Tungaloy
Member IMC Group

DrillLine

DRILLMEISTER

DRILLLINE

Tungaloy Report 412-E

www.tungaloy.com

New clamping system provides **higher productivity** and **manageability**

Tungaloy
Member IMC Group

sales@jnterui.com

DRILLMEISTER

TUNGALOY

Eliminates set up time!
Simplifies drilling and
Combined drilling and chamfering
operations.

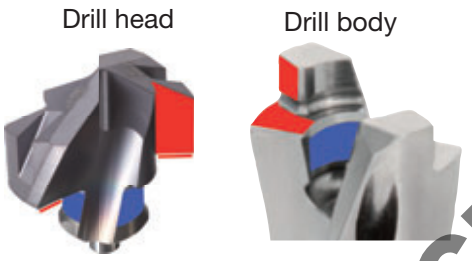
DRILLMEISTER
TUNGALOY

Eliminates setup time!

Simplifies the drilling and chamfering process!
New drilling system drastically improves productivity!

Easy operation: Improves accuracy, rigidity and productivity

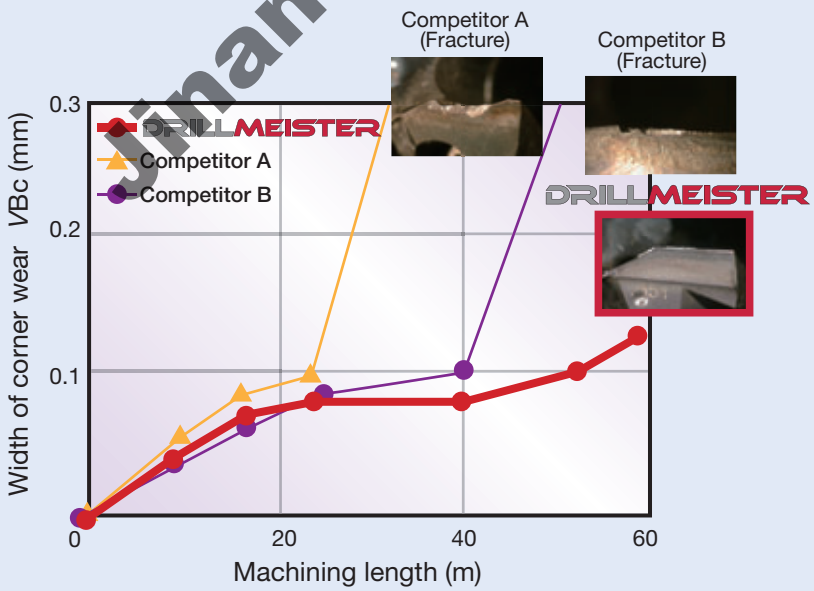
- Unique clamping structure provides high rigidity and repeatability.
- Easy operation; Head can be changed on the machine without the need to check tool length offset, reducing tool indexing time.



Improved drill body durability

- New clamping system increases the number of head indexing cycles.
- High durability reduces head damage.

■ Comparison of tool life when drilling alloy steel



The combination of an extremely rigid drill body and head with the new AH725 insert grade with well-balanced wear and chipping resistance demonstrates stable and long tool life.

Drill diameter:	: ø*Dc* = ø12 mm
Work material:	: SCM440
Cutting speed:	: *Vc* = 100 m/min
Feed:	: *f* = 0.25 mm/rev
Hole depth	: *H* = 36 mm (blind hole)
Coolant	: Wet
Machine	: Vertical M/C

Flange type TID

- High helical flute angle provides excellent chip evacuation
- Twisted coolant holes supply higher volume of coolant
- Central flange restricts drill body movement

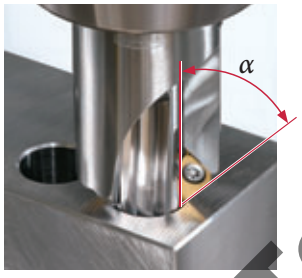
New

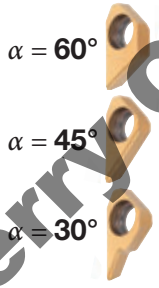
Straight type TIDC

- Straight shank design allows the use of the chamfering component
- Easily replaces solid carbide drills without changing any holding components

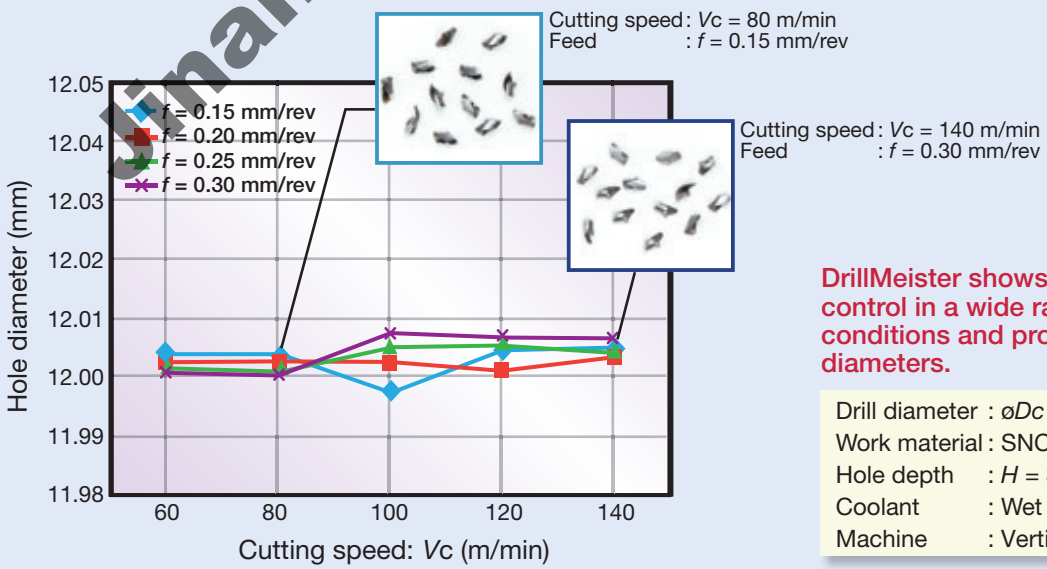
■ Drilling and chamfering in ONE operation

3 types of chamfering angles are available.





■ Chip control and stability of hole diameter



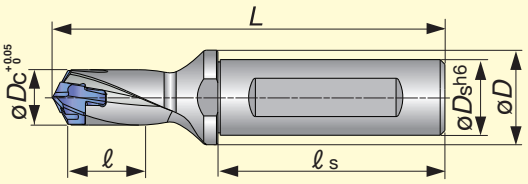
DrillMeister shows excellent chip control in a wide range of cutting conditions and provides stable hole diameters.

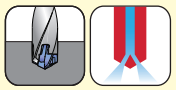
Drill diameter	: øDc = ø12 mm
Work material	: SNCM439 (285HB)
Hole depth	: H = 34 mm (through hole)
Coolant	: Wet
Machine	: Vertical M/C

Drill body TID type

L/D = 1.5

New

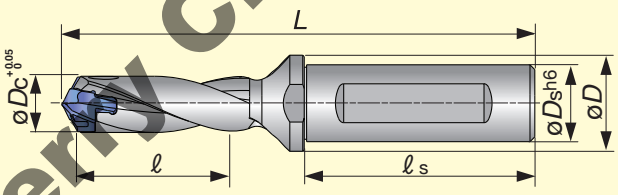


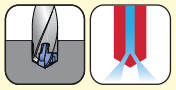


Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)					Pocket size	Clamping key (included)	Applicable head
			øDs	øD	ℓ	ℓ s	L			
10.0 - 10.9	TID100F16-1.5	●	16	20	15	48	79.2	10	K-TID10-19.99	DMP100 - DMP109
11.0 - 11.9	TID110F16-1.5	●	16	20	17	48	81.1	11	K-TID10-19.99	DMP110 - DMP119
12.0 - 12.9	TID120F16-1.5	●	16	20	18	48	83.0	12	K-TID10-19.99	DMP120 - DMP129
13.0 - 13.9	TID130F16-1.5	●	16	20	20	48	85.1	13	K-TID10-19.99	DMP130 - DMP139
14.0 - 14.9	TID140F16-1.5	●	16	20	21	48	89.1	14	K-TID10-19.99	DMP140 - DMP149
15.0 - 15.9	TID150F20-1.5	●	20	25	23	50	96.2	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TID160F20-1.5	●	20	25	24	50	99.3	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TID170F20-1.5	●	20	25	26	50	102.4	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TID180F25-1.5	●	25	32	27	56	111.5	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TID190F25-1.5	●	25	32	29	56	114.5	19	K-TID10-19.99	DMP190 - DMP199

L/D = 3

New



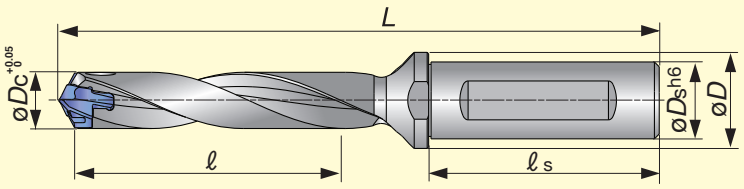


Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)					Pocket size	Clamping key (included)	Applicable head
			øDs	øD	ℓ	ℓ s	L			
10.0 - 10.4	TID100F16-3	●	16	20	30	48	94.2	10	K-TID10-19.99	DMP100 - DMP104
10.5 - 10.9	TID105F16-3	●	16	20	32	48	95.7	10	K-TID10-19.99	DMP105 - DMP109
11.0 - 11.4	TID110F16-3	●	16	20	33	48	97.6	11	K-TID10-19.99	DMP110 - DMP114
11.5 - 11.9	TID115F16-3	●	16	20	35	48	99.1	11	K-TID10-19.99	DMP115 - DMP119
12.0 - 12.4	TID120F16-3	●	16	20	36	48	101.0	12	K-TID10-19.99	DMP120 - DMP124
12.5 - 12.9	TID125F16-3	●	16	20	37	48	102.5	12	K-TID10-19.99	DMP125 - DMP129
13.0 - 13.4	TID130F16-3	●	16	20	39	48	104.6	13	K-TID10-19.99	DMP130 - DMP134
13.5 - 13.9	TID135F16-3	●	16	20	41	48	106.1	13	K-TID10-19.99	DMP135 - DMP139
14.0 - 14.4	TID140F16-3	●	16	20	42	48	110.1	14	K-TID10-19.99	DMP140 - DMP144
14.5 - 14.9	TID145F16-3	●	16	20	44	48	111.6	14	K-TID10-19.99	DMP145 - DMP149
15.0 - 15.9	TID150F20-3	●	20	25	45	50	118.7	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TID160F20-3	●	20	25	48	50	123.3	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TID170F20-3	●	20	25	51	50	127.9	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TID180F25-3	●	25	32	54	56	138.5	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TID190F25-3	●	25	32	57	56	143.0	19	K-TID10-19.99	DMP190 - DMP199

● : Stocked items

L/D = 5

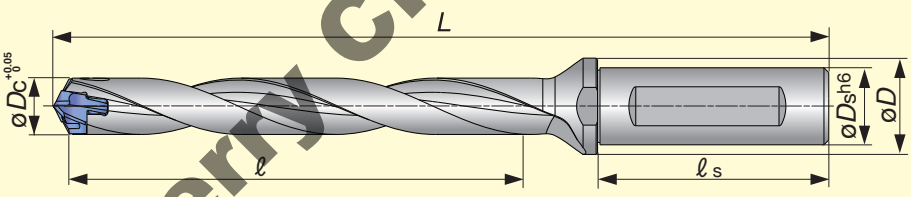
New



Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)					Pocket size	Clamping key (included)	Applicable head
			øDs	øD	ℓ	ℓ s	L			
10.0 - 10.4	TID100F16-5	●	16	20	50	48	114.2	10	K-TID10-19.99	DMP100 - DMP104
10.5 - 10.9	TID105F16-5	●	16	20	53	48	116.7	10	K-TID10-19.99	DMP105 - DMP109
11.0 - 11.4	TID110F16-5	●	16	20	55	48	119.6	11	K-TID10-19.99	DMP110 - DMP114
11.5 - 11.9	TID115F16-5	●	16	20	58	48	122.1	11	K-TID10-19.99	DMP115 - DMP119
12.0 - 12.4	TID120F16-5	●	16	20	60	48	125.0	12	K-TID10-19.99	DMP120 - DMP124
12.5 - 12.9	TID125F16-5	●	16	20	62	48	127.5	12	K-TID10-19.99	DMP125 - DMP129
13.0 - 13.4	TID130F16-5	●	16	20	65	48	130.6	13	K-TID10-19.99	DMP130 - DMP134
13.5 - 13.9	TID135F16-5	●	16	20	68	48	133.1	13	K-TID10-19.99	DMP135 - DMP139
14.0 - 14.4	TID140F16-5	●	16	20	70	48	138.2	14	K-TID10-19.99	DMP140 - DMP144
14.5 - 14.9	TID145F16-5	●	16	20	73	48	140.7	14	K-TID10-19.99	DMP145 - DMP149
15.0 - 15.9	TID150F20-5	●	20	25	75	50	148.7	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TID160F20-5	●	20	25	80	50	155.3	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TID170F20-5	●	20	25	85	50	161.9	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TID180F25-5	●	25	32	90	56	174.5	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TID190F25-5	●	25	32	95	56	181.0	19	K-TID10-19.99	DMP190 - DMP199

L/D = 8

New

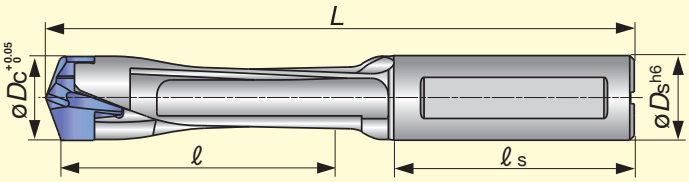


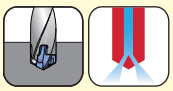
Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)					Pocket size	Clamping key (included)	Applicable head
			øDs	øD	ℓ	ℓ s	L			
10.0 - 10.4	TID100F16-8	●	16	20	80	48	144.2	10	K-TID10-19.99	DMP100 - DMP104
10.5 - 10.9	TID105F16-8	●	16	20	84	48	148.2	10	K-TID10-19.99	DMP105 - DMP109
11.0 - 11.4	TID110F16-8	●	16	20	88	48	152.6	11	K-TID10-19.99	DMP110 - DMP114
11.5 - 11.9	TID115F16-8	●	16	20	92	48	156.6	11	K-TID10-19.99	DMP115 - DMP119
12.0 - 12.4	TID120F16-8	●	16	20	96	48	161.0	12	K-TID10-19.99	DMP120 - DMP124
12.5 - 12.9	TID125F16-8	●	16	20	100	48	165.0	12	K-TID10-19.99	DMP125 - DMP129
13.0 - 13.4	TID130F16-8	●	16	20	104	48	169.6	13	K-TID10-19.99	DMP130 - DMP134
13.5 - 13.9	TID135F16-8	●	16	20	108	48	173.6	13	K-TID10-19.99	DMP135 - DMP139
14.0 - 14.4	TID140F16-8	●	16	20	112	48	180.1	14	K-TID10-19.99	DMP140 - DMP144
14.5 - 14.9	TID145F16-8	●	16	20	116	48	184.2	14	K-TID10-19.99	DMP145 - DMP149
15.0 - 15.9	TID150F20-8	●	20	25	120	50	193.7	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TID160F20-8	●	20	25	128	50	203.3	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TID170F20-8	●	20	25	136	50	212.9	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TID180F25-8	●	25	32	144	56	228.5	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TID190F25-8	●	25	32	152	56	238.0	19	K-TID10-19.99	DMP190 - DMP199

● : Stocked items

Drill body TIDC type

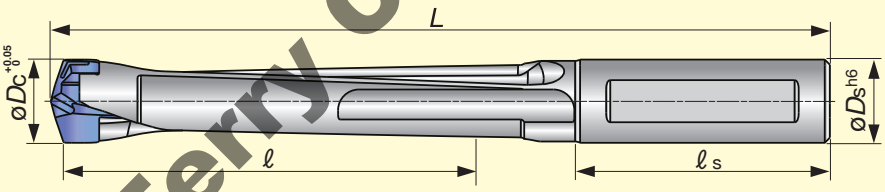
L/D = 3

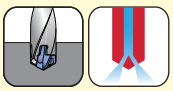




Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)				Pocket size	Clamping key (included)	Applicable head
			øDs	ℓ	ℓ s	L			
10.0 - 10.4	TIDC100C10-3	●	10	30.0	43	85.0	10	K-TID10-19.99	DMP100 - DMP104
10.5 - 10.9	TIDC105C11-3	●	11	31.5	43	87.1	10	K-TID10-19.99	DMP105 - DMP109
11.0 - 11.4	TIDC110C11-3	●	11	33.0	43	89.2	11	K-TID10-19.99	DMP110 - DMP114
11.5 - 11.9	TIDC115C12-3	●	12	34.5	43	91.3	11	K-TID10-19.99	DMP115 - DMP119
12.0 - 12.4	TIDC120C12-3	●	12	36.0	43	95.0	12	K-TID10-19.99	DMP120 - DMP124
12.5 - 12.9	TIDC125C13-3	●	13	37.5	43	95.5	12	K-TID10-19.99	DMP125 - DMP129
13.0 - 13.4	TIDC130C13-3	●	13	39.0	45	99.6	13	K-TID10-19.99	DMP130 - DMP134
13.5 - 13.9	TIDC135C14-3	●	14	40.5	45	101.7	13	K-TID10-19.99	DMP135 - DMP139
14.0 - 14.4	TIDC140C14-3	●	14	42.0	45	103.8	14	K-TID10-19.99	DMP140 - DMP144
14.5 - 14.9	TIDC145C15-3	●	15	43.5	45	105.9	14	K-TID10-19.99	DMP145 - DMP149
15.0 - 15.9	TIDC150C15-3	●	15	45.0	45	108.0	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TIDC160C16-3	●	16	48.0	48	117.7	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TIDC170C17-3	●	17	51.0	48	119.4	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TIDC180C18-3	●	18	54.0	48	123.8	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TIDC190C19-3	●	19	57.0	54	132.2	19	K-TID10-19.99	DMP190 - DMP199

L/D = 5



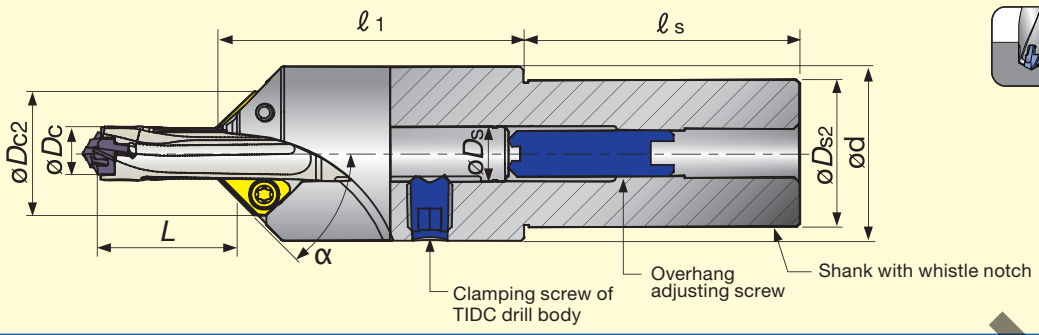


Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)				Pocket size	Clamping key (included)	Applicable head
			øDs	ℓ	ℓ s	L			
10.0 - 10.4	TIDC100C10-5	●	10	50.0	43	105.0	10	K-TID10-19.99	DMP100 - DMP104
10.5 - 10.9	TIDC105C11-5	●	11	52.5	43	108.1	10	K-TID10-19.99	DMP105 - DMP109
11.0 - 11.4	TIDC110C11-5	●	11	55.0	43	111.2	11	K-TID10-19.99	DMP110 - DMP114
11.5 - 11.9	TIDC115C12-5	●	12	57.5	43	114.3	11	K-TID10-19.99	DMP115 - DMP119
12.0 - 12.4	TIDC120C12-5	●	12	60.0	43	119.0	12	K-TID10-19.99	DMP120 - DMP124
12.5 - 12.9	TIDC125C13-5	●	13	62.5	43	120.5	12	K-TID10-19.99	DMP125 - DMP129
13.0 - 13.4	TIDC130C13-5	●	13	65.0	45	125.6	13	K-TID10-19.99	DMP130 - DMP134
13.5 - 13.9	TIDC135C14-5	●	14	67.5	45	128.7	13	K-TID10-19.99	DMP135 - DMP139
14.0 - 14.4	TIDC140C14-5	●	14	70.0	45	131.8	14	K-TID10-19.99	DMP140 - DMP144
14.5 - 14.9	TIDC145C15-5	●	15	72.5	45	134.9	14	K-TID10-19.99	DMP145 - DMP149
15.0 - 15.9	TIDC150C15-5	●	15	75.0	45	138.0	15	K-TID10-19.99	DMP150 - DMP159
16.0 - 16.9	TIDC160C16-5	●	16	80.0	48	149.7	16	K-TID10-19.99	DMP160 - DMP169
17.0 - 17.9	TIDC170C17-5	●	17	85.0	48	153.4	17	K-TID10-19.99	DMP170 - DMP179
18.0 - 18.9	TIDC180C18-5	●	18	90.0	48	159.6	18	K-TID10-19.99	DMP180 - DMP189
19.0 - 19.9	TIDC190C19-5	●	19	95.0	54	170.2	19	K-TID10-19.99	DMP190 - DMP199

• Applicable drill head with diameter øDc shown in above table.

● : Stocked items

Chamfering adaptor TIDCF type



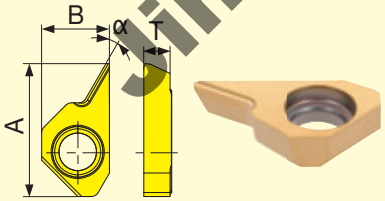
Drill dia. øDc (mm)	Cat. No.	Stock	Dimensions (mm)							Applicable drill body	
			øDs2	ød	øDc2	ℓ1	ℓs	L* L/D = 3	L* L/D = 5	Cat. No.	øDs (mm)
10.0 - 10.4	TIDCF100-W32	●	32	38	24.9	67.3	60	14.5 - 31.8	31.7 - 51.8	TIDC100C10-...	10
10.5 - 10.9	TIDCF110-W32	●	32	38	25.9	67.3	60	15.7 - 33.3	31.2 - 54.2	TIDC105C11-...	11
11.0 - 11.4	TIDCF110-W32	●	32	38	25.9	67.3	60	16.2 - 35.3	34.1 - 57.3	TIDC110C11-...	11
11.5 - 11.9	TIDCF120-W32	●	32	38	26.9	67.3	60	15.1 - 36.7	33.8 - 59.4	TIDC115C12-...	12
12.0 - 12.4	TIDCF120-W32	●	32	38	26.9	67.3	60	16.5 - 37.7	36.6 - 61.6	TIDC120C12-...	12
12.5 - 12.9	TIDCF130-W32	●	32	38	27.9	67.3	60	16.1 - 39.6	39.7 - 64.8	TIDC125C13-...	13
13.0 - 13.4	TIDCF130-W32	●	32	38	27.9	67.3	60	17.5 - 41.5	42.7 - 68.0	TIDC130C13-...	13
13.5 - 13.9	TIDCF140-W32	●	32	38	28.4	67.3	60	17.7 - 42.9	41.4 - 70.3	TIDC135C14-...	14
14.0 - 14.4	TIDCF140-W32	●	32	38	28.4	67.3	60	18.1 - 45.0	44.8 - 73.1	TIDC140C14-...	14
14.5 - 14.9	TIDCF150-W32	●	32	38	29.4	67.3	60	19.2 - 44.6	44.0 - 73.9	TIDC145C15-...	15
15.0 - 15.9	TIDCF150-W32	●	32	38	29.4	67.3	60	19.7 - 47.4	47.6 - 80.7	TIDC150C15-...	15
16.0 - 16.9	TIDCF160-W32	●	32	38	30.4	67.3	60	19.5 - 55.3	57.0 - 87.5	TIDC160C16-...	16
17.0 - 17.9	TIDCF170-W32	●	32	38	31.4	67.3	60	21.4 - 54.9	55.9 - 88.5	TIDC170C17-...	17
18.0 - 18.9	TIDCF180-W32	●	32	38	32.4	67.3	60	24.2 - 65.2	60.0 - 93.0	TIDC180C18-...	18
19.0 - 19.9	TIDCF190-W32	●	32	38	33.4	75.0	60	28.5 - 62.3	67.0 - 100.0	TIDC190C19-...	19

L * is the dimension when using 45° chamfering insert

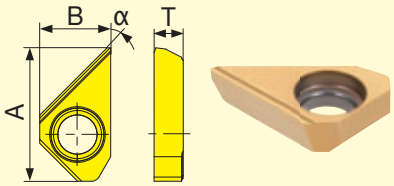
● : Stocked items

Chamfering insert

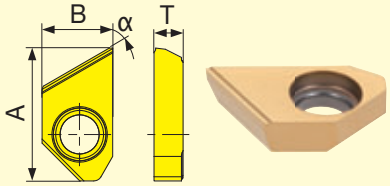
XHGT-30A



XHGR-45A



XHGR-60A



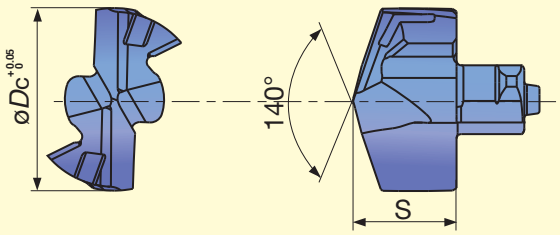
Cat. No.	Stock GH730	Dimensions (mm) A	B	T	Chamfering angle α	Maximum width of chamfer ** (mm)
XHGT090300-30A	●	16	8.8	3.3	30°	1.5
XHGR090300-45A	●	16	8.8	3.3	45°	6.0
XHGR090300-60A	●	16	8.8	3.3	60°	3.5

**Please reduce the feed rate to half when chamfering over 60% of maximum width of chamfer

Package Quantity = 2 pcs.

● : Stocked items

Drill head DMP type



Drill dia. øDc (mm)	Cat. No.	Stock AH725	S (mm)	Pocket size	Applicable body
10.0	DMP100	●	6.05	10	TID*100*
10.1	DMP101	●	6.05	10	TID*100*
10.2	DMP102	●	6.05	10	TID*100*
10.3	DMP103	●	6.05	10	TID*100*
10.4	DMP104	●	6.05	10	TID*100*
10.5	DMP105	●	6.05	10	TID*105*
10.6	DMP106	●	6.05	10	TID*105*
10.7	DMP107	●	6.05	10	TID*105*
10.8	DMP108	●	6.05	10	TID*105*
10.9	DMP109	●	6.05	10	TID*105*
11.0	DMP110	●	6.45	11	TID*110*
11.1	DMP111	●	6.45	11	TID*110*
11.2	DMP112	●	6.45	11	TID*110*
11.3	DMP113	●	6.45	11	TID*110*
11.4	DMP114	●	6.45	11	TID*110*
11.5	DMP115	●	6.45	11	TID*115*
11.6	DMP116	●	6.45	11	TID*115*
11.7	DMP117	●	6.45	11	TID*115*
11.8	DMP118	●	6.45	11	TID*115*
11.9	DMP119	●	6.45	11	TID*115*
12.0	DMP120	●	6.80	12	TID*120*
12.1	DMP121	●	6.80	12	TID*120*
12.2	DMP122	●	6.80	12	TID*120*
12.3	DMP123	●	6.80	12	TID*120*
12.4	DMP124	●	6.80	12	TID*120*
12.5	DMP125	●	6.80	12	TID*125*
12.6	DMP126	●	6.80	12	TID*125*
12.7	DMP127	●	6.80	12	TID*125*
12.8	DMP128	●	6.80	12	TID*125*
12.9	DMP129	●	6.80	12	TID*125*
13.0	DMP130	●	7.40	13	TID*130*
13.1	DMP131	●	7.40	13	TID*130*
13.2	DMP132	●	7.40	13	TID*130*
13.3	DMP133	●	7.40	13	TID*130*
13.4	DMP134	●	7.40	13	TID*130*
13.5	DMP135	●	7.40	13	TID*135*
13.6	DMP136	●	7.40	13	TID*135*
13.7	DMP137	●	7.40	13	TID*135*
13.8	DMP138	●	7.40	13	TID*135*
13.9	DMP139	●	7.40	13	TID*135*
14.0	DMP140	●	7.95	14	TID*140*
14.1	DMP141	●	7.95	14	TID*140*
14.2	DMP142	●	7.95	14	TID*140*
14.3	DMP143	●	7.95	14	TID*140*
14.4	DMP144	●	7.95	14	TID*140*
14.5	DMP145	●	7.95	14	TID*145*
14.6	DMP146	●	7.95	14	TID*145*
14.7	DMP147	●	7.95	14	TID*145*
14.8	DMP148	●	7.95	14	TID*145*
14.9	DMP149	●	7.95	14	TID*145*

Drill dia. øDc (mm)	Cat. No.	Stock AH725	S (mm)	Pocket size	Applicable body
15.0	DMP150	●	8.53	15	TID*150*
15.1	DMP151	●	8.53	15	TID*150*
15.2	DMP152	●	8.53	15	TID*150*
15.3	DMP153	●	8.53	15	TID*150*
15.4	DMP154	●	8.53	15	TID*150*
15.5	DMP155	●	8.53	15	TID*150*
15.6	DMP156	●	8.53	15	TID*150*
15.7	DMP157	●	8.53	15	TID*150*
15.8	DMP158	●	8.53	15	TID*150*
15.9	DMP159	●	8.53	15	TID*150*
16.0	DMP160	●	9.10	16	TID*160*
16.1	DMP161	●	9.10	16	TID*160*
16.2	DMP162	●	9.10	16	TID*160*
16.3	DMP163	●	9.10	16	TID*160*
16.4	DMP164	●	9.10	16	TID*160*
16.5	DMP165	●	9.10	16	TID*160*
16.6	DMP166	●	9.10	16	TID*160*
16.7	DMP167	●	9.10	16	TID*160*
16.8	DMP168	●	9.10	16	TID*160*
16.9	DMP169	●	9.10	16	TID*160*
17.0	DMP170	●	9.70	17	TID*170*
17.1	DMP171	●	9.70	17	TID*170*
17.2	DMP172	●	9.70	17	TID*170*
17.3	DMP173	●	9.70	17	TID*170*
17.4	DMP174	●	9.70	17	TID*170*
17.5	DMP175	●	9.70	17	TID*170*
17.6	DMP176	●	9.70	17	TID*170*
17.7	DMP177	●	9.70	17	TID*170*
17.8	DMP178	●	9.70	17	TID*170*
17.9	DMP179	●	9.70	17	TID*170*
18.0	DMP180	●	10.30	18	TID*180*
18.1	DMP181	●	10.30	18	TID*180*
18.2	DMP182	●	10.30	18	TID*180*
18.3	DMP183	●	10.30	18	TID*180*
18.4	DMP184	●	10.30	18	TID*180*
18.5	DMP185	●	10.30	18	TID*180*
18.6	DMP186	●	10.30	18	TID*180*
18.7	DMP187	●	10.30	18	TID*180*
18.8	DMP188	●	10.30	18	TID*180*
18.9	DMP189	●	10.30	18	TID*180*
19.0	DMP190	●	10.80	19	TID*190*
19.1	DMP191	●	10.80	19	TID*190*
19.2	DMP192	●	10.80	19	TID*190*
19.3	DMP193	●	10.80	19	TID*190*
19.4	DMP194	●	10.80	19	TID*190*
19.5	DMP195	●	10.80	19	TID*190*
19.6	DMP196	●	10.80	19	TID*190*
19.7	DMP197	●	10.80	19	TID*190*
19.8	DMP198	●	10.80	19	TID*190*
19.9	DMP199	●	10.80	19	TID*190*

Package Quantity = 2 pcs.
● : Stocked items

Standard cutting condition

ISO	Workpiece material	Cutting speed	Feed: *f* (mm/rev)			
			øDc (mm)			
		Vc (m/min)	ø10 - ø11.9	ø12 - ø13.9	ø14 - ø15.9	ø16 - ø19.9
P	Low carbon steels (C < 0.3) SS400, SM490, S25C etc. (St42-1, St52-3, C25 etc.)	80 - 140	0.15 - 0.28	0.18 - 0.30	0.20 - 0.35	0.25 - 0.45
P	High carbon steels (C > 0.3) S45C, S55C etc. (C45, C55 etc.)	70 - 120	0.15 - 0.28	0.18 - 0.30	0.20 - 0.35	0.25 - 0.45
P	Low alloy steels SCM415 etc.	70 - 120	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.40
P	Alloy steels SCM440, SCr420 etc. (42CrMo4, 20Cr4 etc.)	40 - 90	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.40
M	Stainless steels SUS304, SUS316 etc. (X5CrNi18-9, X5CrNiMo17-12-2 etc.)	30 - 70	0.12 - 0.18	0.14 - 0.20	0.16 - 0.24	0.16 - 0.26
K	Grey cast irons FC250 etc. (GG25 etc.)	80 - 180	0.20 - 0.35	0.25 - 0.40	0.30 - 0.45	0.35 - 0.55
K	Ductile cast irons FCD700 etc. (GGG70 etc.)	80 - 140	0.20 - 0.35	0.25 - 0.40	0.30 - 0.45	0.35 - 0.55
N	Aluminium alloys ADC12 etc.	80 - 220	0.25 - 0.40	0.30 - 0.45	0.35 - 0.50	0.40 - 0.60
S	Titanium alloys Ti-6Al-4V etc.	20 - 50	0.08 - 0.15	0.10 - 0.28	0.12 - 0.20	0.14 - 0.22
S	Nickel-based alloys	20 - 50	0.08 - 0.13	0.10 - 0.15	0.12 - 0.18	0.12 - 0.22

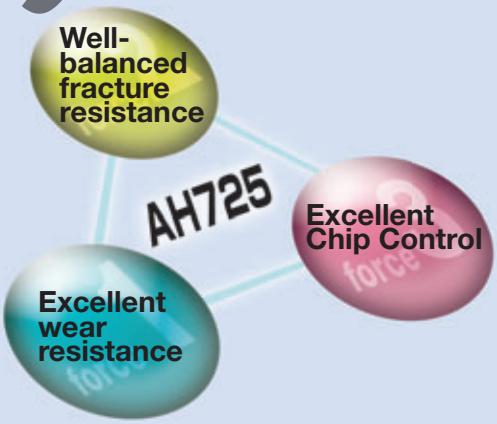
- Cutting conditions in the above table show standard cutting conditions.
- Cutting conditions may change due to the rigidity and power of the machine and the workpiece material.
- Machined hole diameter may change depending upon the rigidity of the machine tool or cutting conditions.
- In case of L/D = 8 drill, the recommended range of cutting speeds and feeds is between the minimum and median values listed above.

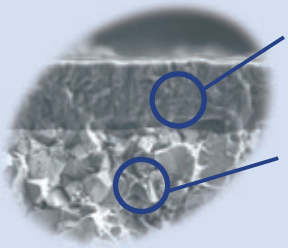
Grade

AH725 PREMIUMTEC

"Triple Force Technology"

Flat and smooth coated surface improves resistance to chip welding and insert edge chipping. For standard to high speed cutting.



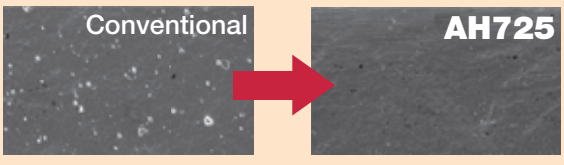


Newly improved coating layer features great adhesion strength between coating and substrate.

Well-balanced micro alloy substrate is effective for plastic deformation resistance and toughness.

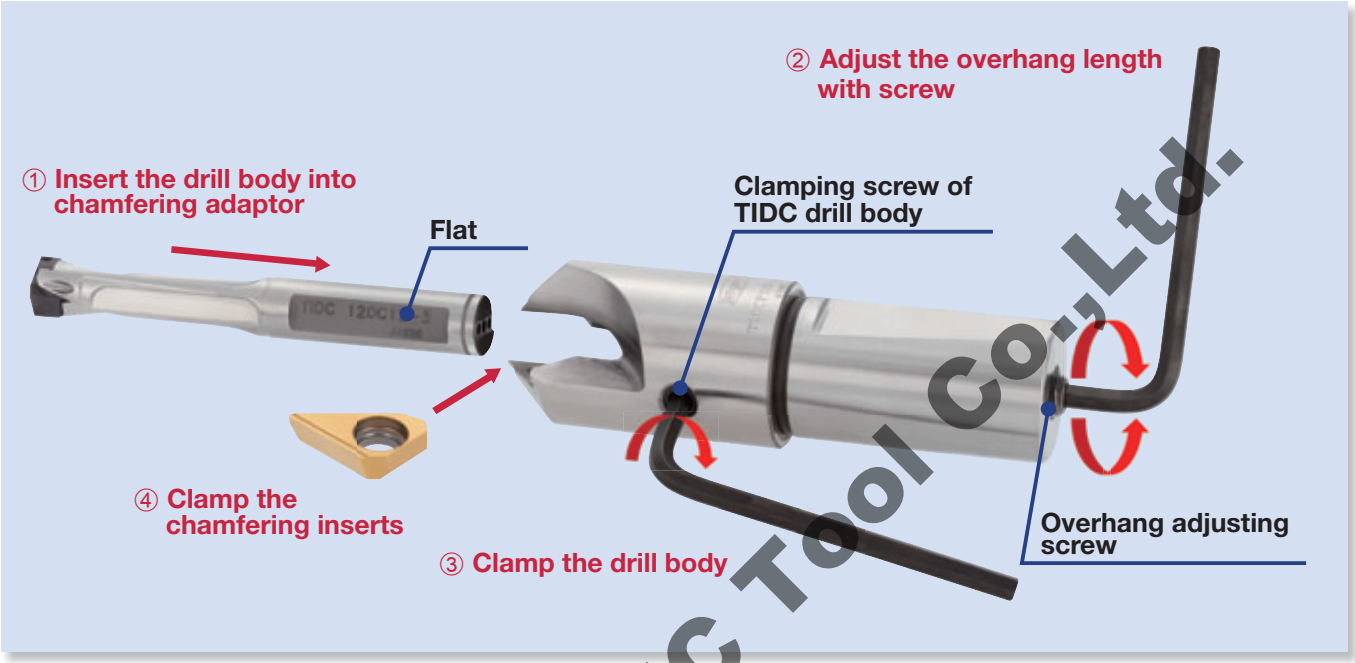
Super flash coating

"Triple Force Technology" improves overall coating surface quality.



How to mount the TIDC drill body into the chamfering adaptor

The overhang length of the drill can be changed by the adjusting screw at the bottom of adaptor.
Drill body must be in contact with the adjusting screw. This screw supports the drill against thrust force when drilling.



Procedure

① Insert the TIDC drill body into the chamfering adaptor without clamping chamfering inserts.
② Adjust the overhang length of drill body with adjusting screw from the bottom of adaptor.
③ Tighten the clamping screw of drill body and secure. When tightening, the screw must contact the flat. This ensures that the flutes of the TIDC drill body are aligned with the chamfering inserts.
④ Clamp the chamfering inserts with the screw.

Notice

Before removing the drill body from adaptor, chamfering inserts must be removed.
The overhang adjusting screw can operate from the top of adaptor with flat-blade screwdriver. Once the adaptor is positioned on the drill shank, overhang length of drill body can be adjusted by operating the screw from the top of adaptor.

Replacement parts

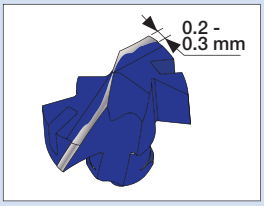
Clamping screw of TIDC drill body	Overhang adjusting screw	Wrench	Clamping screw of insert	Wrench	
				Torx bit	Grip
SRM10x10DIN916	SRM10x1.5S	HW5.0	SR14-544/S ***	BT15S	SW6-SD

*** **SR14-544/S** Package Quantity = 5 pcs.

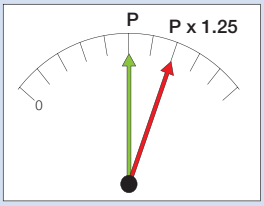
Technical guidelines

Criteria for head change (Criteria of tool life)

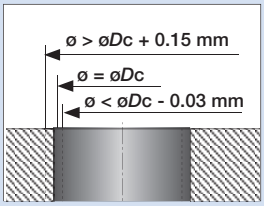
The following are general parameter criteria for enhancing tool life and identifying tool changes.



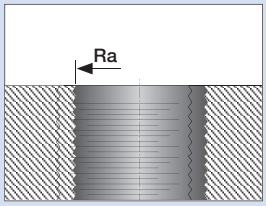
Width of corner wear should not exceed: 0.2 - 0.3 mm



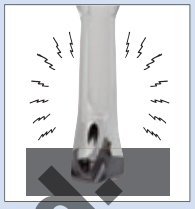
Spindle load: Increased by 25% higher than starting load



Hole diameter: 0.15 mm larger or 0.03 mm smaller than drill diameter



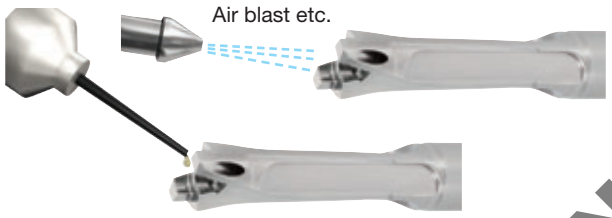
Surface finish: Monitor surface finish quality as the drill begins to wear



Abnormal noise, or vibration

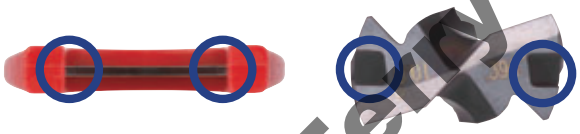
How to clamp the drill head

① Cleaning the pocket and oiling

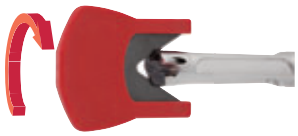


② Set the drill head in the pocket

③ Set the clamping key on the drill head

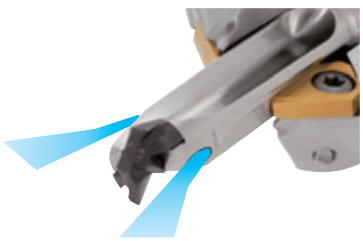


④ Clamp



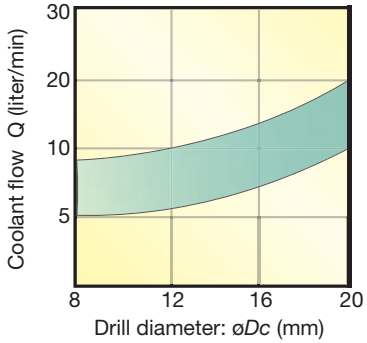
Coolant supply

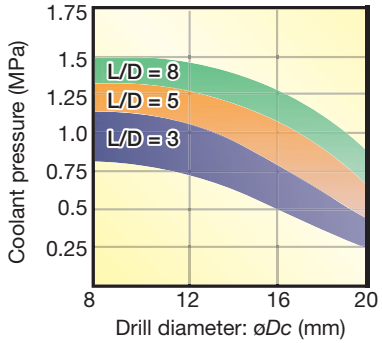
Internal coolant supply is recommended.



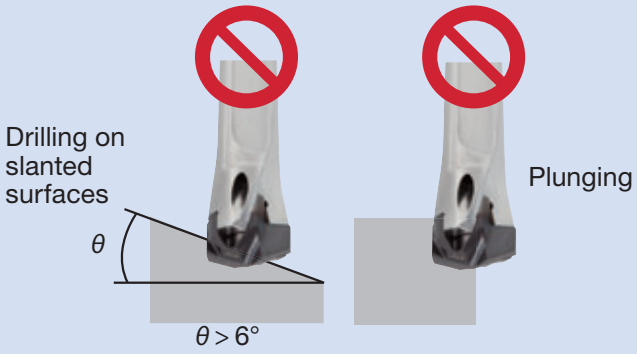
The coolant flow and pressure required

Please always use coolant supply to evacuate chips.



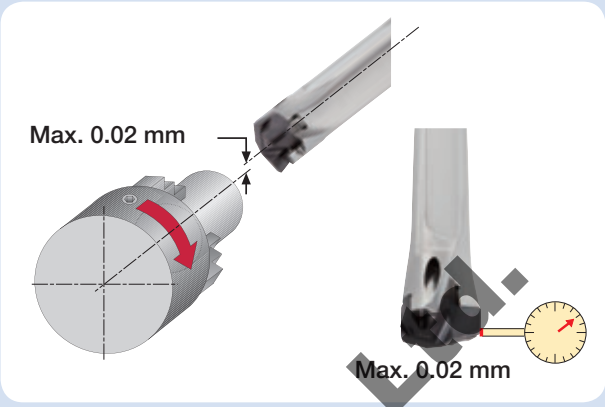


● Applications not recommended



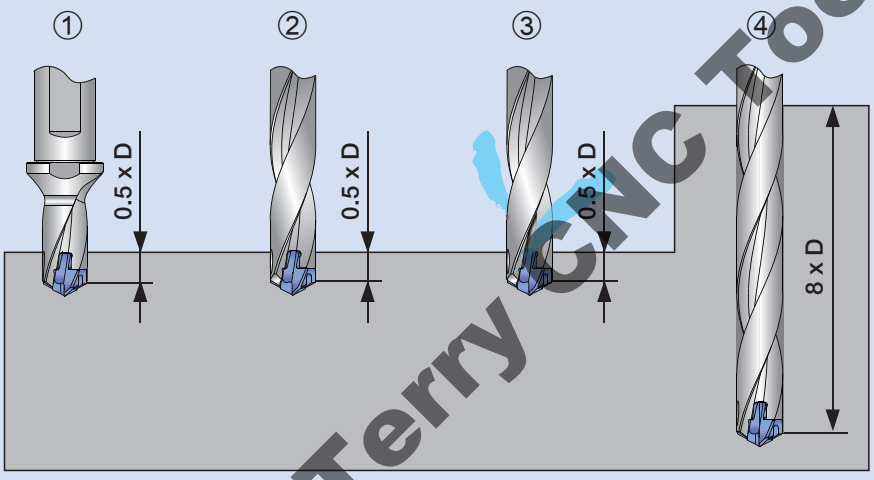
● Run out

Run out less than 0.02 mm is recommended.



Other recommendations

Prior to using 8 x D drills, it is recommended to drill a 1.5 x D pre-hole using a short or centering drill.



① Pre-hole 0.5 x D deep for centering
② Slow rotation and feed during entrance to the pre-hole
③ Maintain for 2 - 3 seconds and active the cooling system
④ Continue drilling at recommended cutting conditions

Recommended holders on M/C

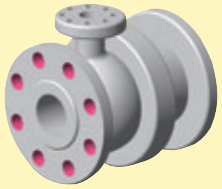
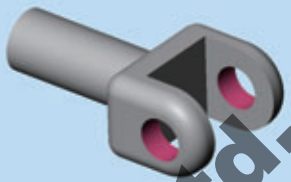
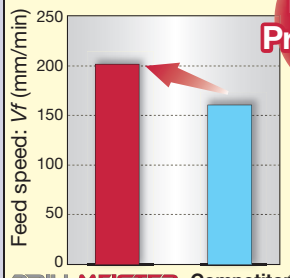
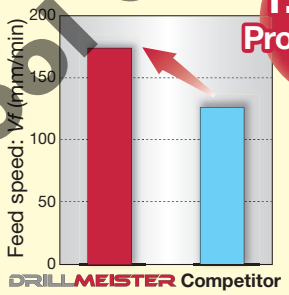
First recommended holder

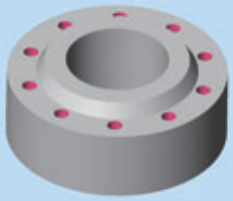
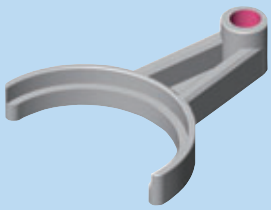
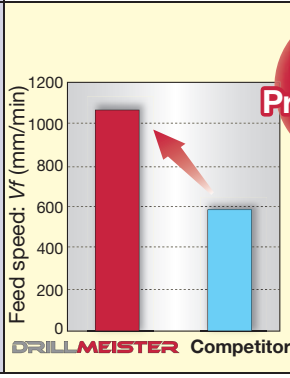
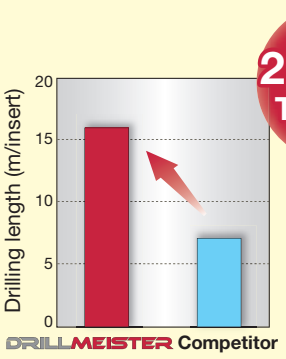
Power chuck

Collet chuck

Side lock

Practical examples

Workpiece type		Ball valve	Yoke
Drill body		TIDC100C10-3	TIDC125C13-5
Head		DMP105	DMP125
Grade		AH725	AH725
Workpiece material		SUS304 / X5CrNi18-9  M	S45C / C45  P
Cutting conditions	Cutting speed : *Vc* (m/min)	45	53
	Feed : *f* (mm/rev)	0.15	0.13
	Drill diameter: *øDc* (mm)	10.5	12.5
	Hole depth : *H* (mm)	23	51
	Coolant	Wet (Internal supply)	Wet (Internal supply)
Results		 **Higher productivity:** DrillMeister provides 1.3 times higher productivity due to higher feed rate. **Longer tool life:** Tool life is 1.3 times longer than competitor's.	 **Easy head indexing:** Unique connection of DrillMeister eliminates head change time (Competitor's tool required 2 clamping screws) **Higher productivity:** DrillMeister can apply a higher cutting speed and feed rate, leading to 1.4 times higher productivity.

Workpiece type		Ring gear	Shift fork
Drill body		TIDC100C10-3	TIDC190C19-5
Head		DMP100	DMP198
Grade		AH725	AH725
Workpiece material		SCM440 / 42CrMo4  P	S45C / C45  P
Cutting conditions	Cutting speed : *Vc* (m/min)	122	120
	Feed : *f* (mm/rev)	0.28	0.15
	Drill diameter: *øDc* (mm)	10	19.8
	Hole depth : *H* (mm)	35	60
	Coolant	Wet (Internal supply)	Wet (Internal supply)
Results		 **Higher productivity:** DrillMeister provides 2 times higher productivity due to 2 times feed rate. **Longer tool life:** Tool life is 1.2 times longer than competitor's.	 **Excellent chip control:** DrillMeister maintains good chip control until the end of tool life. **Longer tool life:** AH725 grade achieves 2.3 times longer tool life than competitor's similar product line.

sales@jnterui.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 Comércio de Ferramentas de Corte Ltda.
Rua dos Sabias N.104
13280-000 Vinhedo, São Paulo, Brazil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.co.jp/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
S:t Lars Väg 42A
SE-22270 Lund, Sweden
Phone: +46-462119200
Fax: +46-462119207
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 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: +44 121 309 0163
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 Organize Sanayi Bolgesi DES
Sanayi Sitesi 1 Cadde Ticaret
Merkezi No.3/7
34779 Umraniye Istanbul, TURKEY
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.tungaloy.co.jp/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
Malinska 8
10430 Samobor, 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.
11th Floor, Sorachai Bldg. 23/7
Soi Sukhumvit 63
Klongtonnue, Wattana
Bangkok 10110, Thailand
Phone: +66-2-714-3130
Fax: +66-2-714-3134
www.tungaloy.co.th

Tungaloy Singapore (Pte.), Ltd.
31 Kaki Bukit Road 3, #05-19 TechLink
Singapore 417818
Phone: +65-6391-1833
Fax: +65-6299-4557
www.tungaloy.co.jp/tspl

Tungaloy India Pvt. Ltd.
Unit#13, B wing, 8th floor
Kamala Mills Compound
Trade World, Lower Parel (West)
Mumbai - 4000 13. 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/krr

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
Unit 308/33 Lexington Drive
Bella Vista NSW 2153, Australia
Phone: +612-9672-6844
Fax: +612-9672-6866
www.tungaloy.co.jp/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

Tungaloy
Member IMC Group

www.tungaloy.com

follow us at:
facebook.com/tungaloyjapan
twitter.com/tungaloyjapan

To see this product in action visit:
Tung-TV
www.youtube.com/tungaloycorporation

Distributed by:

6989342

DOWNLOAD
E-Catalog App

Apple Store Google Play

ISO 9001 certified
QC00J0056
Tungaloy Corporation
18/10/1996

ISO 14001 certified
EC97J1123
Tungaloy Group
Japan site and Asian production site
26/11/1997

Produced from Recycled paper
Mar. 2014 (TJ)