-04D-xx.xx	26.41	28.7	OT04	26	78	75	23.5	21
FNBM-05D-xx.xx	28.71	31	OT05	28	78	75	25.5	24
FNBM-06D-xx.xx	31.01	33.3	OT06	30.5	83	80	28	26
FNBM-07D-xx.xx	33.31	36.2	OT07	33	93	90	30	28
FNBM-08D-xx.xx	36.21	39.6	OT08	35.5	99	95	33	30
FNBM-09D-xx.xx	39.61	43	OT09	39	104	100	36	32
FNBM-10D-xx.xx	43.01	47	OT10	42.5	104	100	39	36
FNBM-11D-xx.xx	47.01	51.7	OT11	46.5	114	110	43	38
FNBM-12D-xx.xx	51.71	56.2	OT12	51	120	115	47.5	46
FNBM-13D-xx.xx	56.21	60.6	OT13	55.5	120	115	51	50
FNBM-13D-xx.xx	60.61	65	OT13	55.5	120	115	51	54

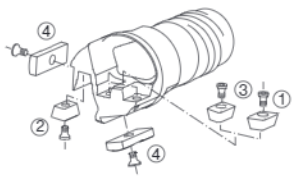
e.g. Designation for tool diameter ø30 mm : FNBM-05D-30.00

SPARE PARTS

Tool diameter DCN - DCX (mm)	Insert									Guide pad		
	①Peripheral			②Intermediate			③Central			④		
	Insert	Screw	Wrench	Insert	Screw	Wrench	Insert	Screw	Wrench	Guide pad	Screw	Wrench
25.00 - 28.00	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM05503LG-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM060308L-HF-C	CSTB-2.2	T-7F	GP06	CSTB-2.2S	T-7F
28.01 - 29.99	FBH06003RG-P	CSTB-2.2	T-7F	FBM05503RG-I	CSTB-2.2	T-7F	FBM06504LG-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
	FBH060308R-HF-P	CSTB-2.2	T-7F	FBM060304R-HF-I	CSTB-2.2	T-7F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP06	CSTB-2.2S	T-7F
30.00 - 35.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM06504LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM070408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
35.01 - 38.00	FBH07504RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH080408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
38.01 - 39.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP07	CSTB-3S	T-9F
39.01 - 41.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM06504R	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM070404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
41.01 - 44.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM08004LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM080408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
44.01 - 45.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP08	CSTB-3S	T-9F
45.01 - 47.00	FBH09004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH090408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
47.01 - 51.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM08004RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM080404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
51.01 - 54.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM09504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM100408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
54.01 - 57.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP10S	CSTB-3.5	T-15F
57.01 - 60.00	FBH11004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH110408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
60.01 - 64.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM09504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM100404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
64.01 - 65.00	FBH13004RG-P	SR14-560-HG	T-8F	FBM12504RG-I	SR14-560-HG	T-8F	FBM12504LG-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F
	FBH130408R-HF-P	SR14-560-HG	T-8F	FBM130404R-HF-I	SR14-560-HG	T-8F	FBM130408L-HF-C	SR14-560-HG	T-8F	GP12	CSTB-3.5	T-15F

G type chipbreaker	HF type chipbreaker
FBH06003RG-P	FBH060308R-HF-P
FBH07504RG-P	FBH080408R-HF-P
FBH09004RG-P	FBH090408R-HF-P
FBH11004RG-P	FBH110408R-HF-P
FBH13004RG-P	FBH130408R-HF-P
FBM05503RG-I	FBM060304R-HF-I
FBM06504RG-I	FBM070404R-HF-I
FBM08004RG-I	FBM080404R-HF-I
FBM09504RG-I	FBM100404R-HF-I
FBM12504RG-I	FBM130404R-HF-I
FBM05503LG-C	FBM060308L-HF-C
FBM06504LG-C	FBM070408L-HF-C
FBM08004LG-C	FBM080408L-HF-C
FBM09504LG-C	FBM100408L-HF-C
FBM12504LG-C	FBM130408L-HF-C

Please see the page J125 - J127 for the grades of inserts and guide pads.
Drill heads come with clamping screws and wrenches but do not include inserts and guide pads.
Please purchase inserts and guide pads separately.
Recommended clamping torque (N·m): CSTB-2.2/CSTB-2.2S = 1, SR14-560-HG = 1.2, CSTB-3S = 2.3, CSTB-3.5 = 3.5

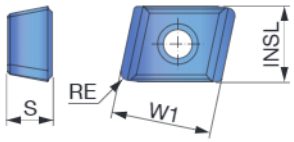


The designation of insert with G type and HF type is different, even in the same shape.
Please refer to the table on the left to check the insert designation. Both inserts can be mounted on the drill head.

Reference pages: Inserts → J125 - J126, Guide pads → J127,
Drill tube (DTS) → J144

INSERT

FBM-C (Central insert)



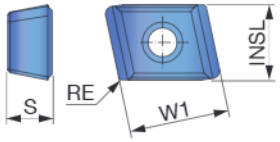
P	Steel	★	☆
M	Stainless	★	☆
K	Cast iron	★	☆
N	Non-ferrous	★	☆
S	Superalloys	★	☆
H	Hard materials	★	☆

★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated		S	DCN	DCX	RE
			UC2220	AH8015				
FBM05503LG-C	5.5	8	●		3	25	28	0.8
FBM060308L-HF-C	5.5	8	●	●	3	25	28	0.8
FBM06504LG-C	6.5	10	●		4	28.1	35	0.8
FBM070408L-HF-C	6.5	10	●	●	4	28.1	35	0.8
FBM08004LG-C	8	10	●		4	35.01	44	0.8
FBM080408L-HF-C	8	10	●	●	4	35.01	44	0.8
FBM09504LG-C	9.5	10	●		4	44.01	54	0.8
FBM100408L-HF-C	9.5	10	●	●	4	44.01	54	0.8
FBM12504LG-C	12.5	10	●		4	54.01	65	0.8
FBM130408L-HF-C	12.5	10	●	●	4	54.01	65	0.8

● : Line-up

FBM-I (Intermediate insert)



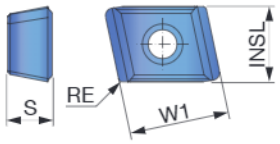
P	Steel	★	☆
M	Stainless	★	☆
K	Cast iron	★	☆
N	Non-ferrous	★	☆
S	Superalloys	★	☆
H	Hard materials	★	☆

★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated		S	DCN	DCX	RE
			UC2220	AH8015				
FBM05503RG-I	5.5	8	●		3	25	29.99	0.4
FBM060304R-HF-I	5.5	8	●	●	3	25	29.99	0.4
FBM06504RG-I	6.5	10	●		4	30	41	0.4
FBM070404R-HF-I	6.5	10	●	●	4	30	41	0.4
FBM08004RG-I	8	10	●		4	41.01	51	0.4
FBM080404R-HF-I	8	10	●	●	4	41.01	51	0.4
FBM09504RG-I	9.5	10	●		4	51.01	64	0.4
FBM100404R-HF-I	9.5	10	●	●	4	51.01	64	0.4
FBM12504RG-I	12.5	10	●		4	64.01	65	0.4
FBM130404R-HF-I	12.5	10	●	●	4	64.01	65	0.4

● : Line-up

FBH-P (Peripheral insert)



P	Steel	★	☆
M	Stainless	★	☆
K	Cast iron	★	☆
N	Non-ferrous	★	☆
S	Superalloys	★	☆
H	Hard materials	★	☆

★ : First choice
☆ : Second choice

Designation	INSL	W1	Coated		S	DCN	DCX	RE
			UC2220	AH8015				
FBH06003RG-P	6	8	●		3	25	29.99	0.4
FBH060308R-HF-P	6	8	●	●	3	25	29.99	0.8
FBH07504RG-P	7.5	10	●		4	30	38	0.4
FBH080408R-HF-P	7.5	10	●	●	4	30	38	0.8
FBH09004RG-P	9	10	●		4	38.01	47	0.4
FBH090408R-HF-P	9	10	●	●	4	38.01	47	0.8
FBH11004RG-P	11	10	●		4	47.01	60	0.4
FBH110408R-HF-P	11	10	●	●	4	47.01	60	0.8
FBH13004RG-P	13	10	●		4	60.01	65	0.4
FBH130408R-HF-P	13	10	●	●	4	60.01	65	0.8

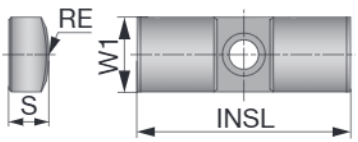
● : Line-up

Insert grade

	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	AH8015	-			■	■	■	■	■	
	UC2220	(NLX)			■	■	■	■		
M	AH8015	-		■	■	■	■	■		
	UC2220	(NLX)				■	■	■		
K	AH8015	-			■	■	■			
	UC2220	(NLX)			■	■	■			
N	AH8015	-			■	■	■			
	UC2220	(NLX)			■	■	■			
S	AH8015	-			■	■	■			
	UC2220	(NLX)			■	■	■			

GUIDE PAD

GP06, 07, 08, 10S, 12



P	Steel	☆	★	☆
M	Stainless	☆	★	☆
K	Cast iron	☆	★	☆
N	Non-ferrous	☆	★	☆
S	Superalloys	☆	★	☆
H	Hard materials	☆	★	☆

★ : First choice
☆ : Second choice

Designation	DCN	DCX	Coated F1122	Coated F2122	Coated FH3135	W1	INSL	S	RE
GP06	25	29.99	●	●		6	20	3	12
GP06-20-120-DC	25	29.99			●	6	20	3	12
GP07	30	39	●	●		7	20	3.5	12
GP07-20-120-DC	30	39			●	7	20	3.5	12
GP08	39.01	45	●	●		8	25	4.5	15.5
GP08-25-155-DC	39.01	45			●	8	25	4.5	15.5
GP10S	45.01	57	●	●		10	30	4.5	20
GP10-30-200-DC	45.01	57			●	10	30	4.5	20
GP12	57.01	65	●	●		12	35	5.5	25
GP12-35-250-DC	57.01	65			●	12	35	5.5	25

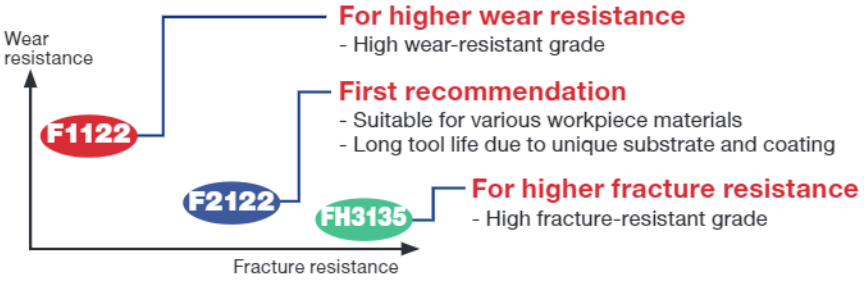
All of the above guide pads are finished with coating.

●: Line - up
Package quantity = 5 pcs.

REPLACING GUIDE PADS

Guide pads are subject to wear, like inserts

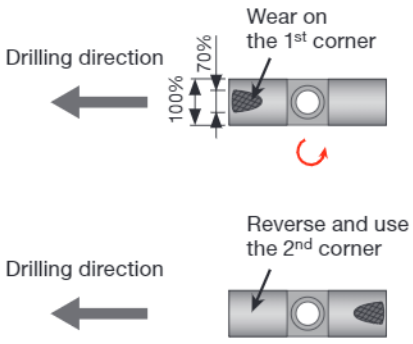
- The guide pad has two corners.
- Each guide pad can be used on two sides. When the first corner wears out a 70% of the width, reverse the guide pad to use the second corner.
- Replace with a new guide pad when the second corner wears out.



For higher wear resistance
- High wear-resistant grade

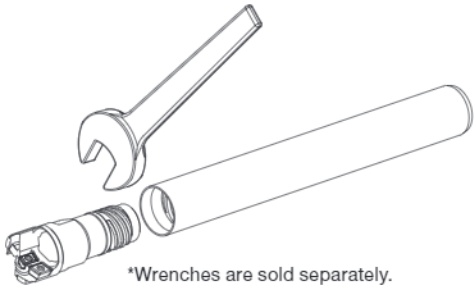
First recommendation
- Suitable for various workpiece materials
- Long tool life due to unique substrate and coating

For higher fracture resistance
- High fracture-resistant grade



NOTE FOR MOUNTING A DRILL HEAD

Please be sure to use a wrench for a drill head to be clamped firmly.

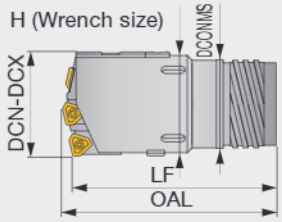


*Wrenches are sold separately.

UNIDEX

UNIDEX STS-EX

Indevable drill head with external quadruple thread for single tube system (STS), diameters adjustable, tool diameter ø38.00 - ø106.99 mm



Designation	DCN	DCX	CICT	Drill tube		Drill head			
				Designation	Dia. (mm)	OAL	LF	DCONMS	H
KUSTS07E-xx.xx	38	39.6	3	ST07	33	90	85	30	37
KUSTS08E-xx.xx	39.61	43	3	ST08	36	91	85	33	40
KUSTS09E-xx.xx	43.01	47	3	ST09	39	101	95	36	43
KUSTS10E-xx.xx	47.01	51.7	3	ST10	43	102	95	39	48
KUSTS11E-xx.xx	51.71	56.2	3	ST11	47	107	100	43	52
KUSTS12E-xx.xx	56.21	60.6	3	ST12	51	118	110	47	57
KUSTS13E-xx.xx	60.61	65	3	ST13	56	119	110	51	61
KUSTS14E-xx.xx	65	66.99	3	ST14	56	159	150	52	63
KUSTS15E-xx.xx	67	72.99	3	ST15	62	159	150	58	69
KUSTS16E-xx.xx	73	79.99	3	ST16	68	160	150	63	76
KUSTS17E-xx.xx	80	86.99	3	ST17	75	191	180	70	83
KUSTS18E-xx.xx	87	99.99	3	ST18	82	193	180	77	96
KUSTS19E-xx.xx	100	106.99	3	ST19	94	193	180	89	102

e.g. Designation for tool diameter ø60 mm: KUSTS12E-60.00

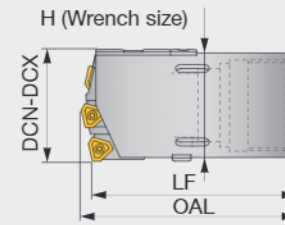
* Drill heads with the diameter ø92 mm or over have a top guide pocket.

* adjusting diameters has to be required before using.

UNIDEX

UNIDEX STS-IN

Indexable drill head with internal single thread for single tube system (STS), diameter adjustablr, tool diameter ø38.00 - ø106.99 mm



Designation	DCN	DCX	CICT	Drill tube		Drill head			
				Designation	Dia. (mm)	OAL	LF	DCONMS	H
KUSTS33-xx.xx	38	39.99	3	UB33	33	85	80	30	37
KUSTS36-xx.xx	40	43.99	3	UB36	36	86	80	33	41
KUSTS39-xx.xx	44	46.99	3	UB39	39	96	90	37	43
KUSTS43-xx.xx	47	51.99	3	UB43	43	97	90	41	48
KUSTS47-xx.xx	52	56.99	3	UB47	47	107	100	44	53
KUSTS51-xx.xx	57	60.99	3	UB51	51	118	110	49	57
KUSTS56-xx.xx	61	67.99	3	UB56	56	119	110	53	64
KUSTS62-xx.xx	68	74.99	3	UB62	62	129	120	59	71
KUSTS68-xx.xx	75	80.99	3	UB68	68	161	150	65	77
KUSTS75-xx.xx	81	90.99	3	UB75	75	162	150	71	87
KUSTS82-xx.xx	91	98.99	3	UB82	82	162	150	79	95
KUSTS94-xx.xx	99	106.99	3	UB94	94	163	150	90	102

e.g. Designation for tool diameter ø60 mm: KUSTS51-60.00

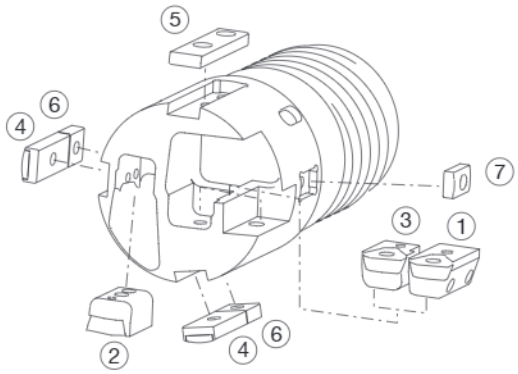
* Drill heads with the diameter ø92 mm or over have a top guide pocket.

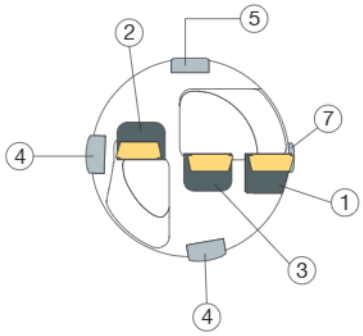
* adjusting diameters has to be required before using.

Reference pages: UNIDEX STS-EX: Inserts → J132, Standard cutting conditions → J133, Drill tube (STS) → J140
UNIDEX STS-IN: Inserts → J132, Standard cutting conditions → J133, Drill tube (STS) → J142
Screw, Guide pad → J131

SPARE PARTS

Tool diameter DCN-DCX (mm)	Cartridge			Guide pad							
	Peripheral	Intermediate	Central	Guide pad		Filler		Protector		Sub guide pad	
	Cartridge①	Cartridge②	Cartridge③	④	Qty.	⑤	Qty.	⑥	Qty.	⑦	Qty.
38 - 39.99	OZ05R	IOZ05R	IOZ05R	GP08	2	-	-	GPT08	2	CUG08	1
40 - 44.99	OZ402 - 04	IOZ05R	IOZ05R	GP08	2	-	-	GPT08	2	CUG08	1
45 - 47.99	OZ402 - 04	IOZ05R	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
48 - 51.99	OZ402 - 04	IOZ402 - 04	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
52 - 54.99	OZ402 - 32	IOZ402 - 04	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
55 - 57.99	OZ402 - 32	IOZ402 - 04	IOZ402 - 32	GP10	2	-	-	GPT10	2	CUG08	1
58 - 59.99	OZ402 - 32	IOZ402 - 32	IOZ402 - 32	GP10	2	-	-	GPT10	2	CUG08	1
60 - 63.99	OZ402 - 32	IOZ402 - 32	IOZ402 - 32	GP14	2	-	-	GPT14	2	CUG08	1
64 - 67.99	OZ402 - 43	IOZ402 - 32	IOZ402 - 32	GP14	2	-	-	GPT14	2	CUG10	1
68 - 77.99	OZ402 - 32	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
78 - 84.99	OZ402 - 43	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
85 - 91.99	OZ402 - 63	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
92 - 98.99	OZ402 - 43	IOZ402 - 63	IOZ402 - 63	GP14	2	FILLER14	1	GPT14	2	CUG10	1
99 - 106.99	OZ402 - 63	IOZ402 - 63	IOZ402 - 63	GP18	2	FL18 - M	1	GPT18 - M	2	CUG14 - M	1





* Depending on tool diameters, parts may not be positioned as shown in the above.

INSERT

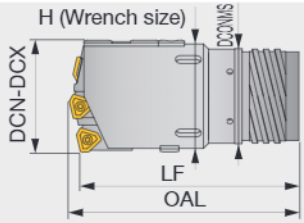
Tool diameter DCN-DCX (mm)	Peripheral insert		Qty.	Intermediate insert		Qty.	Central insert		Qty.
	New	Conventional		New	Conventional		New	Conventional	
38 - 39.99	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1
40 - 44.99	TPMX14**R...	1123 - 04R	1	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1
45 - 47.99	TPMX14**R...	1123 - 04R	1	NPMX08**R...	508 - 05R	1	TPMX14**R...	1123 - 04R	1
48 - 51.99	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1
52 - 54.99	TPMX17**R...	1123 - 32R	1	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1
55 - 57.99	TPMX17**R...	1123 - 32R	1	TPMX14**R...	1123 - 04R	1	TPMX17**R...	1123 - 32R	1
58 - 59.99	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
60 - 63.99	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
64 - 67.99	TPMX24**R...	1123 - 43R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
68 - 77.99	TPMX17**R...	1123 - 32R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
78 - 84.99	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
85 - 91.99	TPMX28**R...	1123 - 63R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
92 - 98.99	TPMX24**R...	1123 - 43R	1	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1
99 - 106.99	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1

- The tool diameter can be increased up to 5 mm using the plus (+) spare parts. (The expansion allowance depends on tool diameters.)
- Drill heads come with cartridge, guide pad, filler, protector, sub guide pad, and wrench, but do not include inserts.

UNIDEX

UNIDEX DTS

Indexable drill head with external quadruple thread for double tube system (DTS), diameter adjustable, tool diameter ø38 - ø106.99 mm



Designation	DCN	DCX	CICT	Drill tube		Drill head			
				Designation	Dia. (mm)	OAL	LF	DCONMS	H
KUDTS08E-xx.xx	38	39.6	3	OT08	35.5	90	85	33	37
KUDTS09E-xx.xx	39.61	43	3	OT09	39	91	85	36	40
KUDTS10E-xx.xx	43.01	47	3	OT10	42.5	101	95	39	43
KUDTS11E-xx.xx	47.01	51.7	3	OT11	46.5	102	100	43	48
KUDTS12E-xx.xx	51.71	56.2	3	OT12	51	107	100	47	52
KUDTS13E-xx.xx	56.21	65	3	OT13	55.5	119	110	51	61
KUDTS14E-xx.xx	65	66.99	3	OT14	56	159	150	52	63
KUDTS15E-xx.xx	67	72.99	3	OT15	62	159	150	58	69
KUDTS16E-xx.xx	73	79.99	3	OT16	68	160	150	63	76
KUDTS17E-xx.xx	80	86.99	3	OT17	75	191	180	70	83
KUDTS18E-xx.xx	87	99.99	3	OT18	82	193	180	77	96
KUDTS19E-xx.xx	100	106.99	3	OT19	94	193	180	89	102

e.g. Designation for tool diameter ø60 mm: KUDTS13E-60.00

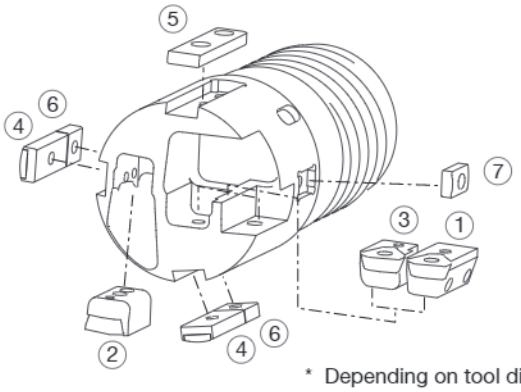
* Drill heads with the diameter ø92 mm or over have a top guide pocket.

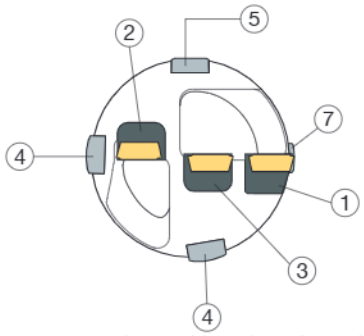
* adjusting diameters has to be required before using.

SPARE PARTS

Tool diameter DCN-DCX (mm)	Cartridge			Guide pad							
	Peripheral	Intermediate	Central	Guide pad		Filler		Protector		Sub guide pad	
	Cartridge ①	Cartridge ②	Cartridge③	④	Qty.	⑤	Qty.	⑥	Qty.	⑦	Qty.
38 - 39.99	OZ05R	IOZ05R	IOZ05R	GP08	2	-	-	GPT08	2	CUG08	1
40 - 44.99	OZ402 - 04	IOZ05R	IOZ05R	GP08	2	-	-	GPT08	2	CUG08	1
45 - 47.99	OZ402 - 04	IOZ05R	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
48 - 51.99	OZ402 - 04	IOZ402 - 04	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
52 - 54.99	OZ402 - 32	IOZ402 - 04	IOZ402 - 04	GP10	2	-	-	GPT10	2	CUG08	1
55 - 57.99	OZ402 - 32	IOZ402 - 04	IOZ402 - 32	GP10	2	-	-	GPT10	2	CUG08	1
58 - 59.99	OZ402 - 32	IOZ402 - 32	IOZ402 - 32	GP10	2	-	-	GPT10	2	CUG08	1
60 - 63.99	OZ402 - 32	IOZ402 - 32	IOZ402 - 32	GP14	2	-	-	GPT14	2	CUG08	1
64 - 67.99	OZ402 - 43	IOZ402 - 32	IOZ402 - 32	GP14	2	-	-	GPT14	2	CUG10	1
68 - 77.99	OZ402 - 32	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
78 - 84.99	OZ402 - 43	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
85 - 91.99	OZ402 - 63	IOZ402 - 43	IOZ402 - 43	GP14	2	-	-	GPT14	2	CUG10	1
92 - 98.99	OZ402 - 43	IOZ402 - 63	IOZ402 - 63	GP14	2	FILLER14	1	GPT14	2	CUG10	1
99 - 106.99	OZ402 - 63	IOZ402 - 63	IOZ402 - 63	GP18	2	FL18 - M	1	GPT18 - M	2	CUG14 - M	1

Filler is to protect a top guide pocket and included in the drill heads with ø92 mm or over.





* Depending on tool diameters, parts may not be positioned as shown in the above.

Reference pages: Inserts → J132, Standard cutting conditions → J133, Drill tube (DTS) → J144
Screw, Guide pad → J131

INSERT

Tool diameter DCN-DCX (mm)	Peripheral insert		Qty.	Intermediate insert		Qty.	Central insert		Qty.
	New	Conventional		New	Conventional		New	Conventional	
38 - 39.99	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1
40 - 44.99	TPMX14**R...	1123 - 04R	1	NPMX08**R...	508 - 05R	1	NPMX08**R...	508 - 05R	1
45 - 47.99	TPMX14**R...	1123 - 04R	1	NPMX08**R...	508 - 05R	1	TPMX14**R...	1123 - 04R	1
48 - 51.99	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1
52 - 54.99	TPMX17**R...	1123 - 32R	1	TPMX14**R...	1123 - 04R	1	TPMX14**R...	1123 - 04R	1
55 - 57.99	TPMX17**R...	1123 - 32R	1	TPMX14**R...	1123 - 04R	1	TPMX17**R...	1123 - 32R	1
58 - 59.99	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
60 - 63.99	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
64 - 67.99	TPMX24**R...	1123 - 43R	1	TPMX17**R...	1123 - 32R	1	TPMX17**R...	1123 - 32R	1
68 - 77.99	TPMX17**R...	1123 - 32R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
78 - 84.99	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
85 - 91.99	TPMX28**R...	1123 - 63R	1	TPMX24**R...	1123 - 43R	1	TPMX24**R...	1123 - 43R	1
92 - 98.99	TPMX24**R...	1123 - 43R	1	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1
99 - 106.99	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1	TPMX28**R...	1123 - 63R	1

- The tool diameter can be increased up to 5 mm using the plus (+) spare parts. (The expansion allowance depends on tool diameters.)
- Drill heads come with cartridge, guide pad, filler, protector, sub guide pad, and wrench, but do not include inserts.

SCREW

Tool diameter DCN - DCX (mm)	Insert						Guide pad					
	Peripheral		Intermediate		Central		Guide pad/Filler		Protector		Sub guide pad	
	Screw	Wrench	Screw	Wrench	Screw	Wrench	Screw	Wrench	Screw	Wrench	Screw	Wrench
38 - 39.99	CSTB-2.2	T-7D	CSTB-2.2	T-7D	CSTB-2.2	T-7D	CSTB-3S	T-9D	CSTB-3S	T-9D	CSTB-3S	T-9D
40 - 44.99	CSTB-2.5	T-8D	CSTB-2.2	T-7D	CSTB-2.2	T-7D	CSTB-3S	T-9D	CSTB-3S	T-9D	CSTB-3S	T-9D
45 - 47.99	CSTB-2.5	T-8D	CSTB-2.2	T-7D	CSTB-2.5	T-8D	CSTB-4S	T-15D	CSTB-4S	T-15D	CSTB-3S	T-9D
48 - 51.99	CSTB-2.5	T-8D	CSTB-2.5	T-8D	CSTB-2.5	T-8D	CSTB-4S	T-15D	CSTB-4S	T-15D	CSTB-3S	T-9D
52 - 54.99	CSTB-3.5D	T-9D	CSTB-2.5	T-8D	CSTB-2.5	T-8D	CSTB-4S	T-15D	CSTB-4S	T-15D	CSTB-3S	T-9D
55 - 57.99	CSTB-3.5D	T-9D	CSTB-2.5	T-8D	CSTB-3.5D	T-9D	CSTB-4S	T-15D	CSTB-4S	T-15D	CSTB-3S	T-9D
58 - 59.99	CSTB-3.5D	T-9D	CSTB-3.5D	T-9D	CSTB-3.5D	T-9D	CSTB-4S	T-15D	CSTB-4S	T-15D	CSTB-3S	T-9D
60 - 63.99	CSTB-3.5D	T-9D	CSTB-3.5D	T-9D	CSTB-3.5D	T-9D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
64 - 67.99	CSTB-4M	T-15D	CSTB-3.5D	T-9D	CSTB-3.5D	T-9D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
68 - 77.99	CSTB-3.5D	T-9D	CSTB-4M	T-15D	CSTB-4M	T-15D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
78 - 84.99	CSTB-4M	T-15D	CSTB-4M	T-15D	CSTB-4M	T-15D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
85 - 91.99	CSTB-5	T-20D	CSTB-4M	T-15D	CSTB-4M	T-15D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
92 - 98.99	CSTB-4M	T-15D	CSTB-5	T-20D	CSTB-5	T-20D	CSTA-5S	T-15D	CSTA-5S	T-15D	CSTB-3S	T-9D
99 - 106.99	CSTB-5	T-20D	CSTB-5	T-20D	CSTB-5	T-20D	LS1206S	H3	LS1206S	H3	CSTA-5S	T-15D

Tool diameter DCN - DCX (mm)	Cartridge screws							
	Peripheral				Intermidiate		Central	
	Screw	Wrench	Adjustable screw	Wrench	Screw	Wrench	Screw	Wrench
38 - 39.99	LS1803RH	H2	AS0003-5	H1.5	CSTB-3	T-9D	CSTB-3	T-9D
40 - 44.99	LS1803.5RH	H2.5	AS0004-8	H2	CSTB-3	T-9D	CSTB-3	T-9D
45 - 47.99	LS1803.5RH	H2.5	AS0004-8	H2	CSTB-3	T-9D	CSTB-3.5	T-9D
48 - 51.99	LS1803.5RH	H2.5	AS0004-8	H2	CSTB-3.5	T-15D	CSTB-3.5	T-15D
52 - 54.99	LS1805RH	H3	AS0005-10	H2.5	CSTB-3.5	T-15D	CSTB-3.5	T-15D
55 - 57.99	LS1805RH	H3	AS0005-10	H2.5	CSTB-3.5	T-15D	CSTA-5	T-15D
58 - 59.99	LS1805RH	H3	AS0005-10	H2.5	CSTA-5	T-15D	CSTA-5	T-15D
60 - 63.99	LS1805RH	H3	AS0005-10	H2.5	CSTA-5	T-15D	CSTA-5	T-15D
64 - 67.99	LS1806RH	H4	AS0005-15	H2.5	CSTA-5	T-15D	CSTA-5	T-15D
68 - 77.99	LS1805RH	H3	AS0005-10	H2.5	LS1206	H3	LS1206	H3
78 - 84.99	LS1806RH	H4	AS0005-15	H2.5	LS1206	H3	LS1206	H3
85 - 91.99	LS1806RH	H4	AS0006-15	H3	LS1206	H3	LS1206	H3
92 - 98.99	LS1806RH	H4	AS0005-15	H2.5	LS1206	H3	LS1206S	H3
99 - 106.99	LS1806RH	H4	AS0006-15	H3	LS1206	H3	LS1206S	H3

Guide pads and protectors

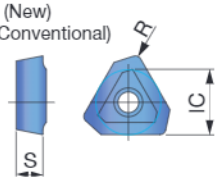
Guide pad				Dimensions (mm)			Lock screw	Wrench	Protector	Dimensions (mm)		Lock screw	Wrench
	F1122	F2122	FH3135	W	H	L				W	H		
GP08	•	•		8	4.5	25	CSTB-3S	T-9D	GPT08	8	4.5	CSTB-3S	T-9D
GP08-25-155-DC			•	8	4.5	25	CSTB-3S	T-9D	GPT08	8	4.5	CSTB-3S	T-9D
GP10	•	•		10	6	35	CSTB-4S	T-15D	GPT10	10	6	CSTB-4S	T-15D
GP10-35-200-DC			•	10	6	35	CSTB-4S	T-15D	GPT10	10	6	CSTB-4S	T-15D
GP14		•		14	7.5	40	CSTA-5S	T-15D	GPT14	14	7.5	CSTA-5S	T-15D
GP14-40-250-DC			•	14	7.5	40	CSTA-5S	T-15D	GPT14	14	7.5	CSTA-5S	T-15D
GP18		•		18	9	40	LS1206S / LS1206SSS ***	H3	GPT18-M	18	9	LS1206S	H3
GP18-40-300-DC			•	18	9	40	LS1206S / LS1206SSS ***	H3	GPT18-M	18	9	LS1206S	H3

***LS1206SSS for dimensional guide pad
(for diameter ø118.00 - ø150.99, ø169.00 - ø208.99 and ø233.00 - ø247.99 mm)

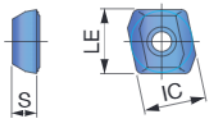
INSERT

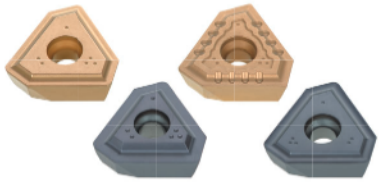
NPMX..., TPMX.../508-05R..., 1123_**R...

TPMX type (New)
1123 type (Conventional)



NPMX type (New)
508 type (Conventional)





Right-hand type

Designation		Chipbreaker		AH8015	UC1220 (DLX2)	UC1125 (DLXT)	UC1230 (DLX3)	UC3215 (KLX2)	UC3210 (KLXT3)	UC2220 (NLX)	UC3120 (KLXT)	IC	S	R	LE
New	Conventional	New	Conventional												
NPMX080308R-G	508-05R	G	-				●	●		●		8	3.18	-	8.362
NPMX080304R-B	508-05RBR1	B	BR1			●				●	●	8	3.18	-	8.362
TPMX140308R-G	-	G	-	●								8.45	3.5	0.8	-
TPMX140308R-G	1123-04R	G	-		●		●	●		●		8.45	3.5	0.8	-
TPMX140308R-B	-	B	-	●								8.45	3.5	0.8	-
TPMX140304R-B	1123-04RBR1	B	BR1			●			●	●	●	8.45	3.5	0.4	-
TPMX140308R-DT	1123-04RS	DT	S							●		8.45	3.5	0.8	-
TPMX170408R-G	-	G	-	●								10.3	4	0.8	-
TPMX170408R-G	1123-32R	G	-		●		●	●		●		10.3	4	0.8	-
TPMX170408R-B	-	B	-	●								10.3	4	0.8	-
TPMX170404R-B	1123-32RBR1	B	BR1			●			●	●	●	10.3	4	0.4	-
TPMX170408R-BG	-	BG	-	●								10.3	4	0.8	-
TPMX170408R-BG	1123-32RB	BG	B					●		●		10.3	4	0.8	-
TPMX170408R-DT	1123-32RS	DT	S							●		10.3	4	0.8	-
TPMX240512R-G	-	G	-	●								14.2	5.5	1.2	-
TPMX240512R-G	1123-43R	G	-		●		●	●		●		14.2	5.5	1.2	-
TPMX240512R-B	-	B	-	●								14.2	5.5	1.2	-
TPMX240504R-B	1123-43RBR1	B	BR1			●			●	●	●	14.2	5.5	0.4	-
TPMX240512R-BG	-	BG	-	●								14.2	5.5	1.2	-
TPMX240512R-BG	1123-43RB	BG	B					●		●		14.2	5.5	1.2	-
TPMX240512R-DT	1123-43RS	DT	S							●		14.2	5.5	1.2	-
TPMX280716R-G	-	G	-	●								17	7.5	1.6	-
TPMX280716R-G	1123-63R	G	-		●		●	●		●		17	7.5	1.6	-
TPMX280716R-B	-	B	-	●								17	7.5	1.6	-
TPMX280708R-B	1123-63RBR1	B	BR1			●			●	●	●	17	7.5	0.8	-
TPMX280716R-BG	-	BG	-	●								17	7.5	1.6	-
TPMX280716R-BG	1123-63RB	BG	B					●		●		17	7.5	1.6	-
TPMX280716R-DT	1123-63RS	DT	S							●		17	7.5	1.6	-

● : Line up

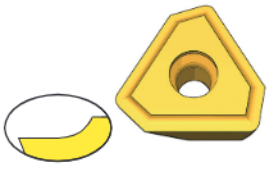
Left-hand type

Designation		Chipbreaker		AH8015	UC1220 (DLX2)	UC1125 (DLXT)	UC1230 (DLX3)	UC3215 (KLX2)	UC3210 (KLXT3)	UC2220 (NLX)	UC3120 (KLXT)	IC	S	R	LE
New	Conventional	New	Conventional												
TPMX140308L-G	1123-04L	G	-				●			●		8.45	3.5	0.8	-
TPMX170408L-G	1123-32L	G	-				●			●		10.3	4	0.8	-
TPMX170408L-BG	1123-32LB	BG	B							●		10.3	4	0.8	-
TPMX170408L-DT	1123-32LS	DT	S							●		10.3	4	0.8	-
TPMX240512L-G	1123-43L	G	-				●			●		14.2	5.5	1.2	-
TPMX240512L-BG	1123-43LB	BG	B							●		14.2	5.5	1.2	-
TPMX240512L-DT	1123-43LS	DT	S							●		14.2	5.5	1.2	-
TPMX280716L-G	1123-63L	G	-				●			●		17	7.5	1.6	-
TPMX280716L-BG	1123-63LB	BG	B							●		17	7.5	1.6	-

● : Line up

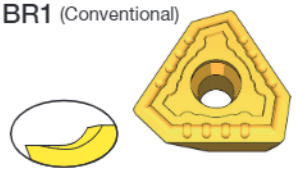
Chipbreaker

G (New)



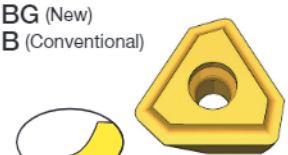
Versatile

B (New)
BR1 (Conventional)



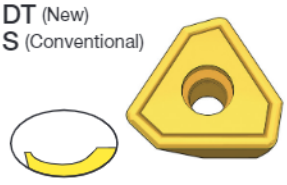
Good chip control for heat-resistant alloy

BG (New)
B (Conventional)



Good chip control for difficult-to-cut steel

DT (New)
S (Conventional)



Reduced cutting force

*Difficult-to-cut steel: Material that tends to produce long chips

Grade

	Grade	(Former name)	ISO area 5	10	15	20	25	30	35	40
P	AH8015	-			■	■	■	■	■	
	UC1220	(DLX2)		■	■	■	■	■		
	UC2220	(NLX)			■	■	■	■	■	
	UC1125	(DLXT)				■	■	■		
	UC1230	(DLX3)				■	■	■	■	■
	UC3120	(KLXT)						■	■	■
M	AH8015	-		■	■	■	■	■		
	UC2220	(NLX)		■	■	■	■	■		
	UC1230	(DLX3)			■	■	■	■	■	
	UC3120	(KLXT)							■	■
K	AH8015	-			■	■	■			
	UC3215	(KLX2)		■	■	■				
	UC3120	(KLXT)				■	■	■		
N	AH8015	-			■	■	■			
	UC3215	(KLX2)		■	■	■				
	UC2220	(NLX)			■	■	■			
S	AH8015	-			■	■	■			
	UC3210	(KLXT3)	■	■	■					
	UC2220	(NLX)			■	■	■			
	UC3120	(KLXT)			■	■	■			
	UC1230	(DLX3)			■	■	■	■	■	

STANDARD CUTTING CONDITIONS

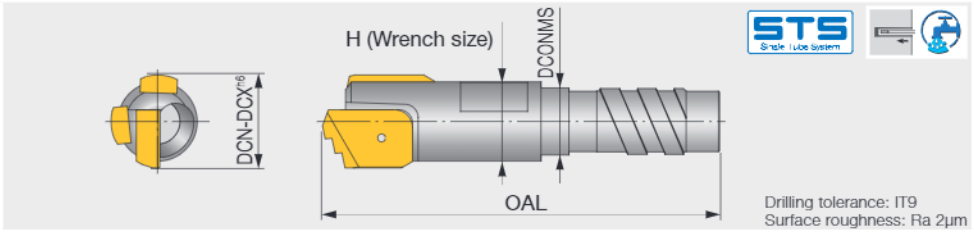
ISO	Workpiece materials				Hardness	Cutting speed	Feed: *f*n (mm/rev) Drill dia. (mm)				
					(HB)	*V*c (m/min)	38.00 - 39.99	40.00 - 51.99	52.00 - 63.99	64.00 - 84.99	85.00 -
P	Carbon steels Casting steels High carbon steels Carbon tool steels	S10C - S25C,SS	0.10 - 0.25%C	Non-hardened	125	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
		S25C - S55C	0.25 - 0.25%C	Non-hardened	190	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
			0.25 - 0.25%C	Hardened and tempered	250	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
		SK	0.55 - 0.80%C	Non-hardened	220	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
			0.55 - 0.80%C	Hardened and tempered	300	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
	Low alloy steels Casting steels (alloying element < 5%)	SNC,DCr,SNCN SCM,SMn		Non-hardened	200	60 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
				Hardened and tempered	275	60 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
					300	50 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
					350	50 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
	High alloy steels Casting steel Tool steels	SNS,SKD,SKT SKH,SK		Non-hardened	200	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
				Hardened and tempered	325	60 - 120	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
M	Stainless steels	SUS430		Ferritic	200	60 - 110	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
		SUS410,420J		Martensite	240	60 - 110	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
		SUS304,SUS316L		Austenite	180	60 - 110	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
K	Ductile cast irons	FCD400 - FCD450		Ferritic / Pearlitic	180	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
		FCD500 - FCD700		Pearlitic	260	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
	Grey cast irons	FC100 - FC200		Low tensile strength	160	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
		FC250 - FC350		High tensile strength	250	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
	Malleable cast irons	FCMB,FCMW		Ferritic	130	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
		FCMWP,FCMP		Pearlitic	230	60 - 100	0.08 - 0.13	0.1 - 0.15	0.13 - 0.18	0.15 - 0.2	0.18 - 0.23
N	Aluminium alloys Forging			Non-aged	60	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
				Soluted, Aged	100	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
	Aluminium alloys Casting		≤12% Si	Non-aged	75	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
				Soluted, Aged	90	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
			>12% Si	High silicon	130	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
	Copper alloys		>1% Pb	Free cutting copper	110	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
				Brass, Red brass	90	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
				Electrolytic copper	100	60 - 130	0.08 - 0.2	0.1 - 0.25	0.13 - 0.28	0.15 - 0.3	0.18 - 0.33
S	Nickel-based alloys		Fe base	Non-aged	200	20 - 65	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
				Soluted, Aged	280	20 - 65	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
			Ni / Co base	Non-aged	250	20 - 65	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
				Soluted, Aged	350	20 - 65	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
				Casted	320	20 - 65	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
	Titanium alloys		α		Rm400	30 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3
			α - β		Rm1050	30 - 100	0.08 - 0.15	0.1 - 0.2	0.13 - 0.23	0.15 - 0.25	0.18 - 0.3

The above values should not be used as the exact recommendations. They may need modification depending on the machining conditions, materials, etc.

MBU

MBU type drill head

Brazed drill head with external single thread for single tube system (STS), tool diameter ø8 - ø14.79 mm



Drilling tolerance: IT9
Surface roughness: Ra 2µm

Designation	DCN	DCX	Drill tube		OAL	DCONMS	H
			Designation	Dia. (mm)			
MBU-0899-1 xx.xx	8	8.32	UMBB071	7.1	34	6	6
MBU-0899-2 xx.xx	8.33	8.65	UMBB071	7.1	34	6	6
MBU-0899-3 xx.xx	8.66	8.99	UMBB071	7.1	34	6	6
MBU-0999-1 xx.xx	9	9.32	UMBB083	8.3	34	7.2	7
MBU-0999-2 xx.xx	9.33	9.65	UMBB083	8.3	34	7.2	7
MBU-0999-3 xx.xx	9.66	9.99	UMBB083	8.3	34	7.2	7
MBU-1099-1 xx.xx	10	10.32	UMBB090	9	34	7.6	8
MBU-1099-2 xx.xx	10.33	10.65	UMBB090	9	34	7.6	8
MBU-1099-3 xx.xx	10.66	10.99	UMBB090	9	34	7.6	8
MBU-1199-1 xx.xx	11	11.32	UMBB100	10	34	8.6	9
MBU-1199-2 xx.xx	11.33	11.65	UMBB100	10	34	8.6	9
MBU-1199-3 xx.xx	11.66	11.99	UMBB100	10	34	8.6	9
MBU-1349-1 xx.xx	12	12.36	UMBB110	11	34	9.1	10
MBU-1349-2 xx.xx	12.37	12.73	UMBB110	11	34	9.1	10
MBU-1349-3 xx.xx	12.74	13.1	UMBB110	11	34	9.1	10
MBU-1349-4 xx.xx	13.11	13.49	UMBB110	11	34	9.1	10
MBU-1449-1 xx.xx	13.5	13.82	UMBB120	12	34	10.8	11
MBU-1449-2 xx.xx	13.83	14.15	UMBB120	12	34	10.8	11
MBU-1449-3 xx.xx	14.16	14.48	UMBB120	12	34	10.8	11
MBU-1449-4 xx.xx	14.49	14.79	UMBB120	12	34	10.8	11

e.g. Designation for tool diameter ø9 mm: MBU-0899-1 9.00
The interface of the drill tube has a unique shape. Please be sure to use UMBB drill tube.

Grade

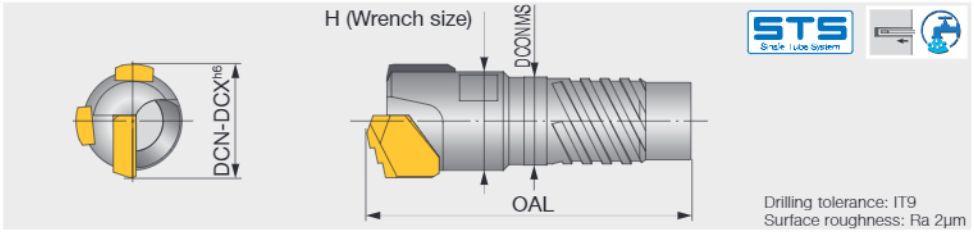
	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	1122	(PC ZAP)								
M	3112	(TF ZAP)								
K	3112	(TF ZAP)								
N	3112	(TF ZAP)								
S	3112	(TF ZAP)								

Reference pages: Standard cutting conditions → J139, Drill tube (STS) → J140

UTE

UTE type drill head

Brazed drill head with external double or quadruple thread for single tube system (STS), tool diameter ø12.6 - ø20 mm



Designation	DCN	DCX	Drill tube		OAL	DCONMS	H
			Designation	Dia. (mm)			
UTE-0094-1 xx.xx	12.6	12.92	ST0094	11	40	9.6	10
UTE-0094-2 xx.xx	12.93	12.99	ST0094	11	40	9.6	10
UTE-0094-3 xx.xx	13	13.25	ST0094	11	40	9.6	10
UTE-0094-4 xx.xx	13.26	13.6	ST0094	11	40	9.6	10
UTE-0095-1 xx.xx	13.61	13.93	ST0095	12	40	10.6	11
UTE-0095-2 xx.xx	13.94	13.99	ST0095	12	40	10.6	11
UTE-0095-3 xx.xx	14	14.26	ST0095	12	40	10.6	11
UTE-0095-4 xx.xx	14.27	14.6	ST0095	12	40	10.6	11
UTE-0096-1 xx.xx	14.61	14.93	ST0096	13	40	11.6	12
UTE-0096-2 xx.xx	14.94	15.26	ST0096	13	40	11.6	12
UTE-0096-3 xx.xx	15.27	15.59	ST0096	13	40	11.6	12
UTE-0097-1 xx.xx	15.6	15.96	ST0097	14	40	12.6	13
UTE-0097-2 xx.xx	15.97	16.32	ST0097	14	40	12.6	13
UTE-0097-3 xx.xx	16.33	16.7	ST0097	14	40	12.6	13
UTE-0098-1 xx.xx	16.71	17.03	ST0098	15	40	13.6	14
UTE-0098-2 xx.xx	17.04	17.36	ST0098	15	40	13.6	14
UTE-0098-3 xx.xx	17.37	17.7	ST0098	15	40	13.6	14
UTE-0099-1 xx.xx	17.71	18.09	ST0099	16	40	14.5	15
UTE-0099-2 xx.xx	18.1	18.48	ST0099	16	40	14.5	15
UTE-0099-3 xx.xx	18.49	18.9	ST0099	16	40	14.5	15
UTE-0000-1 xx.xx	18.91	19.26	ST0000	17	40	15.5	16
UTE-0000-2 xx.xx	19.27	19.62	ST0099	17	40	15.5	16
UTE-0000-3 xx.xx	19.63	20	ST0099	17	40	15.5	16

e.g. Designation for tool diameter ø12.92 mm: UTE-0094-1 12.92

UTE Drill head : ø12.6 mm - ø15.59 mm, External double thread
UTE Drill head : ø15.6 mm - ø20 mm, External quadruple thread

Grade

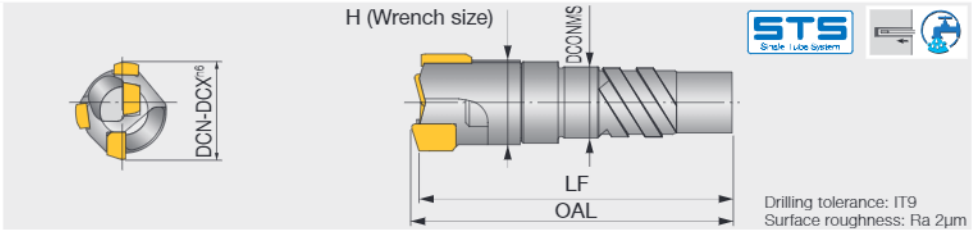
	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	1122	(UP ZAP)								
M	3112	(TF ZAP)								
K	3112	(TF ZAP)								
N	3112	(TF ZAP)								
S	3132	(TFKS ZAP)								

Reference pages: Standard cutting conditions → J139, Drill tube (STS) → J140

BTU

BTU type drill head (Small diameter, 2 edges)

Brazed rill head with external double thread for single tube system (STS), tool diameter ø12.6 - ø15.59 mm



Designation	DCN	DCX	Drill tube		OAL	LF	DCONMS	H
			Designation	Dia. (mm)				
BTU-00941 xx.xx	12.6	13.1	ST0094	11	43	41.9	9.6	10
BTU-00942 xx.xx	13.11	13.6	ST0094	11	43	41.9	9.6	10
BTU-00951 xx.xx	13.61	14.1	ST0095	12	43	41.8	10.6	11
BTU-00952 xx.xx	14.11	14.6	ST0095	12	43	41.8	10.6	11
BTU-00961 xx.xx	14.61	15.1	ST0096	13	43	41.7	11.6	12
BTU-00962 xx.xx	15.11	15.59	ST0096	13	43	41.7	11.6	12

e.g. Designation for tool diameter ø13.1 mm: BTU-00941 13.10

Grade

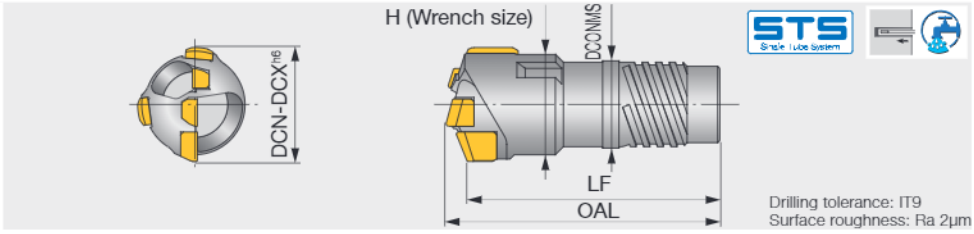
	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	1122	(UP ZAP)								
M	2122	(N3 ZAP)								
K	1122	(UP ZAP)								
N	1122	(UP ZAP)								
S	1122	(UP ZAP)								

Reference pages: Standard cutting conditions → J139, Drill tube (STS) → J140

BTU

BTU type drill head (3 edges)

Brazed drill head with external quadruple thread for single tube system (STS), tool diameter ø15.6 - ø65 mm



Designation	DCN	DCX	Drill tube		OAL	LF	DCONMS	H
			Designation	Dia. (mm)				
BTU-00971 xx.xx	15.6	16.2	ST0097	14	43	40.3	12.6	-
BTU-00972 xx.xx	16.21	16.7	ST0097	14	43	40.3	12.6	14
BTU-00981 xx.xx	16.71	17.2	ST0098	15	43	40.3	13.6	15
BTU-00982 xx.xx	17.21	17.7	ST0098	15	43	40.3	13.6	15
BTU-00991 xx.xx	17.71	18.4	ST0099	16	47	44.2	14.5	15
BTU-00992 xx.xx	18.41	18.9	ST0099	16	47	44.1	14.5	-
BTU-001 xx.xx	18.91	19.2	ST0000	17	47	44.1	15.5	17
BTU-002 xx.xx	19.21	20	ST0000	17	47	44	15.5	18
BTU-011 xx.xx	20.01	20.9	ST00	18	52.5	49.4	16	18
BTU-012 xx.xx	20.91	21.8	ST00	18	52.5	49.4	16	19
BTU-021 xx.xx	21.81	22.9	ST01	20	56	52.8	18	20
BTU-022 xx.xx	22.91	24.1	ST01	20	56	52.6	18	21
BTU-031 xx.xx	24.11	25.2	ST02	22	57.5	54	19.5	23
BTU-032 xx.xx	25.21	26.4	ST02	22	57.5	54	19.5	24
BTU-041 xx.xx	26.41	27.5	ST03	24	57.5	53.8	21	25
BTU-042 xx.xx	27.51	28.7	ST03	24	57.5	53.8	21	26
BTU-051 xx.xx	28.71	29.8	ST04	26	63.5	59.5	23.5	27
BTU-052 xx.xx	29.81	31	ST04	26	63.5	59.3	23.5	28
BTU-061 xx.xx	31.01	32.1	ST05	28	63.5	59.4	25.5	29
BTU-062 xx.xx	32.11	33.3	ST05	28	63.5	59.1	25.5	30
BTU-071 xx.xx	33.31	34.8	ST06	30	63.5	59	28	32
BTU-072 xx.xx	34.81	36.2	ST06	30	63.5	58.9	28	33
BTU-081 xx.xx	36.21	37.3	ST07	33	73.5	68.7	30	34
BTU-082 xx.xx	37.31	38.4	ST07	33	73.5	68.5	30	35
BTU-083 xx.xx	38.41	39.6	ST07	33	73.5	68.3	30	36
BTU-091 xx.xx	39.61	40.6	ST08	36	73.5	68.2	33	37
BTU-092 xx.xx	40.61	41.8	ST08	36	73.5	68	33	38
BTU-093 xx.xx	41.81	43	ST08	36	73.5	67.8	33	39
BTU-101 xx.xx	43.01	44.3	ST09	39	75	69.5	36	41
BTU-102 xx.xx	44.31	45.6	ST09	39	75	69.3	36	42
BTU-103 xx.xx	45.61	47	ST09	39	75	69.1	36	43
BTU-111 xx.xx	47.01	48.5	ST10	43	75	68.8	39	44
BTU-112 xx.xx	48.51	50.1	ST10	43	75	68.7	39	46
BTU-113 xx.xx	50.11	51.7	ST10	43	75	68.5	39	47
BTU-121 xx.xx	51.71	53.2	ST11	47	82	75.2	43	49
BTU-122 xx.xx	53.21	54.7	ST11	47	82	75.2	43	50
BTU-123 xx.xx	54.71	56.2	ST11	47	82	75.2	43	51
BTU-131 xx.xx	56.21	58.4	ST12	51	84	77.4	47	54
BTU-132 xx.xx	58.41	60.6	ST12	51	84	76.9	47	55
BTU-133 xx.xx	60.61	62.8	ST12	51	84	76.8	47	57
BTU-134 xx.xx	62.81	65	ST12	51	84	76.5	47	59
BTU-133L xx.xx	60.61	62.8	ST13	56	84	76.8	51	57
BTU-134L xx.xx	62.81	65	ST13	56	84	76.5	51	59

e.g. Designation for tool diameter ø16.2 mm: BTU-00971 16.20

Grade

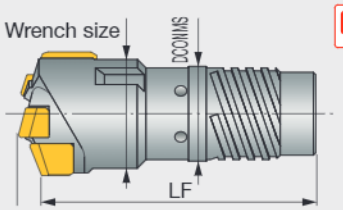
	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	1122	(UP ZAP)		■	■	■				
	1132	(UX-2 ZAP)				■	■	■		
M	1132	(UX-2 ZAP)					■	■	■	
	2122	(N3 ZAP)						■	■	■
K	3132	(TFKS ZAP)			■	■	■			
N	3132	(TFKS ZAP)		■	■	■				
S	3132	(TFKS ZAP)			■	■	■			

Reference pages: Standard cutting conditions → J139, Drill tube (STS) → J140

ETU

ETU type drill head

Brazed drill head with external quadruple thread for double tube system (DTS), tool diameter ø18.4 - ø65 mm



DTS Double Tube System

Drilling tolerance: IT9
Surface roughness: Ra 2µm

Designation	DCN	DCX	Drill tube		OAL	LF	DCONMS	H
			Designation	Dia. (mm)				
ETU-001 xx.xx	18.4	19.2	OT00	18	50	47.1	16	17
ETU-002 xx.xx	19.21	20	OT00	18	50	47	16	18
ETU-011 xx.xx	20.01	20.9	OT01	20	56	52.8	18	18
ETU-012 xx.xx	20.91	21.8	OT01	20	56	52.7	18	19
ETU-021 xx.xx	21.81	22.9	OT02	22	56	52.8	19.5	20
ETU-022 xx.xx	22.91	24.1	OT02	22	56	52.6	19.5	21
ETU-031 xx.xx	24.11	25.2	OT03	24	57.5	54	21	23
ETU-032 xx.xx	25.21	26.4	OT03	24	57.5	54	21	24
ETU-041 xx.xx	26.41	27.5	OT04	26	60.5	56.8	23.5	25
ETU-042 xx.xx	27.51	28.7	OT04	26	60.5	56.8	23.5	26
ETU-051 xx.xx	28.71	29.8	OT05	28	63.5	59.5	25.5	27
ETU-052 xx.xx	29.81	31	OT05	28	63.5	59.3	25.5	28
ETU-061 xx.xx	31.01	32.1	OT06	31	63.5	59.4	28	29
ETU-062 xx.xx	32.11	33.3	OT06	31	63.5	59.2	28	30
ETU-071 xx.xx	33.31	34.8	OT07	33	70.5	66	30	32
ETU-072 xx.xx	34.81	36.2	OT07	33	70.5	65.8	30	33
ETU-081 xx.xx	36.21	37.3	OT08	36	73.5	68.7	33	34
ETU-082 xx.xx	37.31	38.4	OT08	36	73.5	68.5	33	35
ETU-083 xx.xx	38.41	39.6	OT08	36	73.5	68.3	33	36
ETU-091 xx.xx	39.61	40.6	OT09	39	73.5	68.2	36	37
ETU-092 xx.xx	40.61	41.8	OT09	39	73.5	68	36	38
ETU-093 xx.xx	41.81	43	OT09	39	73.5	67.9	36	39
ETU-101 xx.xx	43.01	44.3	OT10	43	75	69.5	39	41
ETU-102 xx.xx	44.31	45.6	OT10	43	75	69.3	39	42
ETU-103 xx.xx	45.61	47	OT10	43	75	69.1	39	43
ETU-111 xx.xx	47.01	48.5	OT11	47	79	72.9	43	44
ETU-112 xx.xx	48.51	50.1	OT11	47	79	72.8	43	46
ETU-113 xx.xx	50.11	51.7	OT11	47	79	72.5	43	47
ETU-121 xx.xx	51.71	53.2	OT12	51	82	75.3	47	49
ETU-122 xx.xx	53.21	54.7	OT12	51	82	75.5	47	50
ETU-123 xx.xx	54.71	56.2	OT12	51	82	75.3	47	51
ETU-131 xx.xx	56.21	58.4	OT13	56	84	77.4	51	54
ETU-132 xx.xx	58.41	60.6	OT13	56	84	76.9	51	55
ETU-133 xx.xx	60.61	62.8	OT13	56	84	77	51	57
ETU-134 xx.xx	62.81	65	OT13	56	84	76.6	51	59

e.g. Designation for tool diameter ø19.2 mm: ETU-001 19.20

Grade

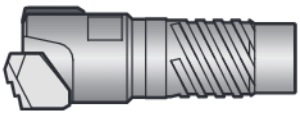
	Grade	(Former name)	ISO area							
			5	10	15	20	25	30	35	40
P	1122	(UP ZAP)		■	■	■				
	1132	(UX-2 ZAP)				■	■	■		
M	1132	(UX-2 ZAP)					■	■	■	
	2122	(N3 ZAP)						■	■	■
K	3132	(TFKS ZAP)			■	■	■			
N	3132	(TFKS ZAP)		■	■	■				
S	3132	(TFKS ZAP)			■	■	■			

Reference pages: Standard cutting conditions → J139,
Drill tube (DTS) → J144

STANDARD CUTTING CONDITIONS

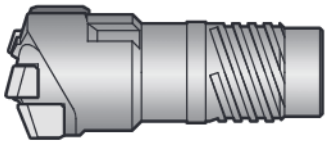
STS Single Tube System

MBU



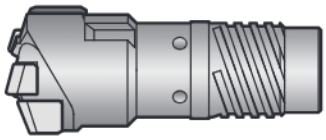
UTE

BTU
(2 edges)



BTU
(3 edges)

DTS Double Tube System



ETU
(3 edges)

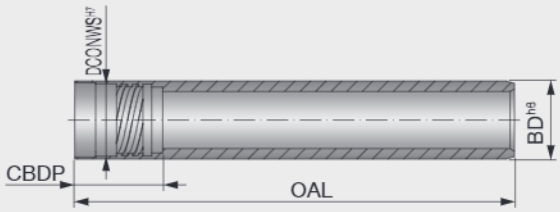
ISO	Workpiece material	JIS	Condition		Hardness	Cutting speed	Feed per revolution: *fn* (mm/rev)				
							Drill dia. (mm)				
							8 - 20	12.6 - 20	20.01 - 31	31.01 - 43	43.01 - 65
					(HB)	*Vc* (m/min)	MBU, UTE	BTU, ETU			
P	Carbon steels Cast steels High carbon steels Carbon tool steels	S10C - S25C,SS	0.1 - 0.25 %C	Non-hardened	125	70 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
		S25C - S55C	0.25 - 0.25 %C	Non-hardened	190	70 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
			0.25 - 0.25 %C	Hardened	250	70 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
		SK	0.55 - 0.80 %C	Non-hardened	220	70 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
			0.55 - 0.80 %C	Hardened	300	70 - 130	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.13 - 0.17	0.15 - 0.28
	Low alloy steels Cast steels (alloying element < 5%)	SNC,DCr,SNCN SCM,SMn		Non-hardened	200	70 - 110	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
				Hardened	275	60 - 110	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.13 - 0.17	0.15 - 0.28
					300	60 - 110	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.13 - 0.17	0.15 - 0.28
					350	60 - 110	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.13 - 0.17	0.15 - 0.28
	High alloy steels, Cast steels Tool steels	SNS,SKD,SKT SKH,SK		Non-hardened	200	70 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
				Hardened	325	70 - 130	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.13 - 0.17	0.15 - 0.28
M	Stainless steels	SUS430		Ferritic	200	40 - 110	0.05 - 0.13	0.08 - 0.15	0.1 - 0.28	0.13 - 0.3	0.16 - 0.35
		SUS410,420J		Martensitic	240	40 - 110	0.05 - 0.13	0.08 - 0.15	0.1 - 0.28	0.13 - 0.3	0.16 - 0.35
		SUS304,SUS316L		Austenitic	180	40 - 110	0.05 - 0.12	0.05 - 0.12	0.08 - 0.25	0.1 - 0.28	0.15 - 0.33
K	Ductile cast iron	FCD400 - FCD450		Ferritic / Pearlitic	180	50 - 110	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
		FCD500 - FCD700		Pearlitic	260	50 - 110	0.05 - 0.13	0.08 - 0.15	0.1 - 0.17	0.13 - 0.2	0.16 - 0.3
	Grey cast iron	FC100 - FC200		Low tensile strength	160	60 - 110	0.05 - 0.13	0.06 - 0.13	0.08 - 0.18	0.1 - 0.2	0.15 - 0.25
		FC250 - FC350		High tensile strength	250	60 - 110	0.05 - 0.13	0.06 - 0.13	0.08 - 0.18	0.1 - 0.2	0.15 - 0.25
	Malleable cast irons	FCMB,FCMW		Ferritic	130	70 - 110	0.05 - 0.13	0.06 - 0.13	0.08 - 0.18	0.1 - 0.2	0.15 - 0.25
		FCMWP,FCMP		Pearlitic	230	70 - 110	0.05 - 0.13	0.06 - 0.13	0.08 - 0.18	0.1 - 0.2	0.15 - 0.25
N	Aluminium alloy Wrought			Non-aged	60	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
				Soluted, Aged	100	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
	Aluminium alloy Cast		<=12% Si	Non-aged	75	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
				Soluted, Aged	90	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
			>12% Si	High silicon content	130	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
	Copper alloys		>1% Pb	Free-cutting copper	110	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
				Brass, Red brass	90	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
				Electrolytic copper	100	65 - 130	0.05 - 0.13	0.08 - 0.15	0.1 - 0.2	0.15 - 0.25	0.16 - 0.3
S	Heat-resistant alloy		Fe based alloys	Non-aged	200	20 - 50	0.05 - 0.12	0.06 - 0.12	0.08 - 0.15	0.12 - 0.18	0.15 - 0.25
				Soluted, Aged	280	20 - 50	0.05 - 0.12	0.06 - 0.12	0.08 - 0.15	0.12 - 0.18	0.15 - 0.25
			Ni / Co based alloys	Non-aged	250	20 - 50	0.05 - 0.12	0.06 - 0.12	0.08 - 0.15	0.12 - 0.18	0.15 - 0.25
				Soluted, Aged	350	20 - 50	0.05 - 0.12	0.06 - 0.12	0.08 - 0.15	0.12 - 0.18	0.15 - 0.25
				Cast	320	20 - 50	0.05 - 0.12	0.06 - 0.12	0.08 - 0.15	0.12 - 0.18	0.15 - 0.25
	Titanium alloys		α		Rm400	30 - 60	0.05 - 0.1	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.12 - 0.2
			α-β		Rm1050	30 - 60	0.05 - 0.1	0.05 - 0.1	0.08 - 0.12	0.1 - 0.15	0.12 - 0.2

The above values may need modification depending on the machining conditions, materials, etc.

ST

ST - for single tube system

Drill tube for single tube system (STS), internal thread type, double thread (tool dia. ≤ ø15.59 mm) or quadruple thread (tool dia. ≥ ø15.6 mm)



Designation	DCN-DCX	OAL 1600	OAL 2600	OAL Special length	BD	DCONWS	CBDP
ST0094	12.6 - 13.6	●		○	11	9.6	22
ST0095	13.61 - 14.6	●		○	12	10.6	22
ST0096	14.61 - 15.59	●		○	13	11.6	22
ST0097	15.6 - 16.7	●		○	14	12.6	21
ST0098	16.71 - 17.7	●	●	○	15	13.6	21
ST0099	17.71 - 18.9	●	●	○	16	14.5	22
ST0000	18.91 - 20	●	●	○	17	15.5	22
ST00	20.01 - 21.8	●	●	○	18	16	27.5
ST01	21.81 - 24.1		●	○	20	18	30
ST02	24.11 - 26.4		●	○	22	19.5	30
ST03	26.41 - 28.7		●	○	24	21	30
ST04	28.71 - 31		●	○	26	23.5	33
ST05	31.01 - 33.3		●	○	28	25.5	33
ST06	33.31 - 36.2		●	○	30	28	33
ST07	36.21 - 39.6		●	○	33	30	40
ST08	39.61 - 43		●	○	36	33	40
ST09	43.01 - 47		●	○	39	36	40
ST10	47.01 - 51.7		●	○	43	39	40
ST11	51.71 - 56.2		●	○	47	43	44
ST12	56.21 - 60.6		●	○	51	47	44
ST13	60.61 - 65			○	56	51	44

Designation	DCN-DCX	OAL Special length	BD	DCONWS	CBDP
ST14	65 - 66.99	○	56	52	75
ST15	67 - 72.99	○	62	58	75
ST16	73 - 79.99	○	68	63	75
ST17	80 - 86.99	○	75	70	97
ST18	87 - 99.99	○	82	77	97
ST19	100 - 111.99	○	94	89	97
ST20	112 - 123.99	○	106	101	118
ST21	124 - 135.99	○	118	113	118
ST22	136 - 147.99	○	130	125	118
ST23	148 - 159.99	○	142	137	139
ST24	160 - 171.99	○	154	149	139
ST25	172 - 183.99	○	166	161	139
ST26	184 - 195.99	○	178	173	144
ST27	196 - 207.99	○	190	185	144
ST28	208 - 219.99	○	202	197	144
ST29	220 - 231.99	○	214	208	164
ST30	232 - 243.99	○	226	220	164
ST31	244 - 255.99	○	238	232	164
ST32	256 - 267.99	○	250	244	184
ST33	268 - 279.99	○	262	256	184
ST34	280 - 291.99	○	274	268	184

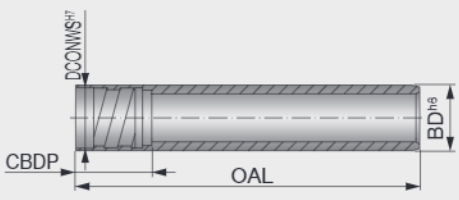
Please specify the length (L) when ordering.
e.g. For ø60 mm drill diameter / 2600 mm drill tube length: ST12X2600
The lengths that are not in the above will be available upon request.

● : Line up
○ : Item to be customized

UMBB

UMBB - for single tube system with MBU

Drill tube with internal single thread for MBU drill head



Designation	DCN-DCX	OAL Special length	BD	DCONWS	CBDP
UMBB071	8 - 8.99	○	7.1	6	13.5
UMBB083	9 - 9.99	○	8.3	7.2	13.5
UMBB090	10 - 10.99	○	9	7.6	13.5
UMBB100	11 - 11.99	○	10	8.6	13.5
UMBB110	12 - 13.49	○	11	9.1	13.5
UMBB120	13.5 - 14.79	○	12	10.8	13.5

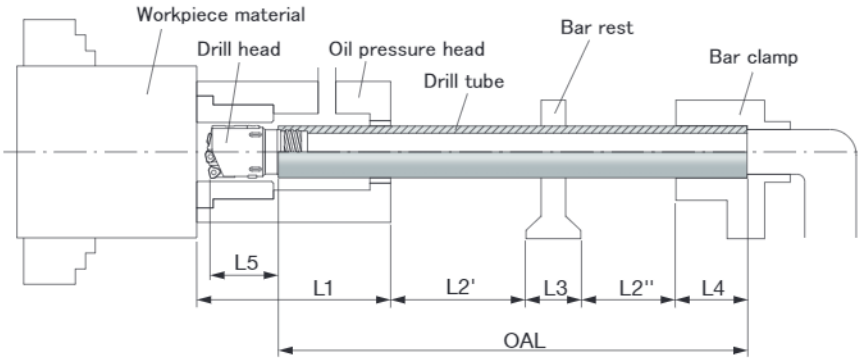
Please specify the length (L) when ordering.
e.g. For ø11 mm drill diameter / 1000 mm drill tube length: UMBB100X1000

○: Item to be customized

Reference pages: ST: Drill head → J118 (FINE-TRI STS-EX), J122 (FINE BEAM STS-EX), J128 (UNIDEX STS-EX), J135 (UTE), J136 - J137 (BTU)
UMBB: Drill head → J134 (MBU)

TUBE LENGTH FOR SPECIAL DRILLS

Drill tubes with the lengths that are not for standard items will be available upon request.
Please use the below guide to calculate the drill tube length.



L = Drill tube whole length
L1 = Oil pressure head length
L2 = Drilli ng depth (L2' + L2'')
L3 = Bar rest length
L4 = Drill tube clamp length
L5 = Length from drill tube tip and peripheral edge tip

Drill tube length OAL = L1 + L2 + L3 + L4 - L5

BTU

DCN-DCX	L5
12.6 - 17.7	20
17.71 - 19.2	23
19.21 - 21.8	22
21.81 - 24.1	23
24.11 - 28.7	24
28.71 - 33.3	27
33.31 - 36.2	26
36.21 - 40.6	29
40.61 - 43	28
43.01 - 47	30
47.01 - 51.7	29
51.71 - 56.2	32
56.21 - 58.4	34
58.41 - 65	33

FINE-BEAM

DCN-DCX	L5
25 - 28.7	40
28.71 - 33.3	42
33.31 - 36.2	47
36.21 - 39.6	50
39.61 - 43	55
43.01 - 51.7	60
51.71 - 56.2	66
56.21 - 65	71

UNIDEX

DCN-DCX	L5
38 - 43	45
43.01 - 51.7	55
51.71 - 56.2	56
56.21 - 65	66
65 - 79.99	75
80 - 111.99	83
112 - 147.99	87
148 - 183.99	86
184 - 255.99	101
256 - 291.99	106

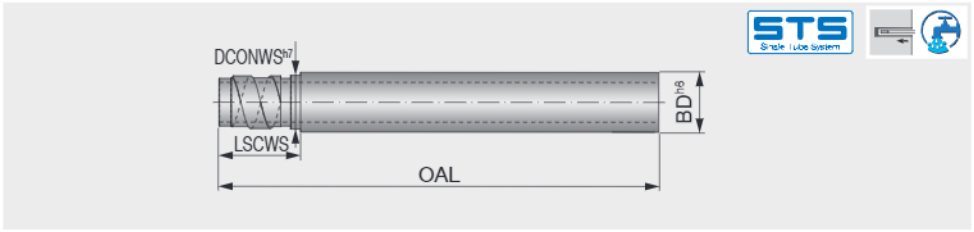
TRI-FINE

DCN-DCX	L5
16 - 16.7	34
16.71 - 17.7	34
17.71 - 18.9	34
18.91 - 20	34
20.01 - 21.8	32.5
21.81 - 21.99	33.5
22 - 24.1	35.5
24.11 - 26.4	35.5
26.41 - 28	35.5

UB

UB - for single tube system

Drill tube for single tube system (STS), external thread type, single thread



Designation	DCN-DCX	OAL Special length	BD	DCONWS	LSCWS
UB12-1	14.5 - 15	○	12	11.5	23
UB12-2	15.01 - 15.5	○	12	11.8	23
UB13-1	15.51 - 16	○	13	12.4	23
UB13-2	16.01 - 16.5	○	13	12.7	23
UB14-1	16.51 - 17.25	○	14	13.4	23
UB14-2	17.26 - 18	○	14	13.7	23
UB15	18.01 - 19	○	15	14.4	23
UB16.5	19.01 - 19.99	○	16.5	15.4	23
UB18	20 - 21.99	○	18	16.5	26
UB20	22 - 24.99	○	20	19	26
UB22	25 - 26.99	○	22	20	26
UB24	27 - 29.99	○	24	22	26
UB26	30 - 31.99	○	26	24	26
UB28	32 - 33.99	○	28	26	26
UB30	34 - 36.99	○	30	27	41
UB33	37 - 39.99	○	33	30	41
UB36	40 - 43.99	○	36	33	41
UB39	44 - 46.99	○	39	37	41
UB43	47 - 51.99	○	43	41	41
UB47	52 - 56.99	○	47	44	41
UB51	57 - 60.99	○	51	49	41

Designation	DCN-DCX	OAL Special length	BD	DCONWS	LSCWS
UB56	61 - 67.99	○	56	53	41
UB62	68 - 74.99	○	62	59	41
UB68	75 - 80.99	○	68	65	71
UB75	81 - 90.99	○	75	71	71
UB82	91 - 98.99	○	82	79	71
UB94	99 - 110.99	○	94	90	71
UB106	111 - 122.99	○	106	102	71
UB118	123 - 134.99	○	118	114	71
UB130	135 - 148.99	○	130	126	71
UB142	149 - 161.99	○	142	139	71
UB154	162 - 173.99	○	154	151	86
UB166	174 - 185.99	○	166	163	86
UB178	186 - 197.99	○	178	175	86
UB190	198 - 209.99	○	190	187	86
UB202	210 - 221.99	○	202	199	86
UB214	222 - 233.99	○	214	211	86
UB226	234 - 245.99	○	226	223	86
UB238	246 - 257.99	○	238	235	86
UB250	258 - 269.99	○	250	247	121
UB262	270 - 281.99	○	262	259	121
UB274	282 - 293.99	○	274	271	121

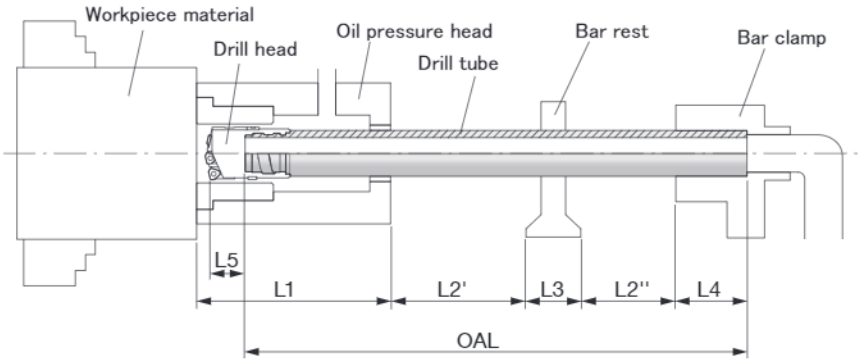
Please specify the length (L) when ordering.
e.g. For ø60 mm drill diameter / 2600 mm drill tube length: UB51X2600

○ : Item to be customized

Reference pages: Drill head → J118 (FINE-TRI STS-IN), J123 (FINE BEAM STS-IN), J128 (UNIDEX STS-IN)

TUBE LENGTH FOR SPECIAL DRILLS

Please use the below guide to calculate the drill tube length.



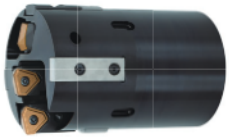
OAL = Drill tube whole length
L1 = Oil pressure head length
L2 = Drilli ng depth (L2' + L2'')
L3 = Bar rest length
L4 = Drill tube clamp length
L5 = Length from drill tube tip and peripheral edge tip

Drill tube length OAL = L1 + L2 + L3 + L4 - L5

FINE-BEAM

DCN-DCX	L5
25 - 29.99	45
30 - 33.99	50
34 - 36.99	50
37 - 39.99	55
40 - 43.99	60
44 - 51.99	65
52 - 56.99	70
57 - 65	75

UNIDEX



DCN-DCX	L5
38 - 43.99	40
44 - 51.99	50
52 - 56.99	60
57 - 67.99	70
68 - 161.99	80
162 - 257.99	105
258 - 293.99	90

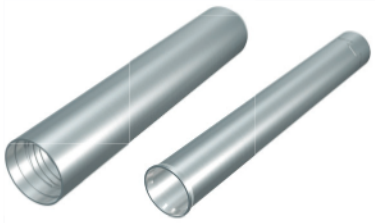
TRI-FINE

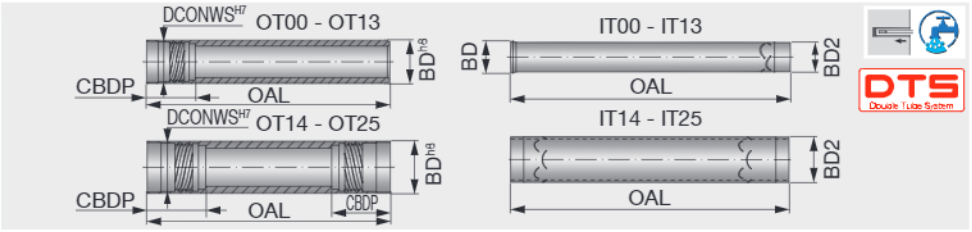
DCN-DCX	L5
16 - 16.5	31.5
16.51 - 17.25	31.5
17.26 - 18	31.5
18.01 - 19	31.5
19.01 - 19.99	31.5
20 - 21.99	33
22 - 24.99	35
25	35
25.01 - 26.99	40
27 - 28	40

OT & IT

OT & IT - for double tube system

Outer tube and inner tube for double tube system





Outer tube (OT)

Designation	DCN-DCX	OAL Special length	BD	DCONWS	CBDP
OT00	18.4 - 20	○	18	16	27.5
OT01	20.01 - 21.8	○	19.5	18	30
OT02	21.81 - 24.1	○	21.5	19.5	30
OT03	24.11 - 26.4	○	23.5	21	30
OT04	26.41 - 28.7	○	26	23.5	33
OT05	28.71 - 31	○	28	25.5	33
OT06	31.01 - 33.3	○	30.5	28	33
OT07	33.31 - 36.2	○	33	30	40
OT08	36.21 - 39.6	○	35.5	33	40
OT09	39.61 - 43	○	39	36	40
OT10	43.01 - 47	○	42.5	39	40
OT11	47.01 - 51.7	○	46.5	43	44
OT12	51.71 - 56.2	○	51	47	44
OT13	56.21 - 65	○	55.5	51	44
OT14	65 - 66.99	○	56	52	75
OT15	70 - 72.99	○	62	58	75
OT16	73 - 79.99	○	68	63	75
OT17	80 - 86.99	○	75	70	97
OT18	87 - 99.99	○	82	77	97
OT19	100 - 111.99	○	94	89	97
OT20	112 - 123.99	○	106	101	118
OT21	124 - 135.99	○	118	113	118
OT22	136 - 147.99	○	130	125	118
OT23	148 - 159.99	○	142	137	139
OT24	160 - 171.99	○	154	149	139
OT25	172 - 183.99	○	166	161	139

Inner tube (IT)

Designation	DCN-DCX	OAL Special length	BD	BD2
IT00	18.4 - 20	○	12	10
IT01	20.01 - 21.8	○	14	12
IT02	21.81 - 24.1	○	15	13
IT03	24.11 - 26.4	○	16	14
IT04	26.41 - 28.7	○	18	16
IT05	28.71 - 31	○	20	18
IT06	31.01 - 33.3	○	22	20
IT07	33.31 - 36.2	○	24	22
IT08	36.21 - 39.6	○	26	24
IT09	39.61 - 43	○	29	27
IT10	43.01 - 47	○	32	30
IT11	47.01 - 51.7	○	35	32
IT12	51.71 - 56.2	○	39	36
IT13	56.21 - 65	○	43	40
IT14	65 - 66.99	○	-	40
IT15	70 - 72.99	○	-	44
IT16	73 - 79.99	○	-	48
IT17	80 - 86.99	○	-	54
IT18	87 - 99.99	○	-	60
IT19	100 - 111.99	○	-	70
IT20	112 - 123.99	○	-	80
IT21	124 - 135.99	○	-	80
IT22	136 - 147.99	○	-	95
IT23	148 - 159.99	○	-	100
IT24	160 - 171.99	○	-	120
IT25	172 - 183.99	○	-	130

○ : Item to be customized

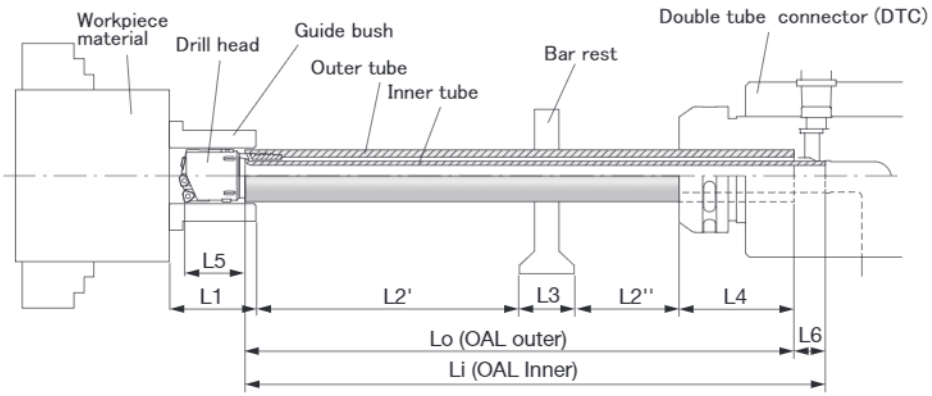
Please specify the length when ordering.
e.g. For ø60 mm drill diameter / 1070 mm drill outer tube length: OT13X1070
Please choose the inner tube length according to the below.

- tool diameter: ø18.40 - 65.00 mm (OT00 - OT13) ..... Inner tube length = Outer tube length + 30 mm
- tool diameter: ø65.00 - 123.99 mm (OT14 - OT20) ..... Inner tube length = Outer tube length + 190 mm
- tool diameter: ø124.00 - 183.99 mm (OT21 - OT25) ..... Inner tube length = Outer tube length + 220 mm

Reference pages: Drill head → J119 (FINE-TRI DTS), J124 (FINE BEAM DTS), J130 (UNIDEX DTS), J138 (ETU)

TUBE LENGTH FOR SPECIAL DRILLS

Please use the below guide to calculate the drill tube length.



Lo = Outer tube whole length
Li = Inner tube whole length
L1 = Guide bush length (or Pilot hole depth)
L2 = Drilling depth (L2' + L2")
L3 = Bar rest length
L4 = Length of outer tube in connector *
L5 = Length from drill tube tip and peripheral edge tip
L6 = Difference between outer tube length and inner tube length

Outer tube length Lo = L1 + L2 + L3 + L4 - L5

Inner tube length Li = Lo + L6

DTC type	L_4 *	L_6 **
DTC 4R type (OT00 – OT13)	120	30
DTC 5R type (OT14 – OT20)	0	190
DTC 6R type (OT21 – OT25)	0	220

(mm)

The outer tube should enter in th e guide bush or the pilot hole with at least 5 mm.

ETU

DCN-DCX	L5
18.4 - 20	20
20.01 - 24.1	23
24.11 - 28.7	24
28.71 - 33.3	27
33.31 - 36.2	26
36.21 - 40.6	29
40.61 - 43	28
43.01 - 47	30
47.01 - 51.7	29
51.71 - 56.2	32
56.21 - 58.4	34
58.41 - 65	33

FINE-BEAM

DCN-DCX	L5
25 - 26.4	40
26.41 - 31	42
31.01 - 33.3	47
33.31 - 36.2	50
36.21 - 39.6	55
39.61 - 47	60
47.01 - 51.7	66
51.71 - 65	71

UNIDEX

DCN-DCX	L5
38 - 43	45
43.01 - 47	55
47.01 - 51.7	51
51.71 - 56.2	56
56.21 - 65	66
65 - 79.99	75
80 - 111.99	83
112 - 147.99	87
148 - 183.99	86

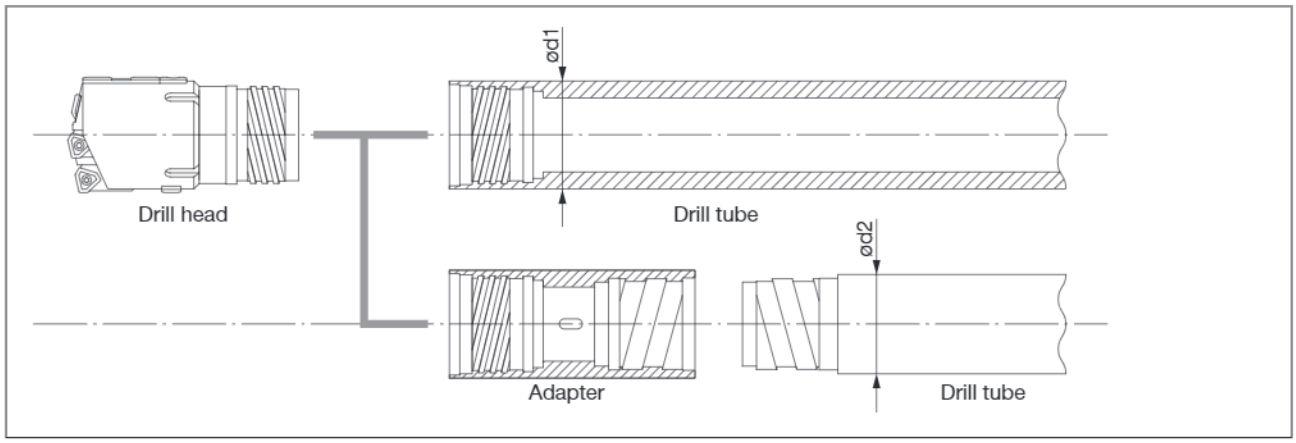
TRI-FINE

DCN-DCX	L5
18.4 - 20	31.5
20.01 - 21.8	33.5
21.81 - 21.99	33.5
22 - 24.1	35.5
24.11 - 25	35.5
25.01 - 26.4	37.5
26.41 - 28	37.5

STS Single Tube System DTS Double Tube System

CONVERSION ADAPTER

Adapter for external thread - internal thread conversion



ADPT- □□□ / □□□

- SS Single thread
- TS Double thread
- FS Quadruple thread
- ød1
- F Internal thread
- M External thread
- SS Single thread
- TS Double thread
- FS Quadruple thread
- ød2
- F Internal thread
- M External thread

ød1 : Outer diameter of the tube that is applicable for the drill head

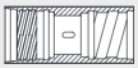
ød2 : Outer diameter of the tube that is connected with the adapter

Designation example

For the conversion from ST11 to UB47

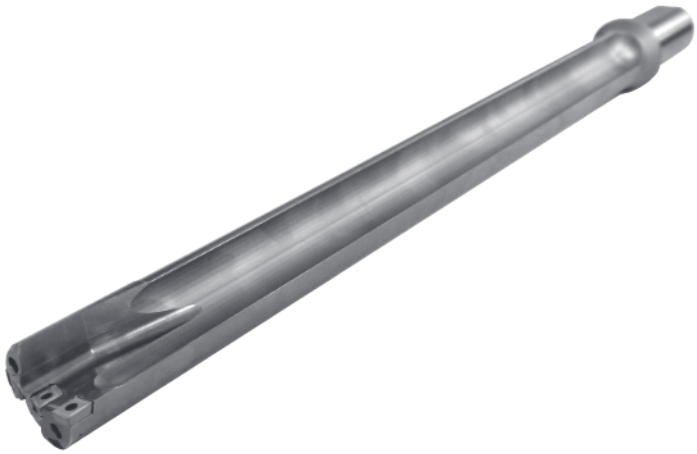
ADPT-F47FS / F47SS

↑ ST11 ↑ UB47



* The adapters to change sizes will be available upon request.

HF Drill : Indexable drill for deep hole



Economical for middle range deep hole drilling

- Tool diameter range: ø30 - ø63 mm (*)
- Drilling depth: 6xD - 14xD
- Shortened drilling time when using conventional machine

* Other diameters are available upon request.

Effective machining on conventional machines

- Recommended for use on Horizontal M/C
- Can also be used on turning machine

Good chip evacuation

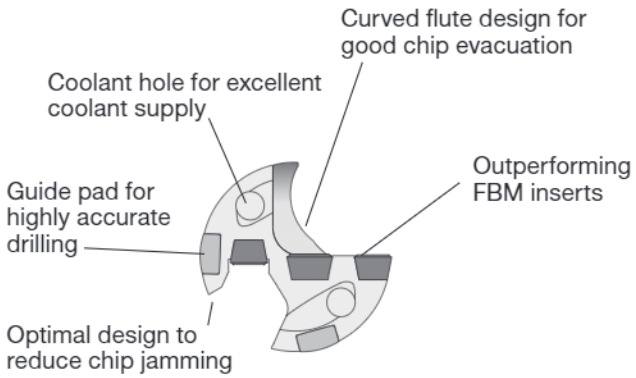
- FBM inserts enable best chip control
- Unique head design eliminates chip jamming
- Curved flute design ensures good chip evacuation

Easy to use, rigid drill body

- Direct mount inserts, no diameter adjustment necessary
- Body is made from heat treated tool steel

High quality surface finish

- Burnishing effect improves surface finish
- Possible to eliminate finish process



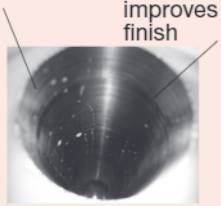
PRACTICAL EXAMPLE

Cutting conditions

Tool diameter DC:	ø30 mm
Drilling depth:	200 mm
Workpiece material:	S45C
Cutting speed *Vc*:	100 m/min
Feed *f*:	0.1 mm/rev
Machine:	BT50 M/C

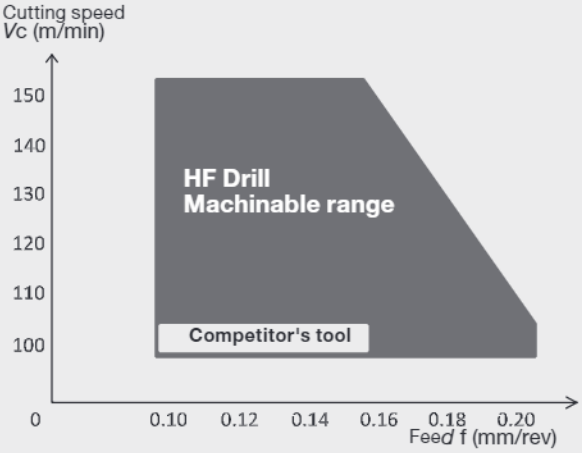
No spiral marks caused by chips

Burnishing effect by guide pads improves surface finish



BT50 M/C Machining data

Excellent chip evacuation ensures the stable drilling on M/C.



- Water-soluble coolant
- Pressure: 1.5 MPa
- Through spindle

Tool diameter DC:	ø30 mm
Drilling depth:	200 mm
Workpiece material:	S45C
Cutting speed *Vc*:	100 - 150 m/min
Feed *f*:	0.1 - 0.2 mm/rev
Machine:	BT50 Horizontal M/C (Max 11 KW)

Cautionary points in use

To start the tool, a pilot hole is required. (tolerance: + 0.1 to 0.15 mm)

Tool diameter DC (mm)	Pilot hole length H (mm)
ø30 ~ ø39	over 10
ø39.01 ~ ø45	over 12.5
ø45.01 ~ ø57	over 15
ø57.01 ~ ø63	over 17.5

- The pilot hole should ideally have a flat bottom, but generally a indexable drill is acceptable to create a pilot hole if the inner insert touches the bottom last.
- DrillForce-Meister series or TDX drills are recommended for a pilot hole drilling.