

YE-IH13

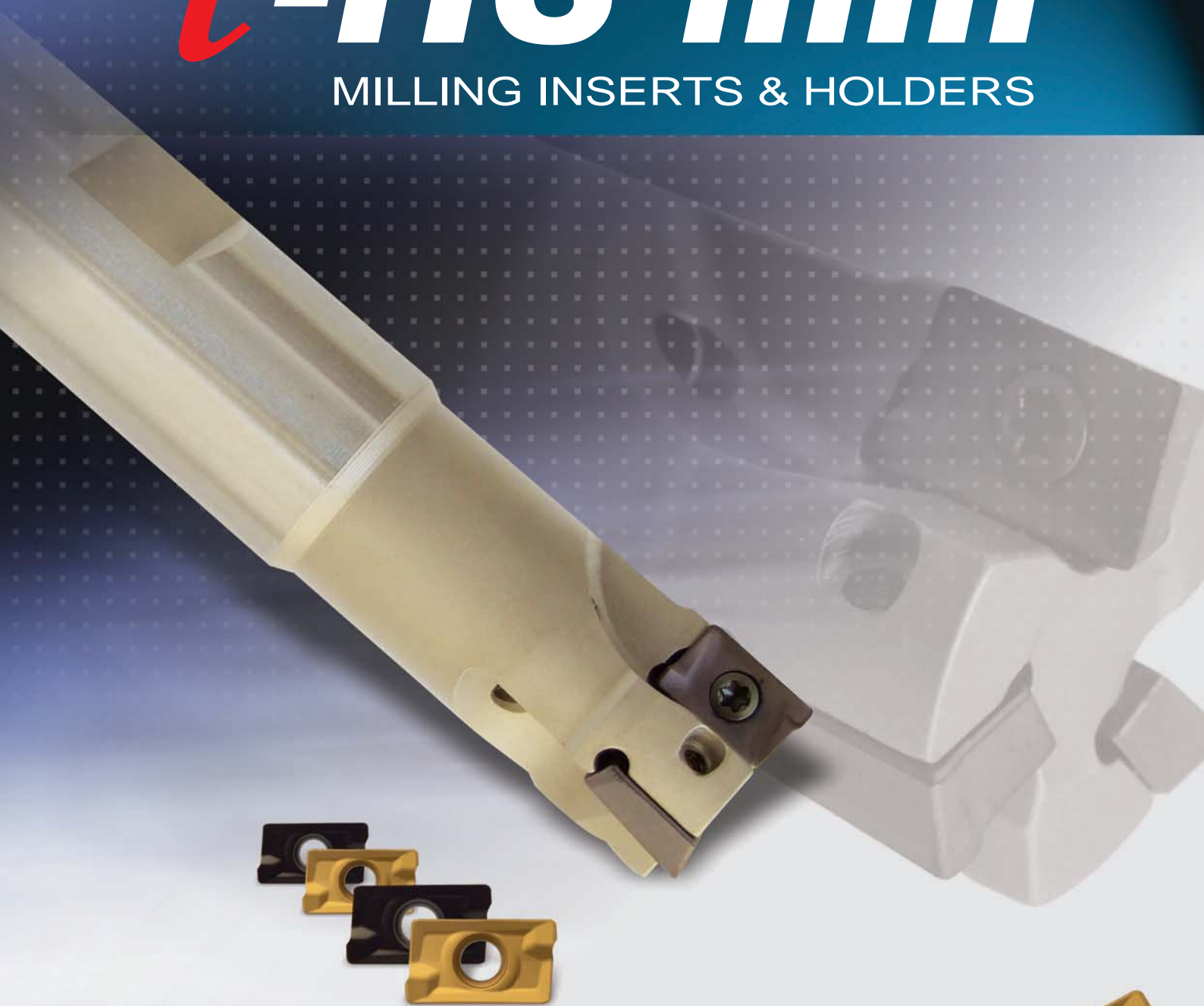


Registered  
ISO 9001:2008 / ISO 14001:2004



# *i*-HS mill

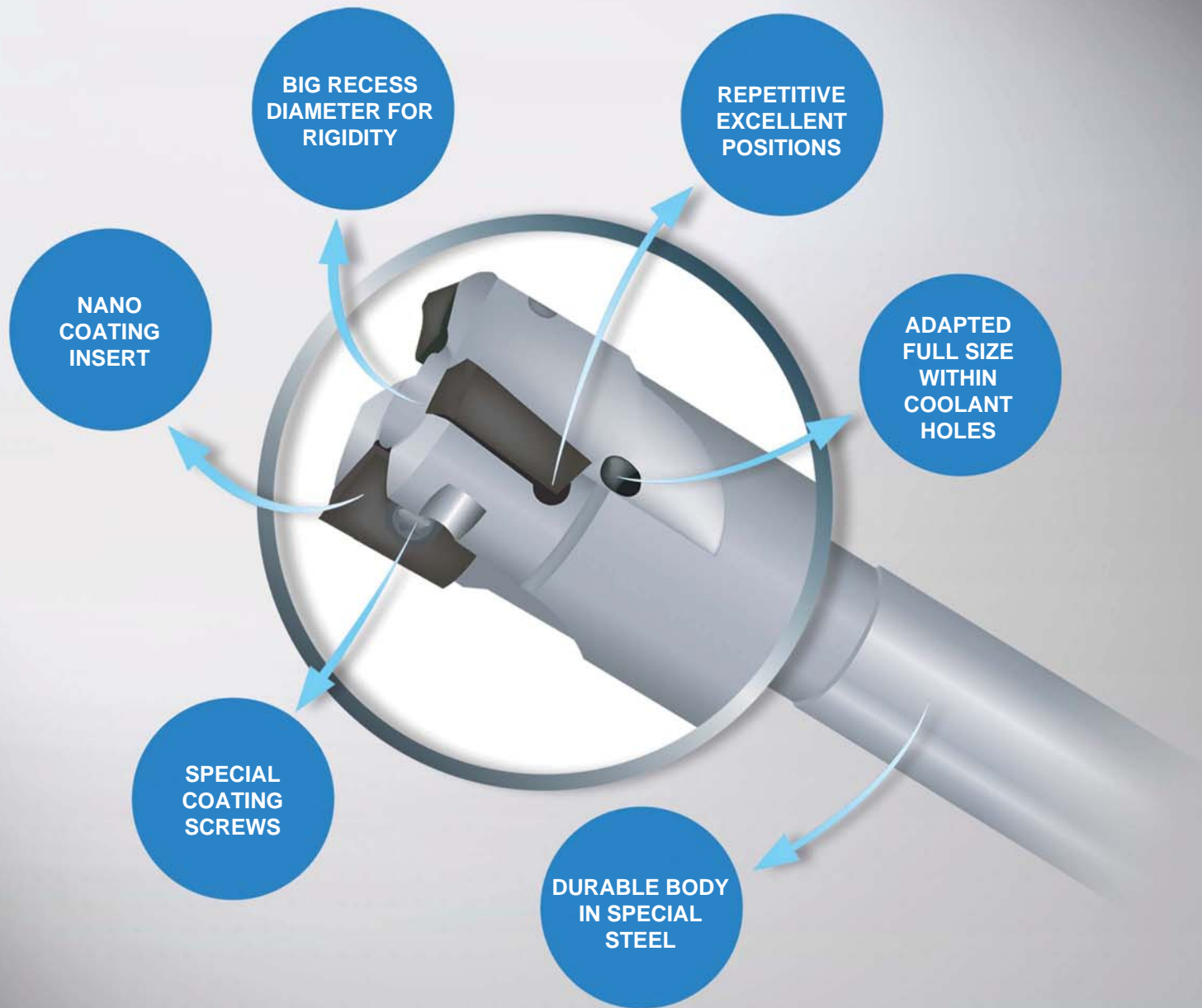
MILLING INSERTS & HOLDERS



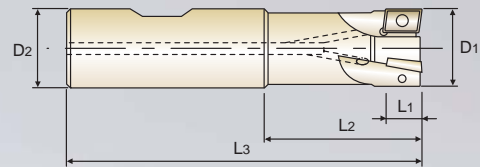
 YG-1 CO., LTD.



## Features of *i*-HS mill

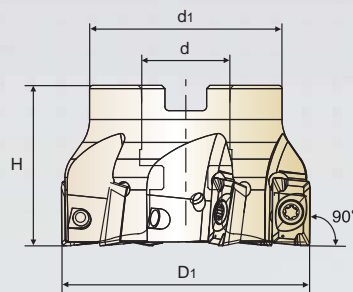


## i-HS mill HOLDER



Unit : mm

Cat. No.	Holder						Shank	Insert Type	Torx Screw No.	Torx Wrench No.
	D1	D2	L1	L2	L3	Z				
ZHS16085AP10F2E	16	16	10	37	85	2	Flat	APKT103504PDER	TXME30T08	TWWT08
ZHS20090AP10F3E	20	20	10	40	90	3				
ZHS16085AP10P2E	16	16	10	37	85	2	Plain			
ZHS16100AP10P2E	16	16	10	37	100	2				
ZHS16150AP10P2E	16	16	10	37	150	2				
ZHS16170AP10P2E	16	16	10	37	170	2				
ZHS20090AP10P3E	20	20	10	40	90	3				
ZHS20150AP10P3E	20	20	10	40	150	3				
ZHS20170AP10P3E	20	20	10	40	170	3	Flat			
ZHS25100AP16F2B	25	20	16	40	100	2				
ZHS25100AP16F2E	25	25	16	40	100	2				
ZHS25200AP16F2E	25	25	16	50	200	2				
ZHS32110AP16F3B	32	25	16	50	110	3				
ZHS32110AP16F3E	32	32	16	50	110	3				
ZHS25100AP16P2B	25	20	16	40	100	2		Plain		
ZHS25150AP16P2B	25	20	16	40	150	2				
ZHS25100AP16P2E	25	25	16	40	100	2				
ZHS25170AP16P2E	25	25	16	50	170	2				
ZHS25200AP16P2E	25	25	16	50	200	2				
ZHS26210AP16P2B	26	25	16	40	210	2				
ZHS32110AP16P3B	32	25	16	50	110	3				
ZHS32150AP16P3B	32	25	16	40	150	3				
ZHS32110AP16P3E	32	32	16	50	110	3				
ZHS32160AP16P3E	32	32	16	50	160	3				
ZHS32180AP16P3E	32	32	16	50	180	3				

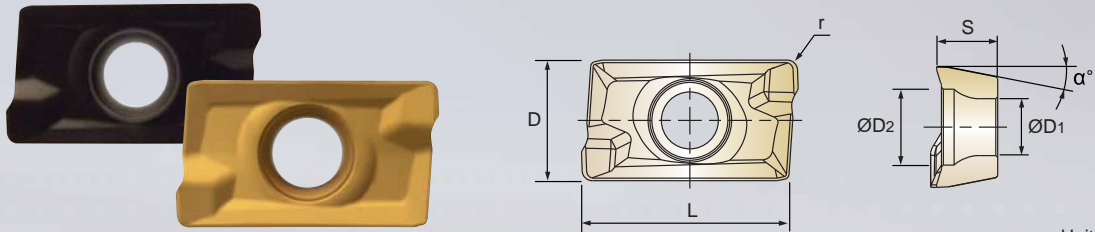


Unit : mm

Cat. No.	Holder					Insert Type	Torx Screw No.	Torx Wrench No.
	D1	d	H	d1	Z			
CHS040AP10	40	16	40	34	4	APKT103504PDER	TXME30T08	TWWT08
CHS050AP10	50	22	40	42	7			
CHS063AP16	63	22	40	48	6			
CHS080AP16	80	27	50	57	7	APKT160408PDER	TXME40T15	TWWT15

## i-HS mill INSERT

- ▶ YG-1 PVD coating series achieves the optimal performance on the indexable holder due to high quality, nano technology and multilayer.
- ▶ YG-1 coating series enables to use in high speed and high efficient cutting due to excellent wear resistance and heat resistance.
- ▶ The layer residual stress is controlled to minimum by low temperature coating, and so the coating provides high edge reliability at any condition.
- ▶ YG-1 coating increases hardness and high temperature corrosion resistance compared to conventional coating.



Unit : mm

Cat. No.	Grade	ISO Classification					D	L	S	r	ØD1	ØD2	α°
		P	M	K	S	N							
APKT103504PDER-HAM	YA702	○	○				6.7	10.5	3.5	0.4	2.8	3.9	11
APKT113504PDER-HAM		○	○				6.2	10.8	3.5	0.4	2.8	3.8	
APKT113508PDER-HAM		○	○				6.2	10.8	3.5	0.8	2.8	3.8	
APKT160408PDER-HAM		○	○				9.5	16.3	5.3	0.8	4.5	6.0	
APKT103504PDER-HAM	YA102			○			6.7	10.5	3.5	0.4	2.8	3.9	
APKT103504PDER-HAM	YA503			○			6.7	10.5	3.5	0.4	2.8	3.9	
APKT160408PDER-HAM	YA102			○			9.5	16.3	5.3	0.8	4.5	6.0	
APKT160408PDER-HAM	YA503			○			9.5	16.3	5.3	0.8	4.5	6.0	
APKT103504PDER-HAM	YA703	○	○				6.7	10.5	3.5	0.4	2.8	3.9	
APKT160408PDER-HAM	YA703	○	○				9.5	16.3	5.3	0.8	4.5	6.0	

## SET PROMOTION

SET No.	Holder		Shank	Insert	
	Cat. No.			Cat. No.	
ISET0009	ZHS16085AP10F2E		Flat	APKT103504PDER-HAM	YA702
ISET0010	ZHS20090AP10F3E			APKT160408PDER-HAM	YA702
ISET0011	ZHS25100AP16F2B				
ISET0012	ZHS32110AP16F3B				
ISET0013	ZHS16085AP10P2E		Plain	APKT103504PDER-HAM	YA702
ISET0014	ZHS20090AP10P3E				
ISET0015	ZHS25100AP16P2B			APKT160408PDER-HAM	YA702
ISET0016	ZHS32110AP16P3B				

▶ Contents : Milling Insert 20pcs + Holder(including Screws) 1pc + Wrench 1pc

## i-HS mill CUTTING CONDITIONS

WORK MATERIAL		Vc(m/min.)		fz(mm/tooth)	
		min.	max.	min.	max.
P	Non Alloyed Steel	150	260	0.18	0.32
	Low Alloyed Steel	80	220	0.15	0.25
	High Alloyed Steel	90	180	0.12	0.22
M	Stainless Steel	60	200	0.15	0.25
K	Cast Iron	80	250	0.10	0.30
	Ductile Cast Iron	80	200	0.10	0.30

▶ Main Application for Steel(P) and Stainless Steel(M) and Cast Iron(K)

## Grade Range Map For Milling

	High Speed	Finishing to Light		Medium	Rough to Heavy	
	-	01	10	20	30	40
<b>P</b> Steel				YA702	YA703	
<b>M</b> Stainless Steel			YA702	YA703		
<b>K</b> Cast Iron			YA102			
<b>K</b> Ductile Cast Iron					YA503	

## Recommended Cutting Conditions by Work Material

		P				M		K			
		Low Alloy		High Alloy		Stainless Steel		Cast Iron		Ductile Cast Iron	
		Vc(m/min)	fz(mm/t)	Vc(m/min)	fz(mm/t)	Vc(m/min)	fz(mm/t)	Vc(m/min)	fz(mm/t)	Vc(m/min)	fz(mm/t)
Coated	YA702	80~250	0.1~0.35	50~220	0.07~0.3	70~230	0.1~0.3				
	YA703	80~200	0.1~0.35			50~250	0.1~0.3				
	YA102							150~250	0.1~0.3	80~200	0.1~0.3
	YA503							80~200	0.1~0.35	70~220	0.15~0.4

## TEST Result

YG-1 (Wear : 0.113mm)



Competitor (Wear : 0.230mm)



### CUTTING CONDITION

#### Tools

YG1 : APKT103504PDER YA702  
ZHS20090AP10F3E

Competitor : 2Corner Insert  
Ø20 Indexable Endmill

Workpiece : Alloy Tool steel  
(X40CrMoV5-1-HRC 50)

Vc : 80 m/min

fz : 0.18 mm/tooth

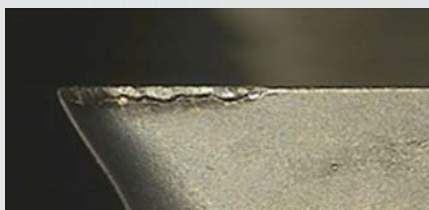
Depth : ap=1mm, ae=10mm

Coolant : Oil Mist

YG-1 (Wear : 0.090mm)



Competitor (Wear : 0.159mm)



### CUTTING CONDITION

#### Tools

YG1 : APKT103504PDER YA702  
ZHS20090AP10F3E

Competitor : 2Corner Insert  
Ø20 Indexable Endmill

Workpiece : High Grade Alloy mold steel  
(KP4-HRC 30)

Vc : 140 m/min

fz : 0.15 mm/tooth

Depth : ap=1mm, ae=8mm

Coolant : Wet



# *i*-HS mill

** YG-1 CO., LTD.**

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Tool specifications are subject to change without notice.