

CENTER DRILL - 390 SYSTEM

Surface Finish Ra < 0.5 μ m



Video



Video

PATENTED

Features

Available in
materials



Cost
300~500%
SAVING

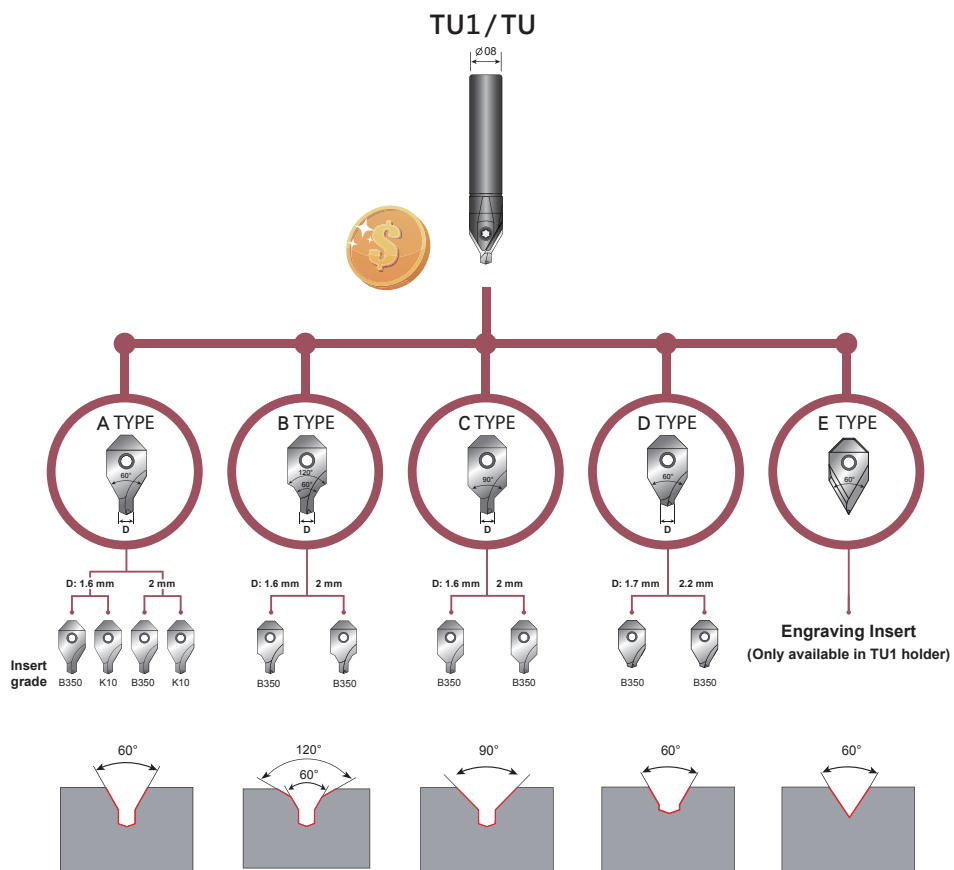
Applicable
Machines
Milling / Turning

Efficiency
300%
UP

Durability
300%
UP

Product Design

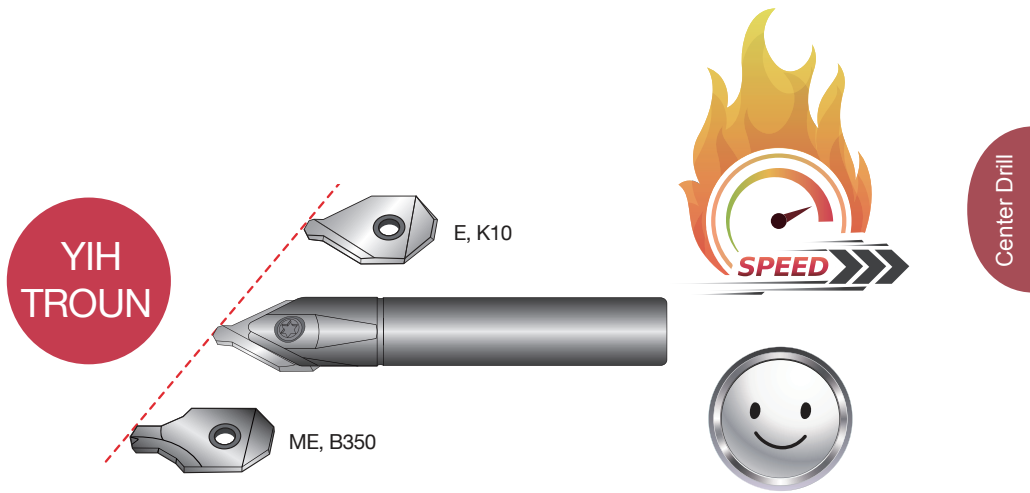
One Shank
fits 11
different
inserts



TECHNICAL GUIDE

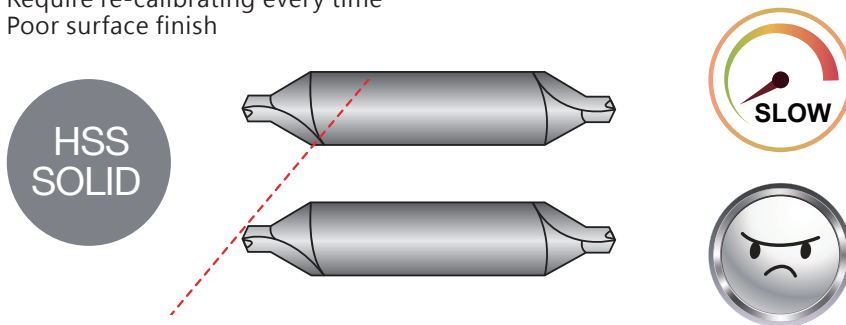
Indexable center drill

- Extremely accuracy in center positioning, minimized eccentricity $\pm 0.008\text{mm}$.
- Perfect surface finish with $Ra\ 0.36\ \mu\text{m}$, which leads to excellent accuracy.
- Re-centering and length calibrating are not required while changing the new insert.
- Y.T. indexable carbide inserts perform 5 times tool life longer than HSS center drills.
- The same shank fit max. 11 different inserts.



Solid center drill

- Imprecise center accuracy
- Poor tool life
- Require re-calibrating every time
- Poor surface finish

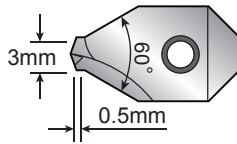


New Design vs. Traditional Type



D-type Center Drill:

Designed with a shorter drill bit, suitable for center spotting with 60° chamfer simultaneously prior to hole drilling. It performs a greater machining durability itself and conduce to improve the tool life of drills and taps from its high accuracy.



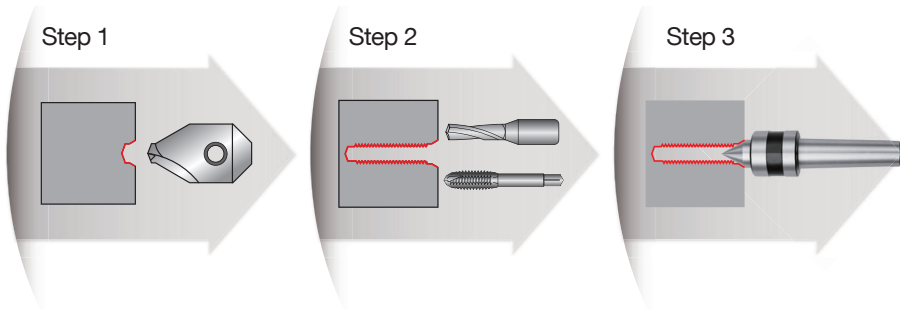
Efficiency
400~600% up



Durability
400~600% up

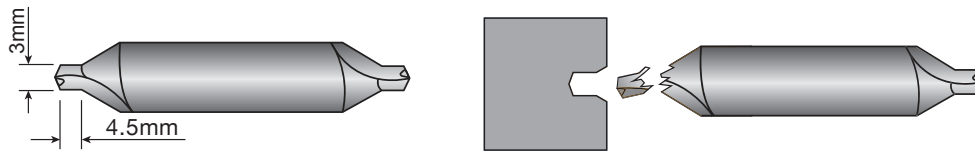


No broken



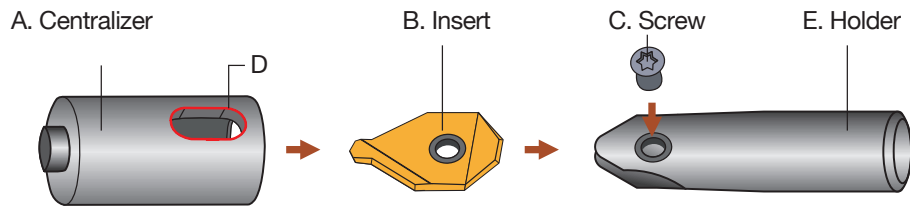
Traditional

Standard center drill: The long pilot length causes pilot broken often and poor tool life in high feed machining.



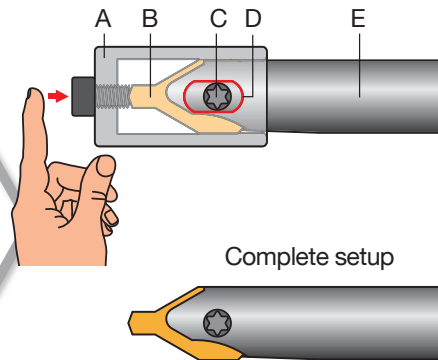
CENTRALIZER-Quick Operation Guide

Apply the centralizer while replacing inserts at the machine



Mounting Steps

- Step 1.** Dismount the worn inserts and put a new one instead into the cavity.
- Step 2.** Put on the centralizer.
- Step 3.** Turn the shank holder, align the screw hole with the opening.
- Step 4.** Slide up the centralizer to push the insert against on the bottom.
- Step 5.** Tighten up the screw.
- Step 6.** Remove the centralizer, carry tool changing and calibrating off in a minute.

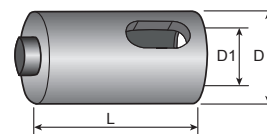


Center Drill

Devices to centralize the inserts



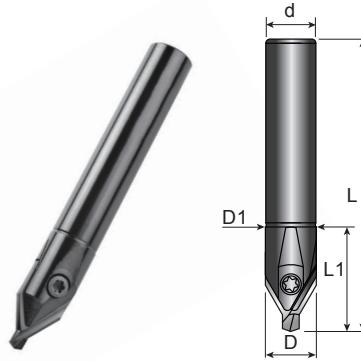
Video



Order Code	D	D1	L
GA-0814	14	8.2	25
GA-1016	16	10.2	30
GA-1218	18	12.2	33
GA-1622	22	16.2	38

Center Drill Toolholders (Milling And Turning)

- Inserts P. 219 - 222
- Cutting Data P. 223
- Centralizer P. 217

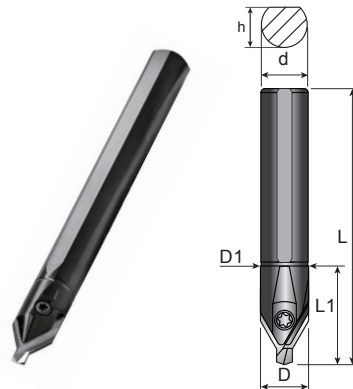


TU 1

Order Code	Dimensions (mm)					KG	Inserts A/B/C/ D/E24	Screw	Key
	D	D1	d	L	L1				
TU1-0808-60	8.2	8.2	8	60	20	0.08	0802	C02506	T08P
TU1-0808-80				80		0.09			
TU1-1010-65	10.2	10.2	10	65	25	0.09	1002	C03009	T09P
TU1-1212-65	12.2	12.2	12	65	30	0.11	1203	C03010	
TU1-1616-70	16.2	16.2	16	70	35	0.17	1603	C03512	T10P

Center Drill Toolholders (Turning)

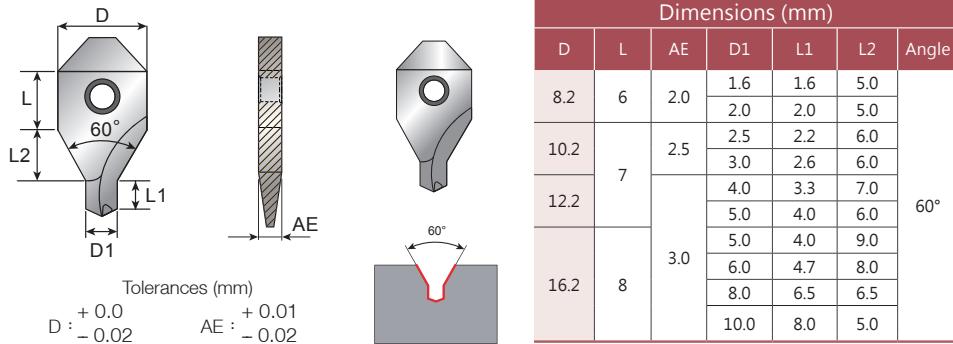
- Inserts P. 219 - 221
- Cutting Data P. 223
- Centralizer P. 217



TU

Order Code	Dimensions (mm)						KG	Inserts A/B/ C/D24	Screw	Key
	D	D1	d	L	L1	h				
TU-0808-85	8.2	8.2	8	85	20	7.5	0.08	0802	C02506	T08P
TU-1010-100	10.2	10.2	10	100	25	9.3	0.11	1002	C03009	T09P
TU-1212-110	12.2	12.2	12	110	30	11.5	0.15	1203	C03010	
TU-1616-130	16.2	16.2	16	130	35	15.5	0.26	1603	C03512	T10P

A24 Inserts

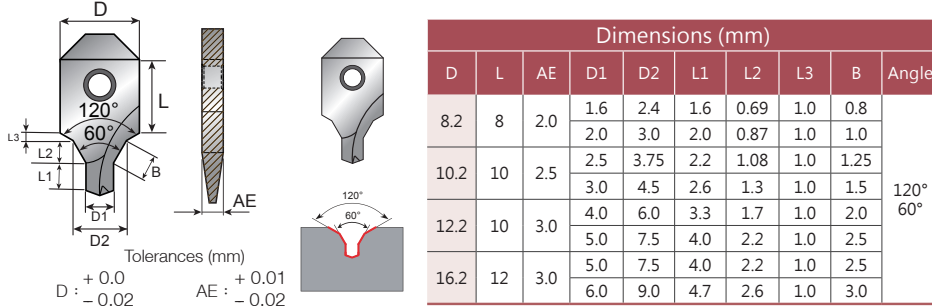


Inserts	Order Code	Grades												
		Carbide					Cermet			Uncoated				
		C125	B350	C350	F20	F30	CE25	CE100	CE60	K10	CE			
	A24-080216-60-E													 Inserts 6 PCS / Box Only for insert: A24-16***
	A24-080220-60-E													
	A24-100225-60-E													
	A24-100230-60-E													
	A24-120340-60-E													
	A24-120350-60-E													
	A24-160350-60-E													
	A24-160360-60-E													
	A24-080216-60-ME		⊗											 Inserts 10 PCS / Box
	A24-080220-60-ME		⊗											
	A24-100225-60-ME		⊗											
	A24-100230-60-ME		⊗											
	A24-120340-60-ME		⊗											
	A24-120350-60-ME		⊗											
	A24-160350-60-ME		⊗											
	A24-160360-60-ME		⊗											
	A24-160380-60-ME		⊗											
	A24-1603100-60-ME		⊗											

- Steel Stainless Steel Steel/Stainless Steel /Super alloy Cast Iron Aluminum Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: A24-080216-60-E,K10

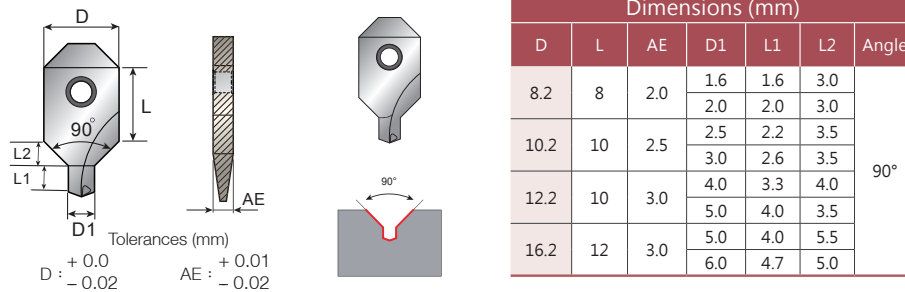
Center Drill

B24 Inserts



Inserts	Order Code	Grades											
		Carbide					Cermet			Uncoated			
		C125	B350	C350	F20	F30	CE25	CE100	CE60	K10	CE		
	B24-080216-120-ME		⊗										 Inserts 6 PCS / Box Only for insert: B24-16***
	B24-080220-120-ME		⊗										
	B24-100225-120-ME		⊗										
	B24-100230-120-ME		⊗										
	B24-120340-120-ME		⊗										
	B24-120350-120-ME		⊗										
	B24-160350-120-ME		⊗										
B24-160360-120-ME		⊗										 Inserts 10 PCS / Box	

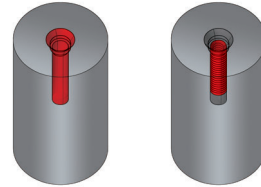
C24 Inserts



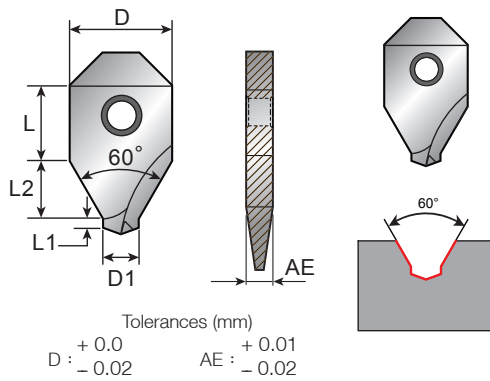
Inserts	Order Code	Grades											
		Carbide					Cermet			Uncoated			
		C125	B350	C350	F20	F30	CE25	CE100	CE60	K10	CE		
	C24-080216-90-ME		⊗										 Inserts 6 PCS / Box Only for insert: C24-16***
	C24-080220-90-ME		⊗										
	C24-100225-90-ME		⊗										
	C24-100230-90-ME		⊗										
	C24-120340-90-ME		⊗										
	C24-120350-90-ME		⊗										
	C24-160350-90-ME		⊗										
C24-160360-90-ME		⊗										 Inserts 10 PCS / Box	

- Steel Stainless Steel Steel/Stainless Steel /Super alloy Cast Iron Aluminum Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: C24-080216-90-ME,B350

D24 Inserts





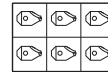
Center drill specially for pre-drilling and pre-tapping



Dimensions (mm)						
D	L	AE	D1	L1	L2	Angle
8.2	6	2.0	1.7	0.6	5.5	60°
			2.2	0.6	5.0	
10.2	7	2.5	2.7	0.6	6.0	
			3.2	0.7	6.0	
			3.7	0.7	5.5	
12.2	7	3.0	4.3	0.8	6.5	
			5.3	1.0	5.5	
16.2	8	3.0	5.3	1.0	9.0	
			6.3	1.1	8.0	

Center Drill

Inserts	Order Code	Grades												
		Carbide					Cermet			Uncoated				
		C125	B350	C350	F20	F30	CE25	CE100	CE60	K10	CE			
	D24-080217-60-ME		⊗											
	D24-080222-60-ME		⊗											
	D24-100227-60-ME		⊗											
	D24-100232-60-ME		⊗											
	D24-100237-60-ME		⊗											
	D24-120343-60-ME		⊗											
	D24-120353-60-ME		⊗											
	D24-160353-60-ME		⊗											
	D24-160363-60-ME		⊗											

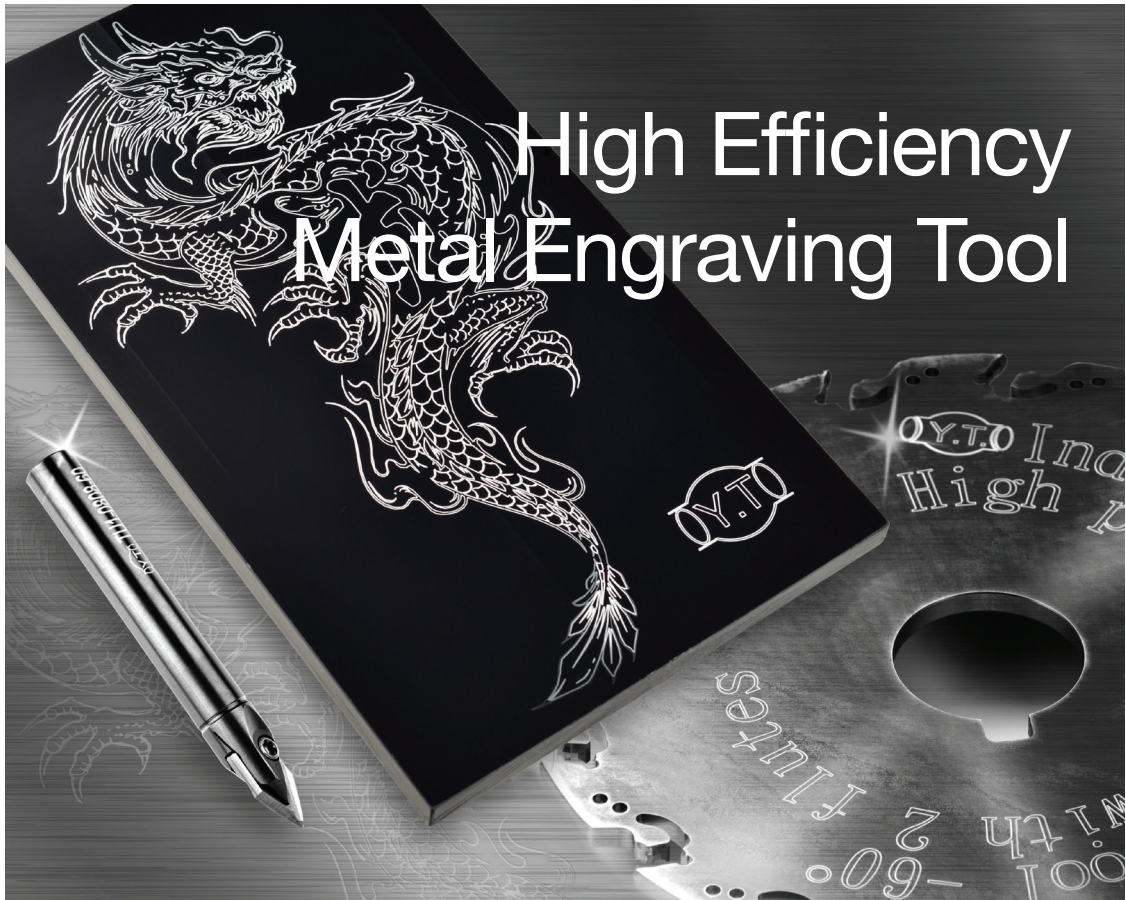


Inserts 6 PCS / Box
 Only for insert: D24-16**



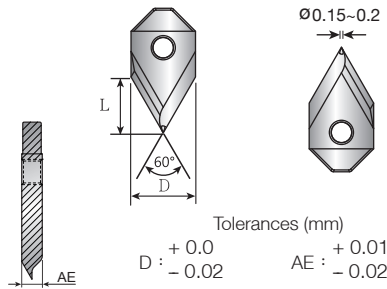
Inserts 10 PCS / Box

- Steel Stainless Steel Steel/Stainless Steel /Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: D24-080217-60-ME,B350



E24 Inserts

- Toolholder P. 218
- Centralizer P. 217
(Centralizer is necessary)



Dimensions (mm)			
D	L	AE	Angle
8.2	4	2.0	60°

Inserts	Order Code	Grades								Toolholder	Centralizer
		Carbide					Cermet		Uncoated		
		C125	B100	C350	F20	F30	CE100	CE60	K10		
	E24-0802-60-E		★							TU1-0808	GA-0814

- ★ All Materials
- Recommend cutting data : Vc:100m/min (Aluminum Vc:500m/min)
Fz:0.01-0.03mm/teeth.

Recommended Cutting Data And Insert Grade

- Center Drill recommended cutting speed, Vc (m/min), fz (mm/ tooth).
The effective no. of teeth is calculated with 1 flute.

Material group	 Cutting Speed Vc(m/min)	CNC lathe M/C Vc(m/min)	fz(mm/ tooth)		Grades	
			D1:1.5~2.5mm	D1:3~10mm	ME	E
1-2	15-20	50-120	0.03 0.06	0.05 0.10	B350	-
3	12-18		0.03 0.06	0.05 0.10	B350	-
4-5-6	10-15		0.03 0.06	0.05 0.10	B350	-
7	5-10	22-30	0.03 0.06	0.05 0.08	B350	-
8-9	8-12		0.03 0.06	0.05 0.09	B350	-
10-11	5-10		0.03 0.06	0.03 0.08	B350	-
12-13	20-25	60-80	0.05 0.08	0.06 0.13	B350	-
14-15	15-20		0.05 0.08	0.06 0.13	B350	-
16-18	30-50	300-800	0.05 0.08	0.06 0.13	-	K10

Center Drill

Surface Finishing Test Result

Holder	TU-1010-100	Mitutoyo	SURFTEST SJ-410
Insert	24-100225-60-ME, B100	日期	2017/07/05
S	1600 min ⁻¹	時間	09:20:32
f	0.05 mm/rev	Ra	0.360 μm
Material	ScM440	Rmax	2.056 μm
		Mitutoyo	SURFTEST SJ-410
		日期	2017/07/05
		時間	09:20:32
		Ra	14.16 μin
		Rmax	80.94 μin

TRY ME BOX



1 shank + 2 inserts +
1 Centralizer gauge

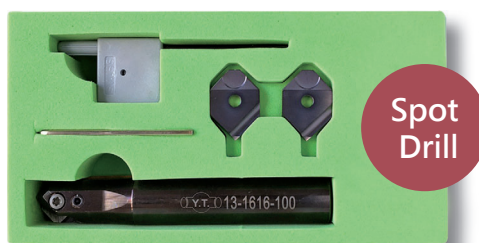
Available sizes in A24 inserts :
1.6/2.0/2.5/3.0/4.0/5.0/6.0

Order Code	Description	Type	Quantity
CD081620B350	TU1-0808-60	Shank: 8mm-60L	1
	A24-080216-60-ME,B350	Insert: 1,6mm for P M K S H	1
	A24-080220-60-ME,B350	Insert: 2,0mm for P M K S H	1
	GA-0814	Centralizer	1
CD102530B350	TU1-1010-65	Shank: 10mm-65L	1
	A24-100225-60-ME,B350	Insert: 2,5mm for P M K S H	1
	A24-100230-60-ME,B350	Insert: 3,0mm for P M K S H	1
	GA-1016	Centralizer	1
CD124050B350	TU1-1212-65	Shank: 12mm-65L	1
	A24-120340-60-ME,B350	Insert: 4,0mm for P M K S H	1
	A24-120350-60-ME,B350	Insert: 5,0mm for P M K S H	1
	GA-1218	Centralizer	1
CD165060B350	TU1-1616-70	Shank: 16mm-70L	1
	A24-160350-60-ME,B350	Insert: 5,0mm for P M K S H	1
	A24-160360-60-ME,B350	Insert: 6,0mm for P M K S H	1
	GA-1622	Centralizer	1



Convenient Durable Efficiency

1 shank + 2 inserts
 Available sizes in inserts 23 and A23 :
 08/10/12/16mm
 90° / 90° +142°



Order Code	Description	Type	Quantity
SD0823A23B350	13-0808-60	Shank: 8mm-60L	1
	23-0802-90-ME,B350	Insert: 90° for P M S H	1
	A23-0802-M4-ME,B350	Insert: 90° +142° for P M S H	1
SD1023A23B350	13-1010-65	Shank: 10mm-65L	1
	23-1002-90-ME,B350	Insert: 90° for P M S H	1
	A23-1002-M5-ME,B350	Insert: 90° +142° for P M S H	1
SD1223A23B350	13-1212-80	Shank: 12mm-80L	1
	23-1203-90-ME,B350	Insert: 90° for P M S H	1
	A23-1203-M6-ME,B350	Insert: 90° +142° for P M S H	1
SD1623A23B350	13-1616-100	Shank: 16mm-100L	1
	23-1603-90-ME,B350	Insert: 90° for P M S H	1
	A23-1603-M8-ME,B350	Insert: 90° +142° for P M S H	1