DrillLine

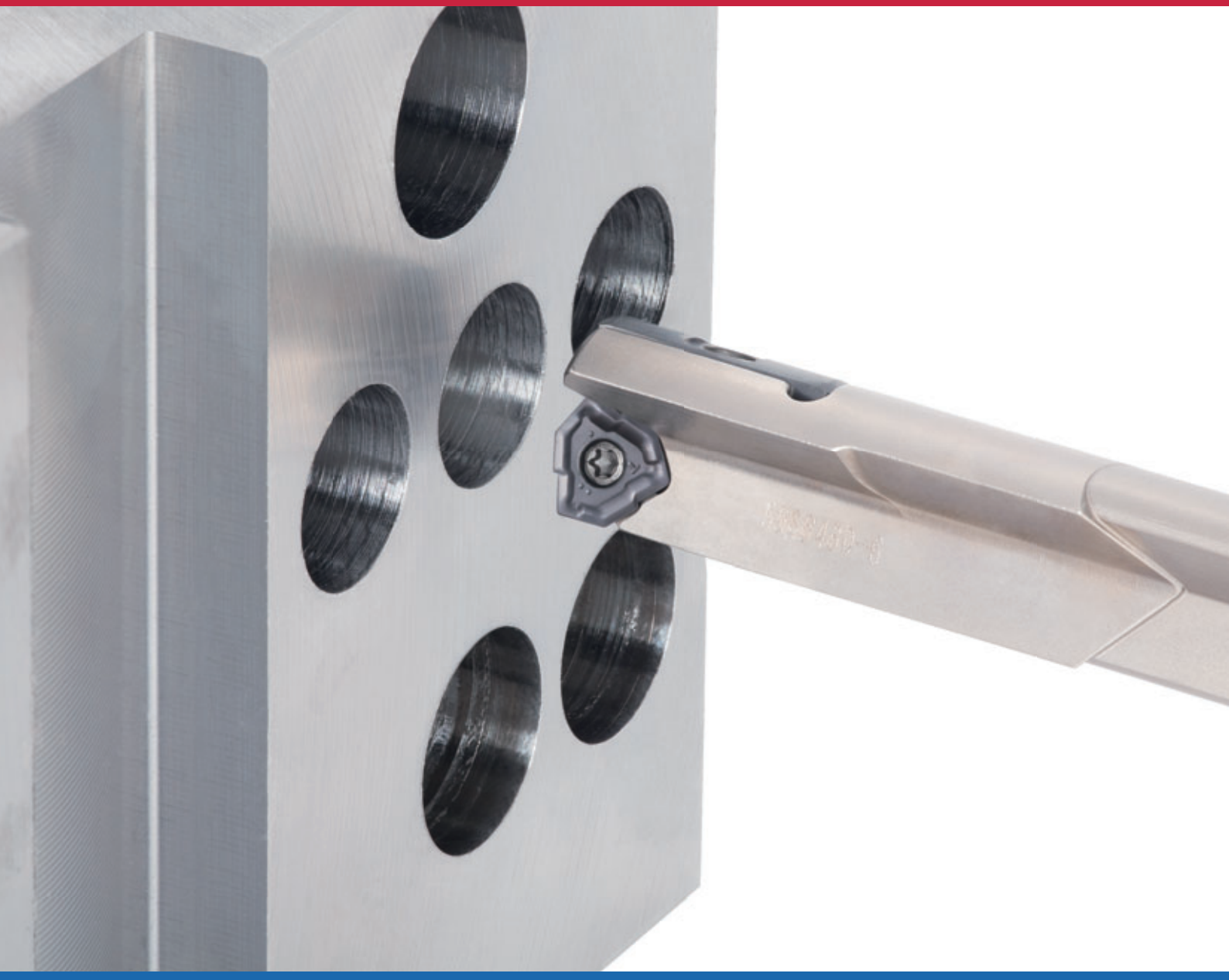
DEEP TRI DRILL

www.tungaloy.com

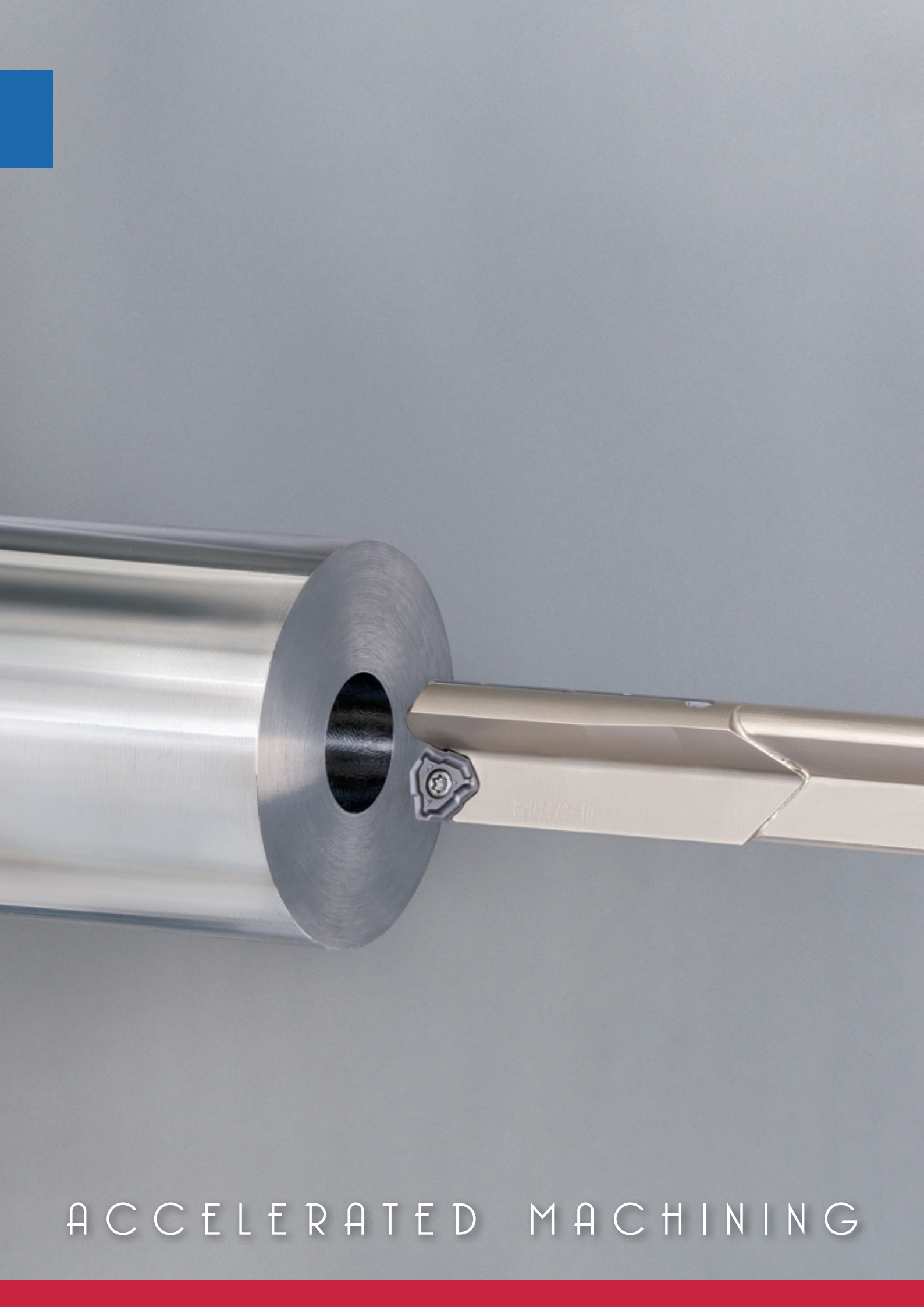
Tungaloy Report No. 430-G

DEEPTRI-DRILL

Remarkable productivity and stability in deep hole drilling!



Member IMC Group Tungaloy


ACCELERATED MACHINING

DrillLine

DEEP TRI DRILL

TUNGALOY

TUNG FORCE DRILL

ACCELERATED MACHINING

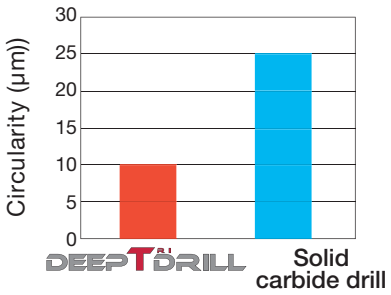
DeepTri-drill, the easy-to-handle indexable gundrill series, delivers outstanding performance and stability in deep hole drilling.

DEEP TRI DRILL
TUNGALOY

Excellent circularity, straightness, and surface finish

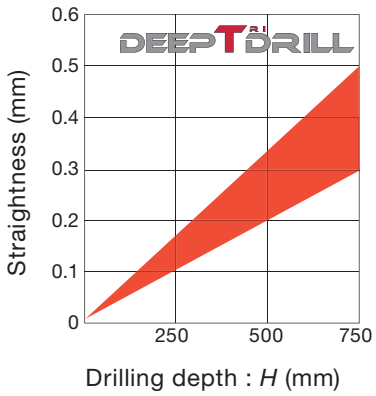
Special cutting edge geometry and optimized guide pads provide high hole accuracy

Roundness



Material : SCM440 / 42CrMo4
Cutting speed : *Vc* = 100 m/min
Feed : *f* = 0.2 mm/rev

Straightness



Surface finish

Ra = 1 - 1.2 µm **Ra = 2.5 - 4.5 µm**

Excellent chip control, High productivity

Unique chipbreaker geometry with chipsplitters on the cutting edges allows smooth chip control and a higher feed rate.

NDJ chipbreaker

- Low cutting force
- For general purpose

Chip control

P **S55C / C55** Drill diameter : *øDc* = 21 mm

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

Brazed gundrill

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

Solid carbide drill (2 edges)

Vc = 80 m/min
f = 0.2 mm/rev

Precision-ground insert with 3 cutting edges

- Achieves IT10 class hole accuracy
- No reconditioning cost
- Easy Inventory control
- Reduces operation cost due to indexable system

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

MCTR : for machining centers and lathes

Drill diameter : ø*D*c = 14 - 28 mm
L/D : 10, 15, 20, 25

TRLG : for gundrill machines

Drill diameter : ø*D*c = 14 - 28 mm
Overall length : 800, 1000, 1500, 1650 mm

Performance comparison with other types of drills

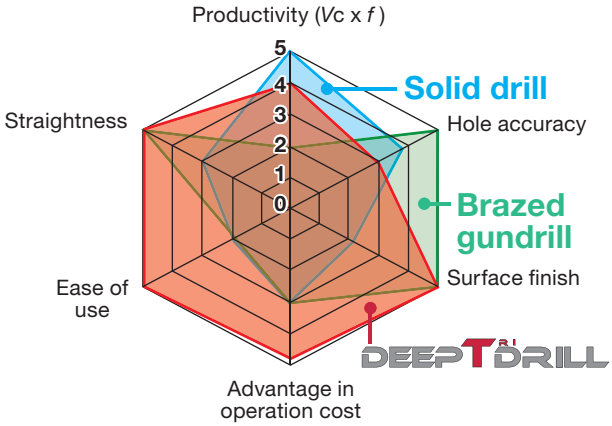
Advantages over brazed gundrills

- 250% and higher productivity
- Longer tool life due to coated insert and guide pads
- Easy inventory control
- No-need for regrinding

Advantages over solid carbide drills

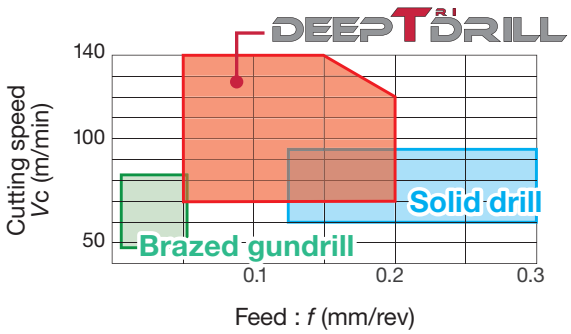
- Good chip evacuation due to small chip formation
- Excellent hole straightness and surface finish
- Low operation cost
- Easy inventory control
- No-need for regrinding

Performance comparison chart

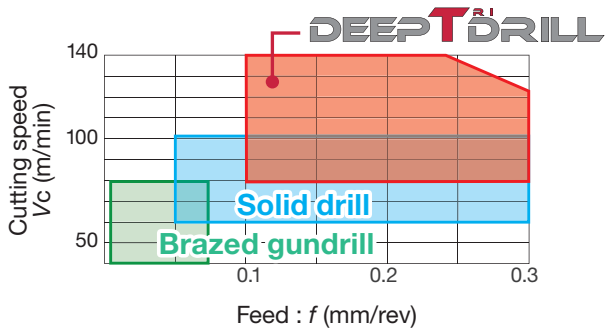


Applicable machining range

P S55C / C55

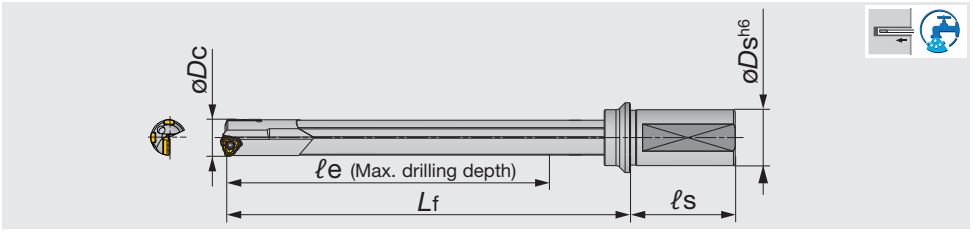


K FCD600 / GGG60



MCTR L/D=10

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



Designation	øDc	øDs	ℓe	ℓs	Lf	Insert	Guide pad
MCTR16.00XM25A-10	16	25	170	56	209	TOHT08...	GP05-075
*MCTR16.00XM25-10	16	25	170	56	209	TOHT08...	GP06-075
MCTR16.50XM25A-10	16.5	25	170	56	209	TOHT08...	GP05-075
*MCTR16.50XM25-10	16.5	25	170	56	209	TOHT08...	GP06-075
MCTR17.00XM25A-10	17	25	180	56	220	TOHT08...	GP05-075
*MCTR17.00XM25-10	17	25	180	56	220	TOHT08...	GP06-075
MCTR18.00XM25A-10	18	25	190	56	232	TOHT08...	GP05-075
*MCTR18.00XM25-10	18	25	190	56	232	TOHT08...	GP06-075
MCTR19.00XM25-10	19	25	200	56	243	TOHT09...	GP06-085
MCTR20.00XM32-10	20	32	210	60	255	TOHT09...	GP06-085
MCTR21.00XM32-10	21	32	220	60	266	TOHT10...	GP06-085
MCTR22.00XM32-10	22	32	230	60	278	TOHT11...	GP06-100
MCTR23.00XM32-10	23	32	240	60	289	TOHT11...	GP06-100
MCTR24.00XM32-10	24	32	250	60	301	TOHT11...	GP06-100
MCTR25.00XM32-10	25	32	260	60	312	TOHT11...	GP06-100
MCTR26.00XM40-10	26	40	270	70	324	TOHT12...	GP06
MCTR27.00XM40-10	27	40	280	70	335	TOHT12...	GP06
MCTR28.00XM40-10	28	40	280	70	337	TOHT12...	GP06

*To be discontinued

øDc	Tool diameter tolerance	Applicable tolerance range of hole diameter
ø16 - ø28	0 / - 0.07	+ 0.05 / - 0.1

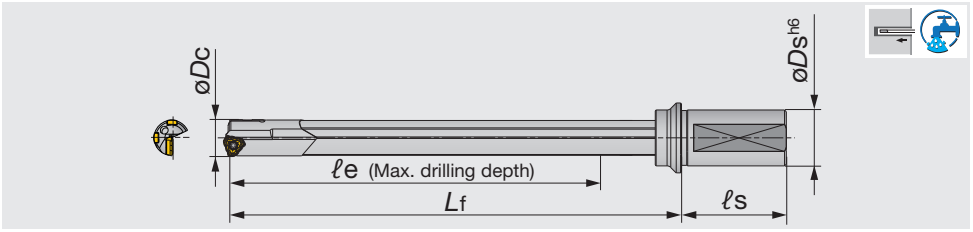
SPARE PARTS




Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR16**A... - MCTR18**A...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR19... - MCTR20...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR21...	SR34-506	T-9F	SR34-508	T-7F
MCTR22... - MCTR25...	SR14-571/S	T-10/5	SR34-508	T-7F
MCTR26... - MCTR28...	SR14-506	T-15F	SR34-508	T-7F
MCTR16... - MCTR18...	CSTB-2.5S	T-8F	CSTB-2.2S	T-7F

MCTR L/D=15

Drill body for lathes and machining centers, L/D = 15, Tool diameter ø14 - ø28 mm



Designation	øDc	øDs	ℓe	ℓs	Lf	Insert	Guide pad
MCTR14.00XM25-15	14	25	225	56	261	TOHT07...	GP05-060
MCTR14.50XM25-15	14.5	25	225	56	262	TOHT07...	GP05-060
MCTR15.00XM25-15	15	25	240	56	278	TOHT07...	GP05-060
MCTR16.00XM25A-15	16	25	255	56	294	TOHT08...	GP05-075
*MCTR16.00XM25-15	16	25	255	56	294	TOHT08...	GP06-075
MCTR16.50XM25A-15	16.5	25	255	56	294	TOHT08...	GP05-075
*MCTR16.50XM25-15	16.5	25	255	56	294	TOHT08...	GP06-075
MCTR17.00XM25A-15	17	25	270	56	310	TOHT08...	GP05-075
*MCTR17.00XM25-15	17	25	270	56	310	TOHT08...	GP06-075
MCTR17.50XM25A-15	17.5	25	270	56	310	TOHT08...	GP05-075
*MCTR17.50XM25-15	17.5	25	270	56	310	TOHT08...	GP06-075
MCTR18.00XM25A-15	18	25	285	56	327	TOHT08...	GP05-075
*MCTR18.00XM25-15	18	25	285	56	327	TOHT08...	GP06-075
MCTR18.50XM25-15	18.5	25	285	56	327	TOHT09...	GP06-085
MCTR19.00XM25-15	19	25	300	56	343	TOHT09...	GP06-085
MCTR19.50XM25-15	19.5	25	300	56	343	TOHT09...	GP06-085
MCTR20.00XM32-15	20	32	315	60	360	TOHT09...	GP06-085
MCTR21.00XM32-15	21	32	330	60	376	TOHT10...	GP06-085
MCTR22.00XM32-15	22	32	345	60	393	TOHT11...	GP06-100
MCTR23.00XM32-15	23	32	360	60	409	TOHT11...	GP06-100
MCTR24.00XM32-15	24	32	375	60	426	TOHT11...	GP06-100
MCTR25.00XM32-15	25	32	390	60	442	TOHT11...	GP06-100
MCTR26.00XM40-15	26	40	405	70	459	TOHT12...	GP06
MCTR27.00XM40-15	27	40	420	70	475	TOHT12...	GP06
MCTR28.00XM40-15	28	40	420	70	477	TOHT12...	GP06

*To be discontinued

øDc	Tool diameter tolerance	Applicable tolerance range of hole diameter
ø14 - ø28	0 / - 0.07	+ 0.05 / - 0.1

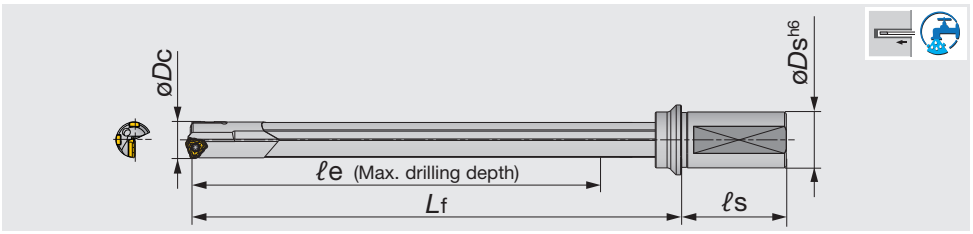
SPARE PARTS




Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR14... - MCTR15...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR16**A... - MCTR18.0**A...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR18.5... - MCTR20...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR21...	SR34-506	T-9F	SR34-508	T-7F
MCTR22... - MCTR25...	SR14-571/S	T-10/5	SR34-508	T-7F
MCTR26... - MCTR28...	SR14-506	T-15F	SR34-508	T-7F
MCTR16... - MCTR18.0...	CSTB-2.5S	T-8F	CSTB-2.2S	T-7F

MCTR L/D=20

Drill body for lathes and machining centers, L/D = 20, Tool diameter ø14 - ø15 mm



Designation	øDc	øDs	ℓe	ℓs	Lf	Insert	Guide pad
MCTR14.00XM25-20	14	25	300	56	336	TOHT07...	GP05-060
MCTR14.50XM25-20	14.5	25	300	56	337	TOHT07...	GP05-060
MCTR15.00XM25-20	15	25	320	56	358	TOHT07...	GP05-060

øDc	Tool diameter tolerance	Applicable tolerance range of hole diameter
ø14 - ø15	0 / - 0.07	+ 0.05 / - 0.1

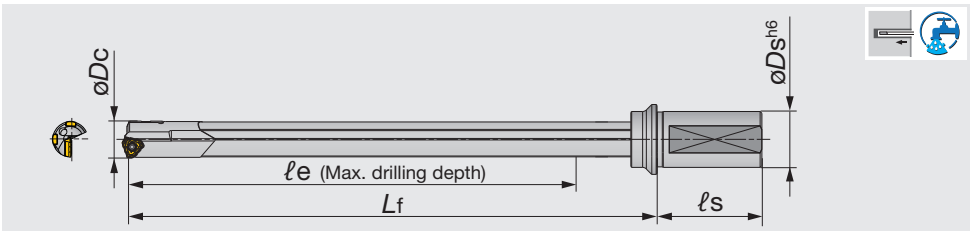
SPARE PARTS




Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR14...-MCTR15...	SR14-560/S	T-8F	SR34-508	T-7F

MCTR L/D=25

Drill body for lathes and machining centers, L/D = 25, Tool diameter ø14 - ø28 mm



Designation	øDc	øDs	ℓe	ℓs	Lf	Insert	Guide pad
MCTR14.00XM25-25	14	25	375	56	411	TOHT07...	GP05-060
MCTR14.50XM25-25	14.5	25	375	56	412	TOHT07...	GP05-060
MCTR15.00XM25-25	15	25	400	56	438	TOHT07...	GP05-060
MCTR16.00XM25A-25	16	25	425	56	464	TOHT08...	GP05-075
*MCTR16.00XM25-25	16	25	425	56	464	TOHT08...	GP06-075
MCTR16.50XM25A-25	16.5	25	425	56	464	TOHT08...	GP05-075
*MCTR16.50XM25-25	16.5	25	425	56	464	TOHT08...	GP06-075
MCTR17.00XM25A-25	17	25	450	56	490	TOHT08...	GP05-075
*MCTR17.00XM25-25	17	25	450	56	490	TOHT08...	GP06-075
MCTR17.50XM25A-25	17.5	25	450	56	490	TOHT08...	GP05-075
*MCTR17.50XM25-25	17.5	25	450	56	490	TOHT08...	GP06-075
MCTR18.00XM25A-25	18	25	475	56	517	TOHT08...	GP05-075
*MCTR18.00XM25-25	18	25	475	56	517	TOHT08...	GP06-075
MCTR18.50XM25-25	18.5	25	475	56	517	TOHT09...	GP06-085
MCTR19.00XM25-25	19	25	500	56	543	TOHT09...	GP06-085
MCTR19.50XM25-25	19.5	25	500	56	543	TOHT09...	GP06-085
MCTR20.00XM32-25	20	32	525	60	570	TOHT09...	GP06-085
MCTR21.00XM32-25	21	32	550	60	596	TOHT10...	GP06-085
MCTR22.00XM32-25	22	32	575	60	623	TOHT11...	GP06-100
MCTR23.00XM32-25	23	32	600	60	649	TOHT11...	GP06-100
MCTR24.00XM32-25	24	32	625	60	676	TOHT11...	GP06-100
MCTR25.00XM32-25	25	32	650	60	702	TOHT11...	GP06-100
MCTR26.00XM40-25	26	40	675	70	729	TOHT12...	GP06
MCTR27.00XM40-25	27	40	700	70	755	TOHT12...	GP06
MCTR28.00XM40-25	28	40	700	70	757	TOHT12...	GP06

*To be discontinued

øDc	Tool diameter tolerance	Applicable tolerance range of hole diameter
ø14 - ø28	0 / - 0.07	+ 0.05 / - 0.1

SPARE PARTS




Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
MCTR14... - MCTR15...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR16**A... - MCTR18.0**A...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR18.5... - MCTR20...	SR14-560/S	T-8F	SR34-508	T-7F
MCTR21...	SR34-506	T-9F	SR34-508	T-7F
MCTR22... - MCTR25...	SR14-571/S	T-10/5	SR34-508	T-7F
MCTR26... - MCTR28...	SR14-506	T-15F	SR34-508	T-7F
MCTR16... - MCTR18.0...	CSTB-2.5S	T-8F	CSTB-2.2S	T-7F

DEEP TRI DRILL
TUNGALOY

DESIGNATION FOR TAILOR MADE TOOLS

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

MCTR	16.50	XM	25	-	22
1	2		3		4

1 Series	
MCTR	DeepTri-Drill (For machining centers and lathes)

2 Drill dia. *øDc* (mm)	
16.50	ø16.50

3 Driver dia. *øDs* (mm)	
25	ø25

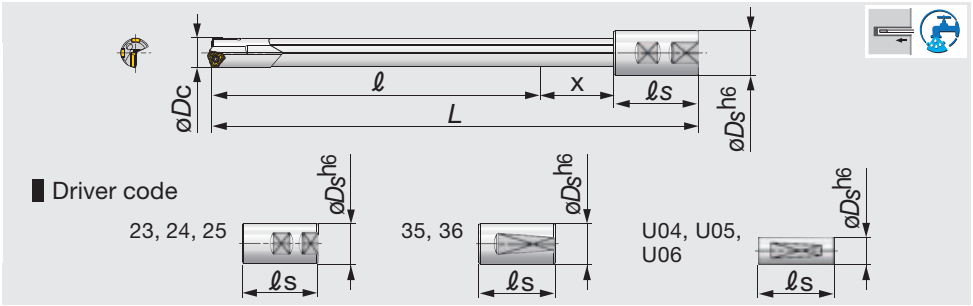
4 L/D ratio

AVAILABLE RANGE OF TAILOR MADE DRILL BODIES

øDc	*øDs*	*ℓe*	*ℓs*	*ℓ1*
14 - 14.49	25	120 - 375	56	156 - 411
14.5 - 14.99	25	120 - 375	56	157 - 412
15 - 15.99	25	128 - 400	56	166 - 438
16 - 16.79	25	136 - 425	56	175 - 464
16.8 - 17.69	25	144 - 450	56	184 - 490
17.7 - 18.69	25	152 - 475	56	194 - 517
18.7 - 19.69	25	160 - 500	56	203 - 543
19.7 - 20.69	32	168 - 525	60	213 - 570
20.7 - 21.69	32	176 - 550	60	222 - 596
21.7 - 22.69	32	184 - 575	60	232 - 623
22.7 - 23.69	32	192 - 600	60	241 - 649
23.7 - 24.69	32	200 - 625	60	251 - 676
24.7 - 25.69	32	208 - 650	60	260 - 702
25.7 - 26.69	40	216 - 675	70	270 - 719
26.7 - 27.69	40	224 - 700	70	279 - 745
27.7 - 28	40	224 - 700	70	281 - 747

TRLG

Drill body for gundrill machine, Tool diameter ø14 - ø28 mm



Designation	øDc	L	øDs	ℓ	ℓs	x	Driver code	Insert	Guide pad
TRLG14.00X800-23	14	800	25	723	56	21	23	TOHT07...	GP05-060
TRLG14.00X800-U04	14	800	25.4	709	70	21	U04	TOHT07...	GP05-060
TRLG14.00X1000-23	14	1000	25	923	56	21	23	TOHT07...	GP05-060
TRLG14.00X1000-U04	14	1000	25.4	909	70	21	U04	TOHT07...	GP05-060
TRLG14.00X1650-23	14	1650	25	1573	56	21	23	TOHT07...	GP05-060
TRLG14.00X1650-U04	14	1650	25.4	1559	70	21	U04	TOHT07...	GP05-060
TRLG14.50X800-23	14.5	800	25	722	56	22	23	TOHT07...	GP05-060
TRLG14.50X800-U04	14.5	800	25.4	708	70	22	U04	TOHT07...	GP05-060
TRLG14.50X1000-23	14.5	1000	25	922	56	22	23	TOHT07...	GP05-060
TRLG14.50X1000-U04	14.5	1000	25.4	908	70	22	U04	TOHT07...	GP05-060
TRLG14.50X1650-23	14.5	1650	25	1572	56	22	23	TOHT07...	GP05-060
TRLG14.50X1650-U04	14.5	1650	25.4	1558	70	22	U04	TOHT07...	GP05-060
TRLG15.00X800-23	15	800	25	721	56	23	23	TOHT07...	GP05-060
TRLG15.00X800-U04	15	800	25.4	707	70	23	U04	TOHT07...	GP05-060
TRLG15.00X1000-23	15	1000	25	921	56	23	23	TOHT07...	GP05-060
TRLG15.00X1000-U04	15	1000	25.4	907	70	23	U04	TOHT07...	GP05-060
TRLG15.00X1650-23	15	1650	25	1571	56	23	23	TOHT07...	GP05-060
TRLG15.00X1650-U04	15	1650	25.4	1557	70	23	U04	TOHT07...	GP05-060
TRLG16.00X800-23A	16	800	25	720	56	24	23	TOHT08...	GP05-075
*TRLG16.00X800-23	16	800	25	720	56	24	23	TOHT08...	GP06-075
TRLG16.00X800-U04A	16	800	25.4	706	70	24	U04	TOHT08...	GP05-075
*TRLG16.00X800-U04	16	800	25.4	706	70	24	U04	TOHT08...	GP06-075
TRLG16.00X800-35A	16	800	25	720	56	24	35	TOHT08...	GP05-075
*TRLG16.00X800-35	16	800	25	720	56	24	35	TOHT08...	GP06-075
TRLG16.00X1000-23A	16	1000	25	920	56	24	23	TOHT08...	GP05-075
*TRLG16.00X1000-23	16	1000	25	920	56	24	23	TOHT08...	GP06-075
TRLG16.00X1000-U04A	16	1000	25.4	906	70	24	U04	TOHT08...	GP05-075
*TRLG16.00X1000-U04	16	1000	25.4	906	70	24	U04	TOHT08...	GP06-075
TRLG16.00X1000-35A	16	1000	25	920	56	24	35	TOHT08...	GP05-075
*TRLG16.00X1000-35	16	1000	25	920	56	24	35	TOHT08...	GP06-075
TRLG16.00X1500-U04A	16	1500	25.4	1406	70	24	U04	TOHT08...	GP05-075
*TRLG16.00X1500-U04	16	1500	25.4	1406	70	24	U04	TOHT08...	GP06-075
TRLG16.00X1500-23A	16	1500	25	1420	56	24	23	TOHT08...	GP05-075
*TRLG16.00X1500-23	16	1500	25	1420	56	24	23	TOHT08...	GP06-075
TRLG16.00X1500-35A	16	1500	25	1420	56	24	35	TOHT08...	GP05-075
*TRLG16.00X1500-35	16	1500	25	1420	56	24	35	TOHT08...	GP06-075
TRLG17.00X800-23A	17	800	25	719	56	25	23	TOHT08...	GP05-075
*TRLG17.00X800-23	17	800	25	719	56	25	23	TOHT08...	GP06-075
TRLG17.00X800-U04A	17	800	25.4	705	70	25	U04	TOHT08...	GP05-075
*TRLG17.00X800-U04	17	800	25.4	705	70	25	U04	TOHT08...	GP06-075
TRLG17.00X800-35A	17	800	25	719	56	25	35	TOHT08...	GP05-075
TRLG17.00X1000-23A	17	1000	25	919	56	25	23	TOHT08...	GP05-075

*To be discontinued

DEEP TRI DRILL
TUNGALOY

TRLG

Designation	øDc	L	øDs	ℓ	ℓs	x	Driver code	Insert	Guide pad
*TRLG17.00X1000-23	17	1000	25	919	56	25	23	TOHT08...	GP06-075
TRLG17.00X1000-U04A	17	1000	25.4	905	70	25	U04	TOHT08...	GP05-075
*TRLG17.00X1000-U04	17	1000	25.4	905	70	25	U04	TOHT08...	GP06-075
TRLG17.00X1000-35A	17	1000	25	919	56	25	35	TOHT08...	GP05-075
*TRLG17.00X1000-35	17	1000	25	919	56	25	35	TOHT08...	GP06-075
TRLG17.00X1500-23A	17	1500	25	1419	56	25	23	TOHT08...	GP05-075
*TRLG17.00X1500-23	17	1500	25	1419	56	25	23	TOHT08...	GP06-075
TRLG17.00X1500-U04A	17	1500	25.4	1405	70	25	U04	TOHT08...	GP05-075
*TRLG17.00X1500-U04	17	1500	25.4	1405	70	25	U04	TOHT08...	GP06-075
TRLG17.00X1500-35A	17	1500	25	1419	56	25	35	TOHT08...	GP05-075
*TRLG17.00X1500-35	17	1500	25	1419	56	25	35	TOHT08...	GP06-075
TRLG18.00X800-23A	18	800	25	717	56	27	23	TOHT08...	GP05-075
*TRLG18.00X800-23	18	800	25	717	56	27	23	TOHT08...	GP06-075
TRLG18.00X800-U04A	18	800	25.4	703	70	27	U04	TOHT08...	GP05-075
*TRLG18.00X800-U04	18	800	25.4	703	70	27	U04	TOHT08...	GP06-075
TRLG18.00X800-35A	18	800	25	717	56	27	35	TOHT08...	GP05-075
*TRLG18.00X800-35	18	800	25	717	56	27	35	TOHT08...	GP06-075
TRLG18.00X1000-23A	18	1000	25	917	56	27	23	TOHT08...	GP05-075
*TRLG18.00X1000-23	18	1000	25	917	56	27	23	TOHT08...	GP06-075
TRLG18.00X1000-U04A	18	1000	25.4	903	70	27	U04	TOHT08...	GP05-075
*TRLG18.00X1000-U04	18	1000	25.4	903	70	27	U04	TOHT08...	GP06-075
TRLG18.00X1000-35A	18	1000	25	917	56	27	35	TOHT08...	GP05-075
*TRLG18.00X1000-35	18	1000	25	917	56	27	35	TOHT08...	GP06-075
TRLG18.00X1500-U04A	18	1500	25.4	1403	70	27	U04	TOHT08...	GP05-075
*TRLG18.00X1500-U04	18	1500	25.4	1403	70	27	U04	TOHT08...	GP06-075
TRLG18.00X1500-23A	18	1500	25	1417	56	27	23	TOHT08...	GP05-075
*TRLG18.00X1500-23	18	1500	25	1417	56	27	23	TOHT08...	GP06-075
TRLG18.00X1500-35A	18	1500	25	1417	56	27	35	TOHT08...	GP05-075
*TRLG18.00X1500-35	18	1500	25	1417	56	27	35	TOHT08...	GP06-075
TRLG18.00X1560-U04A	18	1560	25.4	1477	70	27	U04	TOHT08...	GP05-075
TRLG18.50X1500-U04	18.5	1500	25.4	1403	70	27	U04	TOHT09...	GP06-085
TRLG18.50X1500-23	18.5	1500	25	1417	56	27	23	TOHT09...	GP06-085
TRLG19.00X800-23	19	800	25	716	56	28	23	TOHT09...	GP06-085
TRLG19.00X800-U04	19	800	25.4	702	70	28	U04	TOHT09...	GP06-085
TRLG19.00X800-35	19	800	25	716	56	28	35	TOHT09...	GP06-085
TRLG19.00X1000-23	19	1000	25	916	56	28	23	TOHT09...	GP06-085
TRLG19.00X1000-U04	19	1000	25.4	902	70	28	U04	TOHT09...	GP06-085
TRLG19.00X1000-35	19	1000	25	916	56	28	35	TOHT09...	GP06-085
TRLG19.00X1500-U04	19	1500	25.4	1402	70	28	U04	TOHT09...	GP06-085
TRLG19.00X1500-23	19	1500	25	1416	56	28	23	TOHT09...	GP06-085
TRLG19.00X1500-35	19	1500	25	1416	56	28	35	TOHT09...	GP06-085
TRLG20.00X800-24	20	800	32	710	60	30	24	TOHT09...	GP06-085
TRLG20.00X800-U05	20	800	31.75	700	70	30	U05	TOHT09...	GP06-085
TRLG20.00X800-36	20	800	32	710	60	30	36	TOHT09...	GP06-085
TRLG20.00X1000-24	20	1000	32	910	60	30	24	TOHT09...	GP06-085
TRLG20.00X1000-U05	20	1000	31.75	900	70	30	U05	TOHT09...	GP06-085
TRLG20.00X1000-36	20	1000	32	910	60	30	36	TOHT09...	GP06-085
TRLG20.00X1500-24	20	1500	32	1410	60	30	24	TOHT09...	GP06-085
TRLG20.00X1500-U05	20	1500	31.75	1400	70	30	U05	TOHT09...	GP06-085
TRLG20.00X1500-36	20	1500	32	1410	60	30	36	TOHT09...	GP06-085
TRLG21.00X1000-24	21	1000	32	909	60	31	24	TOHT10...	GP06-085
TRLG21.00X1000-U05	21	1000	31.75	899	70	31	U05	TOHT10...	GP06-085
TRLG21.00X1000-36	21	1000	32	909	60	31	36	TOHT10...	GP06-085
TRLG21.00X1500-24	21	1500	32	1409	60	31	24	TOHT10...	GP06-085

*To be discontinued

Designation	øDc	L	øDs	ℓ	ℓs	x	Driver code	Insert	Guide pad
TRLG21.00X1500-U05	21	1500	31.75	1399	70	31	U05	TOHT10...	GP06-085
TRLG21.00X1500-36	21	1500	32	1409	60	31	36	TOHT10...	GP06-085
TRLG22.00X1000-24	22	1000	32	907	60	33	24	TOHT11...	GP06-100
TRLG22.00X1000-U05	22	1000	31.75	897	70	33	U05	TOHT11...	GP06-100
TRLG22.00X1000-36	22	1000	32	907	60	33	36	TOHT11...	GP06-100
TRLG22.00X1500-24	22	1500	32	1407	60	33	24	TOHT11...	GP06-100
TRLG22.00X1500-U05	22	1500	31.75	1397	70	33	U05	TOHT11...	GP06-100
TRLG22.00X1500-36	22	1500	32	1407	60	33	36	TOHT11...	GP06-100
TRLG23.00X1000-24	23	1000	32	906	60	34	24	TOHT11...	GP06-100
TRLG23.00X1000-U05	23	1000	31.75	896	70	34	U05	TOHT11...	GP06-100
TRLG23.00X1000-36	23	1000	32	906	60	34	36	TOHT11...	GP06-100
TRLG23.00X1500-24	23	1500	32	1406	60	34	24	TOHT11...	GP06-100
TRLG23.00X1500-U05	23	1500	31.75	1396	70	34	U05	TOHT11...	GP06-100
TRLG23.00X1500-36	23	1500	32	1406	60	34	36	TOHT11...	GP06-100
TRLG24.00X1000-24	24	1000	32	904	60	36	24	TOHT11...	GP06-100
TRLG24.00X1000-U05	24	1000	31.75	894	70	36	U05	TOHT11...	GP06-100
TRLG24.00X1000-36	24	1000	32	904	60	36	36	TOHT11...	GP06-100
TRLG24.00X1500-24	24	1500	32	1404	60	36	24	TOHT11...	GP06-100
TRLG24.00X1500-U05	24	1500	31.75	1394	70	36	U05	TOHT11...	GP06-100
TRLG24.00X1500-36	24	1500	32	1404	60	36	36	TOHT11...	GP06-100
TRLG25.00X1000-24	25	1000	32	903	60	37	24	TOHT11...	GP06-100
TRLG25.00X1000-U05	25	1000	31.75	893	70	37	U05	TOHT11...	GP06-100
TRLG25.00X1000-36	25	1000	32	903	60	37	36	TOHT11...	GP06-100
TRLG25.00X1500-24	25	1500	32	1403	60	37	24	TOHT11...	GP06-100
TRLG25.00X1500-U05	25	1500	31.75	1393	70	37	U05	TOHT11...	GP06-100
TRLG25.00X1500-36	25	1500	32	1403	60	37	36	TOHT11...	GP06-100
TRLG26.00X1000-25	26	1000	40	891	70	39	25	TOHT12...	GP06
TRLG26.00X1000-U06	26	1000	38.1	891	70	39	U06	TOHT12...	GP06
TRLG26.00X1500-25	26	1500	40	1391	70	39	25	TOHT12...	GP06
TRLG26.00X1500-U06	26	1500	38.1	1391	70	39	U06	TOHT12...	GP06
TRLG27.00X1000-25	27	1000	40	890	70	40	25	TOHT12...	GP06
TRLG27.00X1000-U06	27	1000	38.1	890	70	40	U06	TOHT12...	GP06
TRLG27.00X1500-25	27	1500	40	1390	70	40	25	TOHT12...	GP06
TRLG27.00X1500-U06	27	1500	38.1	1390	70	40	U06	TOHT12...	GP06
TRLG28.00X1000-25	28	1000	40	888	70	42	25	TOHT12...	GP06
TRLG28.00X1000-U06	28	1000	38.1	888	70	42	U06	TOHT12...	GP06
TRLG28.00X1500-25	28	1500	40	1388	70	42	25	TOHT12...	GP06
TRLG28.00X1500-U06	28	1500	38.1	1388	70	42	U06	TOHT12...	GP06

*To be discontinued

øDc	Tool diameter tolerance	Applicable tolerance range of hole diameter
ø14 - ø28	0 / - 0.07	+ 0.05 / - 0.1

SPARE PARTS




Designation	Insert		Guide pad	
	Screw	Wrench	Screw	Wrench
TRLG14... - TRLG15...	SR14-560/S	T-8F	SR34-508	T-7F
TRLG16**A - TRLG18.0**A	SR14-560/S	T-8F	SR34-508	T-7F
TRLG18.5... - 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
TRLG16... - TRLG18.0...	CSTB-2.5S	T-8F	CSTB-2.2S	T-7F

DEEP TRI DRILL
TUNGALOY

DESIGNATION FOR TAILOR MADE TOOLS

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

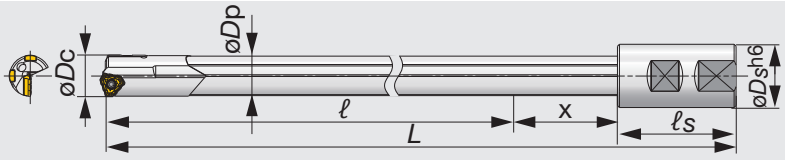
TRLG	16.50	X	900	-	23
1	2		3		4

1 Series	
TRLG	DeepTri-Drill (For gundrill machine)

2 Drill dia. øDc (mm)	
16.50	ø16.50

3 Overall length: L (mm)	
900	900

4 Driver code	
23	23



AVAILABLE RANGE OF TAILOR MADE DRILL BODIES

øDc	L	x
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

øDc	L	x
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
25.7 - 26.69	400 - 2400	39
26.7 - 27.69	400 - 2400	40
27.7 - 28	400 - 2400	42

Please provide the driver shape depending on your request

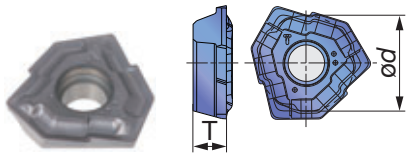
TUBE DIAMETER

øDc	øDp
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

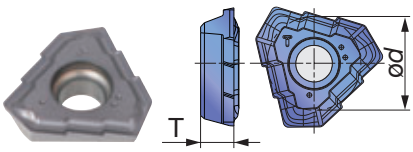
øDc	øDp
20.7 - 21.69	20
21.7 - 22.69	21
22.7 - 23.69	22
23.7 - 24.69	23
24.7 - 25.69	24
25.7 - 26.69	25
26.7 - 27.69	26
27.7 - 28	27

INSERT

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



TOHT-NDJ (09... - 12...)



NDJ chipbreaker

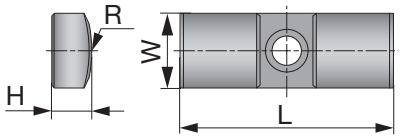
- Low cutting force
- For general purpose

Designation	øDc	AH725	ød	T
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.

GUIDE PAD

GP05, 06



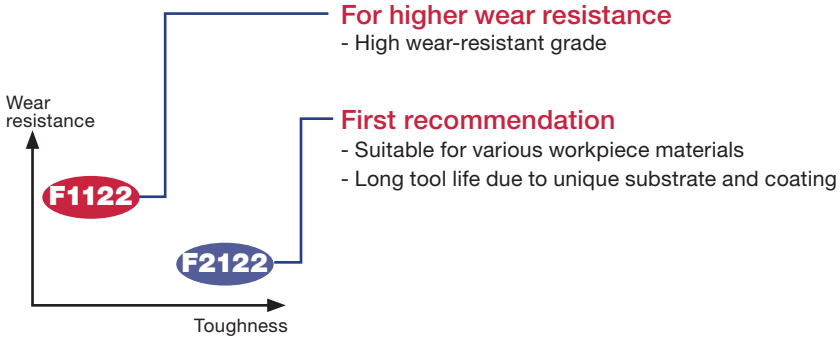
Designation	øDc	F1122	F2122	W	L	H	R
GP05-060	14 - 15.99	★	●	5	18	2.5	6
GP05-075	16 - 18	★	●	5	18	2.5	7.5
GP06-075	16 - 18	●	●	6	20	3	7.5
GP06-085	18.01 - 21	●	●	6	20	3	8.5
GP06-100	21.01 - 25	●	●	6	20	3	10
GP06	25.01 - 28	●	●	6	20	3	12

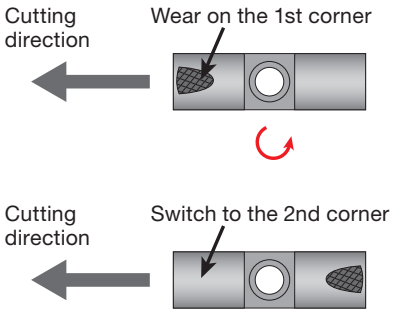
★ : To be launched
● : standard
Package quantity = 5 pcs.

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.

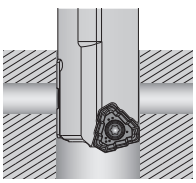
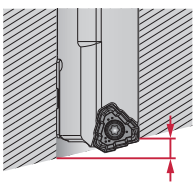
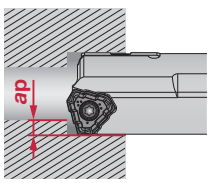




STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Cutting speed *Vc* (m/min)	Feed: *f* (mm/rev)	
			ø14 - ø18	ø18.01 - ø28
P	Low carbon steel (C < 0.3) SS400 / St42-1, SM490 / St52-3, S25C / C25, etc.	80 - 140	0.05 - 0.1	0.05 - 0.1
P	Carbon steel (C > 0.3) S45C / C45, S55C / C55, etc.	80 - 140	0.05 - 0.16	0.05 - 0.2
P	Low alloy steel (C < 0.3) SCM415, 18CrMo4, etc.	80 - 140	0.05 - 0.1	0.05 - 0.1
P	Alloy steel (C > 0.3) SCM440 / 42CrMo4, SCr420 / 20Cr4, etc.	80 - 120	0.05 - 0.16	0.05 - 0.2
M	Stainless steel (Austenitic) SUS304 / X5CrNi18-9, SUS316 / X5CrNiMo17-12-3, etc.	60 - 100	0.05 - 0.1	0.05 - 0.1
M	Stainless steel (Martensitic, Ferritic) SUS430 / X6Cr17, SUS416 / X12CrS13, etc.	60 - 100	0.05 - 0.1	0.05 - 0.1
M	Stainless steel (Precipitation hardening) SUS630 / X5CrNiCuNb16-4, etc.	60 - 100	0.05 - 0.1	0.05 - 0.1
K	Grey cast iron FC250 / 250, etc.	80 - 140	0.05 - 0.25	0.05 - 0.3
K	Ductile cast iron FCD700 / 700-2, etc.	80 - 140	0.05 - 0.25	0.05 - 0.3
N	Aluminium alloys	100 - 200	0.05 - 0.2	0.05 - 0.2
S	Heat-resistant alloys Inconel 718, etc.	20 - 50	0.04 - 0.08	0.04 - 0.1
S	Titanium alloys Ti-6Al-4V, etc.	30 - 60	0.05 - 0.13	0.05 - 0.15
H	Hardened steel ≥ 40HRC	50 - 100	0.04 - 0.08	0.04 - 0.1

APPLICATION RANGE

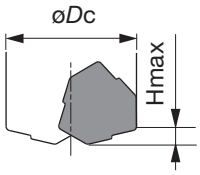
Feed *f* (mm/rev)	0.03 - 0.05	0.03 - 0.05	0.1 - 0.3
Application	**OK** Cross hole drilling	**OK** Inclined exit	**OK** Boring
		 16 mm or less (for standard drill)	

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 reconmended for boring operations.

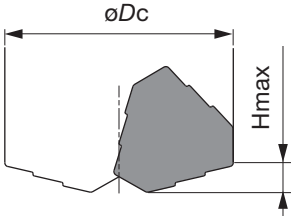
SHAPES OF THE HOLE BOTTOM

øDc	Insert	Maximum difference Hmax
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

TOHT07..., 08...

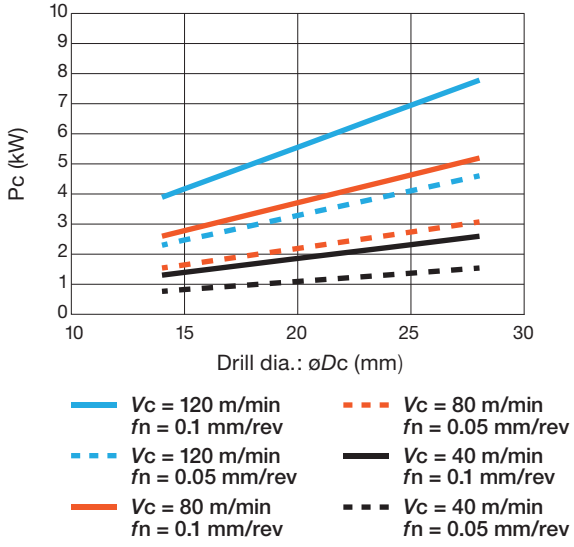


TOHT09... - TOHT12...

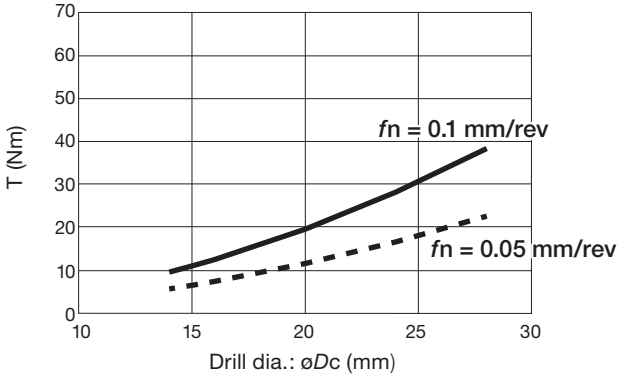


REQUIRED SPINDLE POWER AND COOLANT PRESSURE

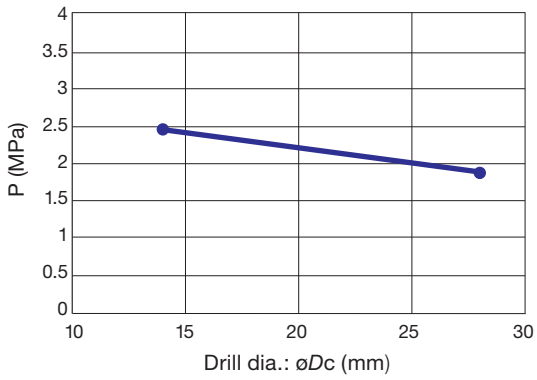
Net power (S45C)



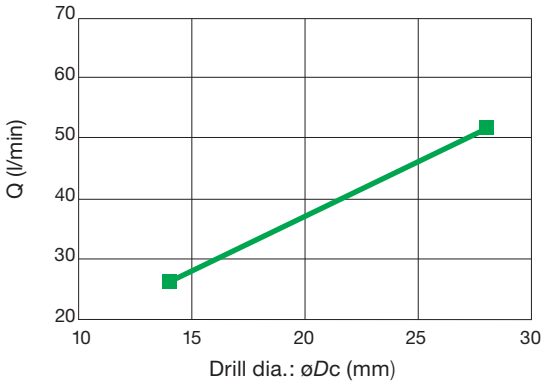
Torque (S45C)



Coolant pressure (Recommended value)

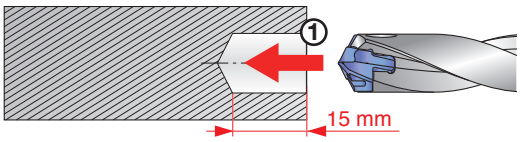


Coolant flow rate (Recommended value)



DRILLING PROCEDURE ON MACHINING CENTERS AND LATHES

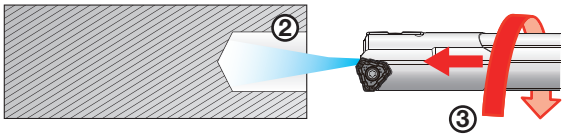
Proceed as instructed below in order to maximize the tool performance.



① Drill a pilot hole

Hole diameter tolerance: +0.01 - +0.1 mm
Hole depth: H = 15 mm

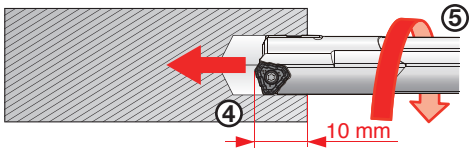
Please use DrillMeister or DrillForce-Meister for a pilot hole
Use a drill with 3xD or smaller



② Start coolant
③ Slowly insert DeepTri-Drill into the pilot hole

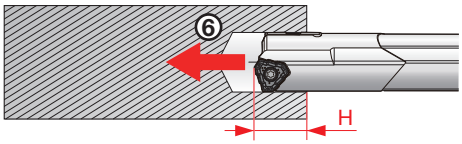
No. of revolution: n = 50 - 100 min^{-1}
Feed speed: Vf = 100 - 300 mm/min

Caution: Do not rotate the drill at a full machining speed before engaging the pilot hole.



④ Stop the drill at 10 mm depth

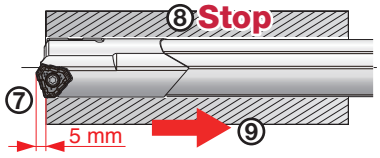
⑤ Start rotating at full machining speed



⑥ Start feeding

At the entry (H = 10 - 20 mm):
→ Feed: f = 80% of programmed feed

Hole depth:
H ≥ 20 mm → Feed: f = 100%



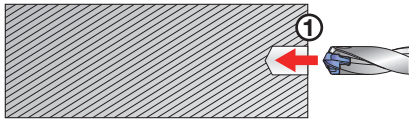
⑦ For a through hole

Continue drilling until the drill head passes through the workpiece by 5 mm

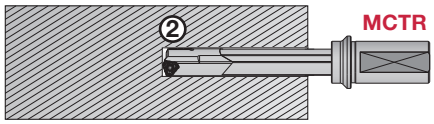
⑧ Stop the rotation and coolant
⑨ Return the drill

HOW TO USE A **TRLG** TYPE DEEPTRI-DRILL ON A HORIZONTAL MACHINING CENTER OR BORING MACHINE

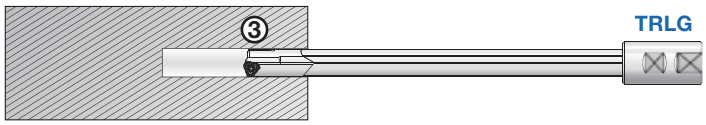
When using the TRLG drill on a conventional machining center or horizontal boring machine where there are no drilling-bush supports available, a pilot hole needs to be further deepened with a MCTR drill to better support the long gundrill. A Long gundrill such as the TRLG type drill tends to “whip” when the pilot hole is too short to support the gundrill.



① Drill a pilot hole

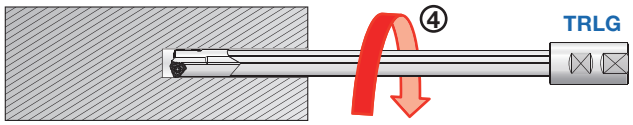


② Expand the pilot hole deeper using a MCTR drill

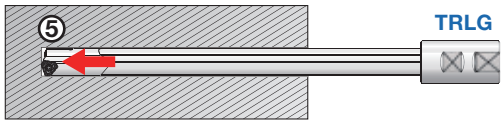


③ Drill with a TRLG drill at a reduced rotation and feed. Use the following parameters:

No. of revolution: n = 50 - 100 min^{-1}
Feed speed: Vf = 100 - 300 mm/min



④ When DeepTri-Drill reaches all the way to the end of the pilot hole, increase drill rotation at full machining speed.



⑤ Start feeding to complete the drilling

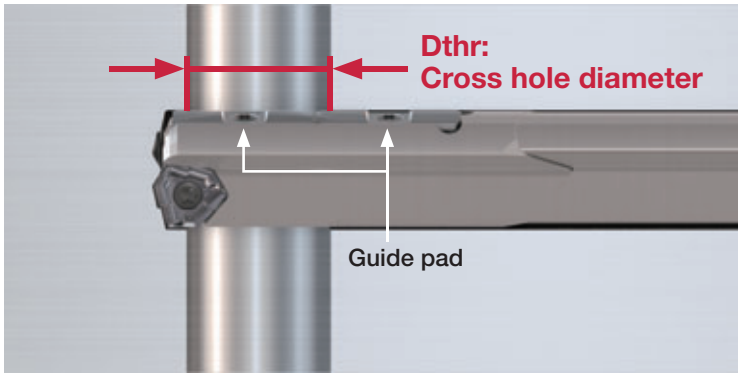
(Caution)
Always use Step② to prevent the gundrill from whipping, which may lead to drill breakage and a possible human injury.

CAUTIONS FOR CROSS HOLE DRILLING

- DeepTri-Drill can drill cross holes.
- For a cross hole diameter (Dthr) of 16 mm or less, use standard “MCTR” and “TRLG”.
- For a cross hole diameter (Dthr) of 16 mm to 32 mm, use tailor-made cross hole types: “MCTRCH” or “TRLGCH”.

How to select a proper DeepTri-Drill model for suitable cross hole distance.

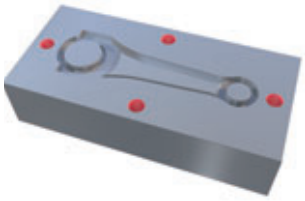
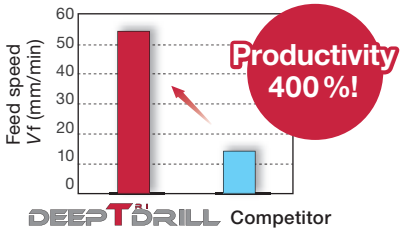
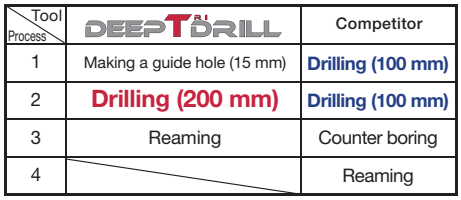
Dthr < 16 mm: use MCTR or TRLG
16 mm ≤ Dthr < 32 mm: use MCTRCH or TRLGCH



- 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}, *V*f = 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.**

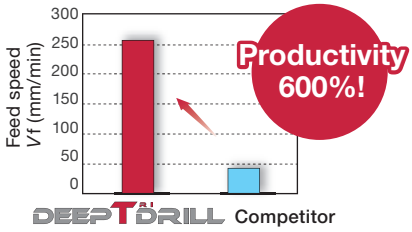
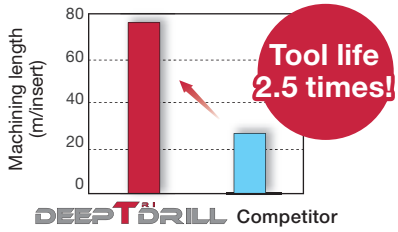
A tailor-made tool for a cross hole distance over 16 mm

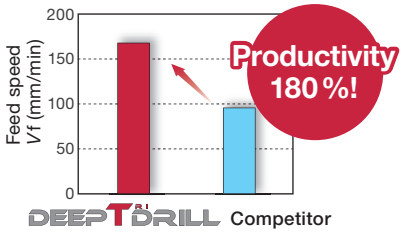
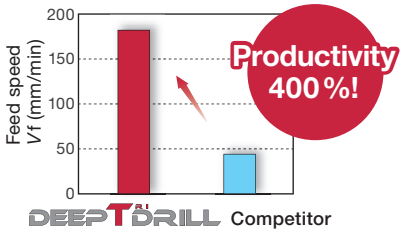
PRACTICAL EXAMPLES

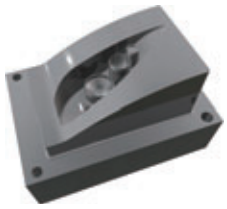
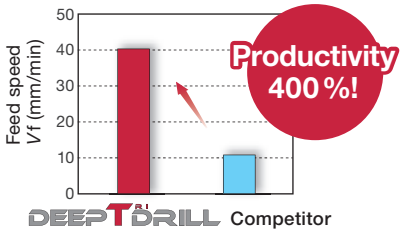
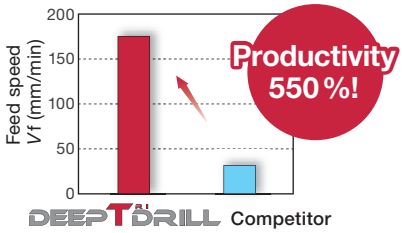
	Workpiece type	Forging mold	Construction machine part
	Drill	MCTR20.00XM32-15, *øDc* = 20 mm	MCTR22.00XM32-15, *øDc* = 22 mm
	Insert	TOHT090305R-NDJ	TOHT110405R-NDJ
	Grade	AH725	AH725
	Guide pad	GP06-085 F2122	GP06-100 F2122
	Workpiece material	SKD61 / X40CrMoV5-1  H	Cast steel  P
Cutting conditions	Cutting speed: *Vc* (m/min)	70	60
Cutting conditions	Feed : *f* (mm/rev)	0.05	0.08
Cutting conditions	Feed speed : *Vf* (mm/min)	55	70
Cutting conditions	Drilling depth: *H* (mm)	291	200
Cutting conditions	Machine	Horizontal M/C	Horizontal M/C
Cutting conditions	Coolant	Wet	Wet
	Results	 DeepTri-Drill increases productivity by 4 times compared to the competitor's brazed gundrill since higher cutting speed and feed are applicable.	Machining process 

Tool / Process	DEEP TDRILL	Competitor
1	Making a guide hole (15 mm)	Drilling (100 mm)
2	Drilling (200 mm)	Drilling (100 mm)
3	Reaming	Counter boring
4		Reaming

DeepTri-Drill machines 200 mm depth in one operation. Also, due to the excellent hole straightness, DeepTri-Drill eliminates the boring process.

	Workpiece type	Mold base	Shaft
	Drill	TRLG21.00X1000-U05, *ø*Dc = 21 mm	TRLG20.00X1500-24, *ø*Dc = 20 mm
	Insert	TOHT100305R-NDJ	TOHT090305R-NDJ
	Grade	AH725	AH725
	Guide pad	GP06-085 F2122	GP06-085 F2122
	Workpiece material	SCM440 / 42CrMo4  P	SCM440 / 42CrMo4  P
Cutting conditions	Cutting speed: *Vc* (m/min)	99	99
	Feed : *f* (mm/rev)	0.17	0.17
	Feed speed : *Vf* (mm/min)	255	268
	Drilling depth: *H* (mm)	300	1050
	Machine	Gundrill machine	Gundrill machine
	Coolant	Wet	Wet
	Results	 DeepTri-Drill increases productivity by 6 times compared to the competitor's brazed gundrill since higher cutting speed and feed are applicable.	 Tool life per insert is improved by 2.5 times due to the increased number of cutting edges. Also, tool life per corner is expanded due to high wear resistance.

Workpiece type		Oil pin	Axel shaft
Drill		TRLG14.00X800-U04	MCTR14.00XM25-15
Insert		TOHT070304R-NDJ	TOHT070304R-NDJ
Grade		AH725	AH725
Guide pad		GP05-060 F2122	GP05-060 F2122
Workpiece material		SCM435  P	SCM435H  P
Cutting conditions	Cutting speed: *Vc* (m/min)	70	80
	Feed : *f* (mm/rev)	0.11	0.1
	Feed speed : *Vf* (mm/min)	168	182
	Hole diameter: *øDc* (mm)	14	14
	Hole depth : *H* (mm)	180	200
	Machine	Gundrill machine	Lathe
	Coolant	Internal	Internal
Results		 DeepTri-Drill increases productivity by 1.8 times compared to the competitor's brazed gundrill. Due to the indexable inserts, regrinding is not required.	 Unlike the competitor's HSS drill, DeepTri-Drill does not require step feed and increases productivity by 4 times.

Workpiece type		Mold	Mold
Drill		TRLG24.00X1500-U05	TRLG18.00X1500-U04
Insert		TOHT110405R-NDJ	TOHT080305R-NDJ
Grade		AH725	AH725
Guide pad		GP06-100 F2122	GP06-075 F2122
Workpiece material		CENA-V	S55C / C55
		 H	 P
Cutting conditions	Cutting speed: *Vc* (m/min)	60	90
	Feed : *f* (mm/rev)	0.05	0.11
	Feed speed : *Vf* (mm/min)	40	175
	Hole diameter: ø*Dc* (mm)	24	18
	Hole depth : *H* (mm)	500	1000
	Machine	Gundrill machine	Gundrill machine
	Coolant	Internal	Internal
Results		 DeepTri-Drill delivers high efficiency in machining difficult-to-cut material for molds, increasing productivity by 4 times compared to the competitor's brazed gundrill.	 DeepTri-Drill drastically reduces time to produce molds, increasing productivity by 5.5 times compared to the competitor's brazed gundrill.

MEMO

Check our site and our App to get more info!

www.tungaloy.com

Tungaloy Corporation (Head office)
11-1 Yoshima-Kogyodanchi
Iwaki-city, Fukushima, 970-1144 Japan
Phone: +81-246-36-8501
Fax: +81-246-36-8542
www.tungaloy.co.jp

Tungaloy America, Inc.
3726 N Ventura Drive
Arlington Heights,IL 60004, U.S.A.
Phone: +1-888-554-8394
Fax: +1-888-554-8392
www.tungaloyamerica.com

Tungaloy Canada
432 Elgin St. Unit 3
Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779
Fax: +1-519-758-5791
www.tungaloy.co.jp/ca

Tungaloy de Mexico S.A.
C Los Arellano 113,
Parque Industrial Siglo XXI
Aguascalientes, AGS, Mexico 20290
Phone: +52-449-929-5410
Fax: +52-449-929-5411
www.tungaloy.co.jp/mx

Tungaloy do Brasil Ltda.
Avd. Independencia N4158 Residencial Flora
13280-000 Vinhedo, São Paulo, Brasil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.com/br

Tungaloy Germany GmbH
An der Alten Ziegelei 1
D-40789 Monheim, Germany
Phone: +49-2173-90420-0
Fax: +49-2173-90420-19
www.tungaloy.de

Tungaloy France S.A.S.
ZA Courtaboeuf - Le Rio
1 rue de la Terre de feu
F-91952 Courtaboeuf Cedex, France
Phone: +33-1-6486-4300
Fax: +33-1-6907-7817
www.tungaloy.fr

Tungaloy Italia S.r.l.
Via E. Andolfato 10
I-20126 Milano, Italy
Phone: +39-02-252012-1
Fax: +39-02-252012-65
www.tungaloy.it

Tungaloy Czech s.r.o.
Turanka 115
CZ-627 00 Brno, Czech Republic
Phone: +420-532 123 391
Fax: +420-532 123 392
www.tungaloy.cz

Tungaloy Ibérica S.L.
C/Miquel Servet, 43B, Nau 7
Pol. Ind. Bufalvent
ES-08243 Manresa (BCN), Spain
Phone: +34 93 113 1360
Fax: +34 93 876 2798
www.tungaloy.es

Tungaloy Scandinavia AB
Bultgatan 38
442 40 Kungälv, Sweden
Phone: +46-462119200
www.tungaloy.se

Tungaloy Rus, LLC
36-D Harkovsky Lane
308009 Belgorod, Russia
Phone: +7 4722 24 00 07
Fax: +7 4722 24 00 08
www.tungaloy.co.jp/ru

Tungaloy East LLC
Stachek str., h.4, office 2, Ekaterinburg,
620017, Russia
Phone: +7-343-389-13-22
Fax: +7-343-278-94-35
www.tungaloy.co.jp/rue

Tungaloy Polska Sp. z o.o.
ul. Genewska 24
03-963 Warszawa, Poland
Phone: +48-22-617-0890
Fax: +48-22-617-0890
www.tungaloy.co.jp/pl

Tungaloy U.K. Ltd
The Technology Centre,
Wolverhampton Science Park
Glaisher Drive, Wolverhampton
West Midlands WV10 9RU, UK
Phone: +44 121 4000 231
Fax: +44 121 270 9694
www.tungaloy.co.jp/uk
salesinfo@tungaloyuk.co.uk

Tungaloy Hungary Kft
Erzsébet királyné útja 125
H-1142 Budapest, Hungary
Phone: +36 1 781-6846
Fax: +36 1 781-6866
www.tungaloy.co.jp/hu
info@tungaloytools.hu

Tungaloy Turkey
Dudullu,OSB 4. Cad No:4
34776 Umraniye Istanbul, TURKEY
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.tungaloy.com.tr
info@tungaloy.com.tr

Tungaloy Benelux b.v.
Tjalk 70
NL-2411 NZ Bodegraven, Netherlands
Phone: +31 172 630 420
Fax: +31 172 630 429
www.tungaloy-benelux.com

Tungaloy Croatia
Josipa Kozarca 4
10432 Bregana, Croatia
Phone: +385 1 3326 604
Fax: +385 1 3327 683
www.tungaloy.hr

Tungaloy Cutting Tool (Shanghai) Co.,Ltd.
Rm No 401 No.88 Zhabei
Jiangchang No.3 Rd
Shanghai 200436, China
Phone: +86-21-3632-1880
Fax: +86-21-3621-1918
www.tungaloy.co.jp/tcts

Tungaloy Cutting Tool (Thailand) Co.,Ltd.
Interlink tower 4th Fl.
1858/5-7 Bangna-Trad Road
km.5 Bangna, Bangna, Bangkok 10260
Thailand
Phone: +66-2-751-5711
Fax: +66-2-751-5715
www.tungaloy.co.th

Tungaloy Singapore (Pte.), Ltd.
62 Ubi Road 1, #06-11 Oxley BizHub 2
Singapore 408734
Phone: +65-6391-1833
Fax: +65-6299-4557
www.tungaloy.co.jp/tspl

Tungaloy Vietnam
Unit 18, 4th Fl. Saigon Centre Building
65 Le Loi Blvd.
Dist 1, Ho Chi Minh City, Vietnam
Phone: +84-8-3827-0201
Fax: +84-8-3827-0203
www.tungaloy.co.jp/tspl

Tungaloy India Pvt. Ltd.
Indiabulls Finance Centre,
Unit # 902-A, 9th Floor,
Tower 1, Senapati Bapat Marg,
Elphinstone Road (West),
Mumbai -400013, India
Phone: +91-22-6124-8804
Fax: +91-22-6124-8899
www.tungaloy.co.jp/in

Tungaloy Korea Co., Ltd
#1312, Byucksan Digital Valley 5-cha
Beotkkot-ro 244, Geumcheon-gu
153-788 Seoul, Korea
Phone: +82-2-2621-6161
Fax: +82-2-6393-8952
www.tungaloy.co.jp/kr

Tungaloy Malaysia Sdn Bhd
50 K-2, Kelana Mall, Jalan SS6/14
Kelana Jaya, 47301
Petaling Jaya, Selangor Darul Ehsan
Malaysia
Phone: +603-7805-3222
Fax: +603-7804-8563
www.tungaloy.co.jp/my

Tungaloy Australia Pty Ltd
PO Box 2232, Rowville,
Victoria 3178, Australia
Phone: +61-3-9755-8147
Fax: +61-3-9755-6070
www.tungaloy.com.au

PT. Tungaloy Indonesia
Kompleks Grand Wisata Block AA-10 No.3-5
Cibitung
Bekasi 17510, Indonesia
Phone: +62-21-8261-5808
Fax: +62-21-8261-5809
www.tungaloy.co.jp/id

Member IMC Group Tungaloy

w w w . t u n g a l o y . c o m

follow us at:
f a c e b o o k . c o m / t u n g a l o y j a p a n
t w i t t e r . c o m / t u n g a l o y j a p a n

To see this product in action visit:

Tung-TV

www.youtube.com/tungaloycorporation

Distributed by:

6738412

DOWNLOAD
Dr. Carbide App

Dr. Carbide Tungaloy

Available on the App Store

GET IT ON Google play

AS9100 Certified
78006
2015.11.04

ISO14001 Certified
EC97J1123
1997.11.26

Produced from Recycled paper Dec. 2016 (TJ)