

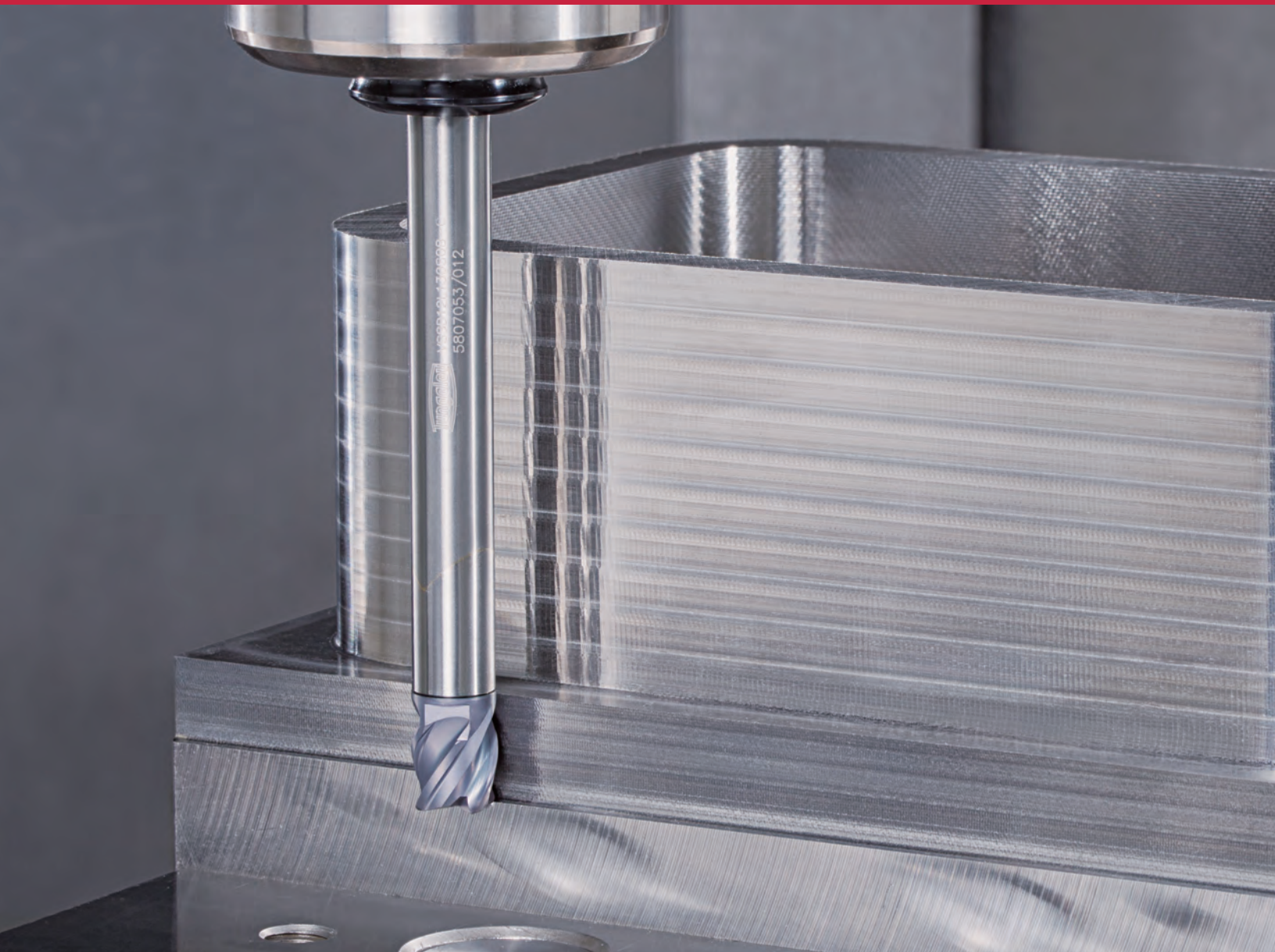
MillLine

TUNGMEISTER

www.tungaloy.com/us
Tungaloy Report No. 381S1-US



New Grade AH715 for longer tool life



INDUSTRY 4.0
FEED the SPEED!



Tunggaloy

VTSD16L140S
6800342/190

ACCELERATED MACHINING

MillLine

TUNGMEISTER
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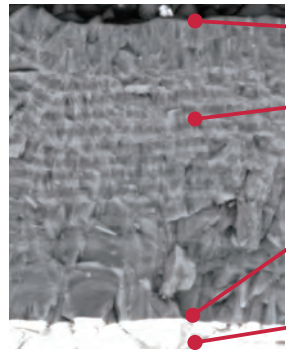
**The most effective tooling solution with the
option of hundreds of tools!**

Tool changeover times can be measurably reduced!

The new grade provides longer tool life thanks to the latest coating layer

New AH715

- Unique nano-multilayered coating is made possible with Tungaloy's latest coating technology, providing 3 principal features



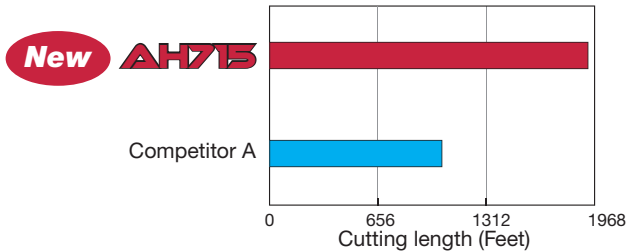
Feature 1: Resistance to built up-edge
Coating layer to resist built up-edge

Feature 2: Resistance to wear, oxidation, and fracture
2 coating layers for wear and oxidation resistance Layered alternatively to prevent crack from propagating to fracture

Feature 3: Strong coating-substrate adhesion
Coating is provided with strong adhesion between the coating layer and carbide substrate to prevent coating delamination

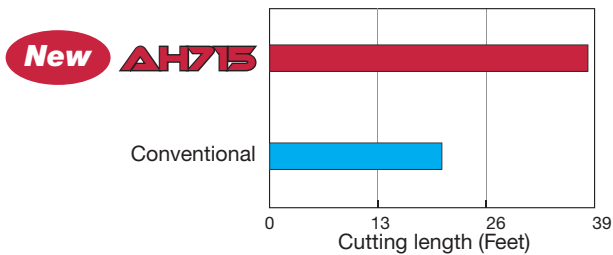
Substrate
Carbide substrate features wear and fracture resistance

Tool life comparison in steel milling
AH715 provides longer tool life than existing grade



P
Steel

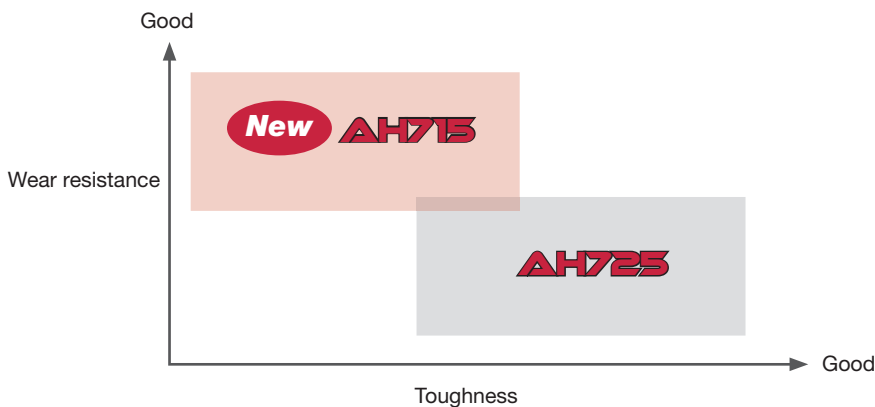
Shank : VSSD16L100S10-S
Head : VED160L12.0R05-04S10
Workpiece material : 1055
Cutting speed : Vc = 492 sfm
Feed per tooth : fz = 0.005 ipt
Depth of cut : ap = 0.197"
Width of cut : ae = 0.059"
Machine : V M/C, BT40



H
Hard material

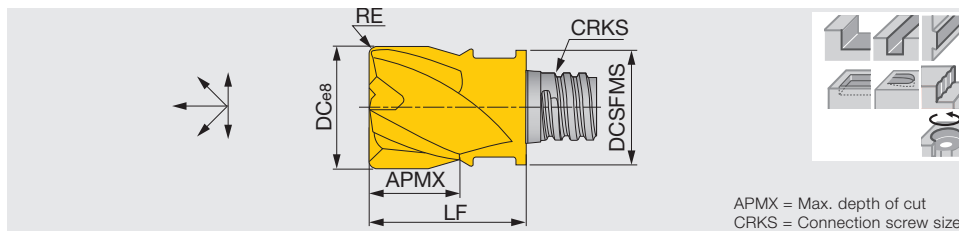
Shank : VSSD16L100S10-S
Head : VED160L12.0R05-04S10
Workpiece material : H-13 (HRC58)
Cutting speed : Vc = 197 sfm
Feed per tooth : fz = 0.002 ipt
Depth of cut : ap = 0.197"
Width of cut : ae = 0.020"
Machine : V M/C, BT40

APPLICATION RANGE



VEE**-04..., VED**-04...

TungMeister square head with 4 flutes for general purposes



APMX = Max. depth of cut
CRKS = Connection screw size

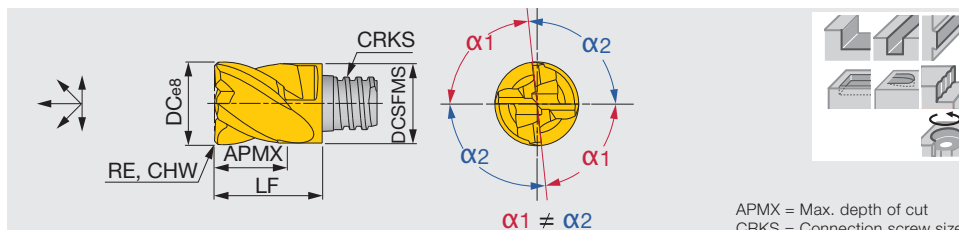
Metric	AH715	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wrench	Torque*
VEE160L12.0R00-04S10	●	●	4	45°	16	15.3	12	-	S10	20.5	KEYV-S10	28
VED160L12.0R05-04S10	●	●	4	30°	16	15.3	12	0.5	S10	20.5	KEYV-S10	28

*Torque: Recommended torque (N-m) for clamping.
Package quantity = 2 pcs.

●: Line up
●: New

VEE**I...

TungMeister square head with irregular pitch flute for chatter free cutting



APMX = Max. depth of cut
CRKS = Connection screw size

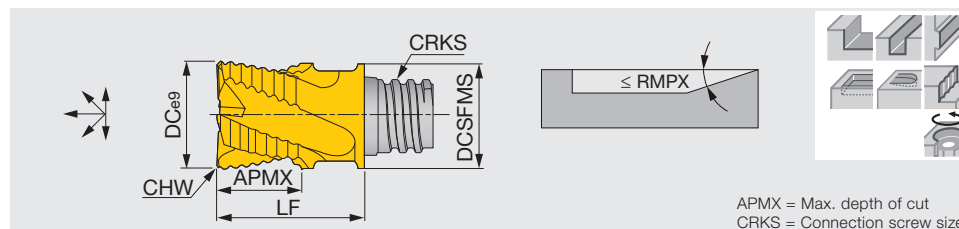
Metric	AH715	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CHW	CRKS	LF	Wrench	Torque*
VEE160L12.0C60I04S10	●	●	4	38°	16	15.3	12	-	0.6	S10	20.5	KEYV-S10	28

*Torque: Recommended torque (N-m) for clamping.
Package quantity = 2 pcs.

●: Line up
●: New

VEE**R...

TungMeister square head with serrated edges for roughing



APMX = Max. depth of cut
CRKS = Connection screw size

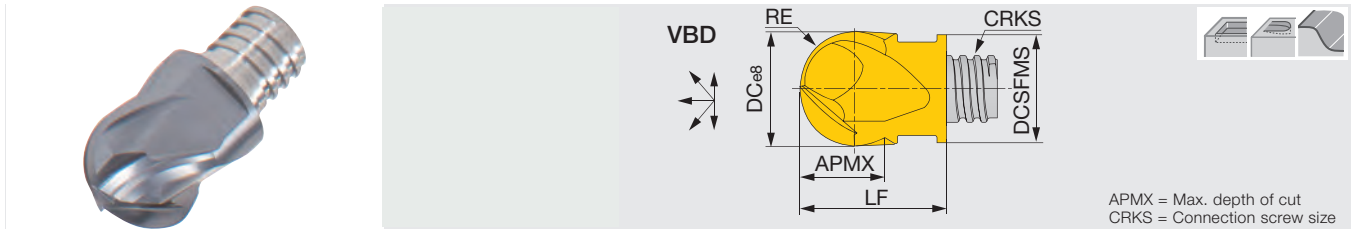
Metric	AH715	AH725	NOF	FHA	DC	DCSFMS	APMX	CHW	CRKS	LF	RMPX	Wrench	Torque*
VEE160L12.0C40R05S10	●	●	5	45°	16	15.3	12	0.4	S10	20.5	7°	KEYV-S10	28

*Torque: Recommended torque (N-m) for clamping.
Package quantity = 2 pcs.

●: Line up
●: New

VBD** -BG...

TungMeister ball nose head with 4 flutes and helical ground edge for finishing



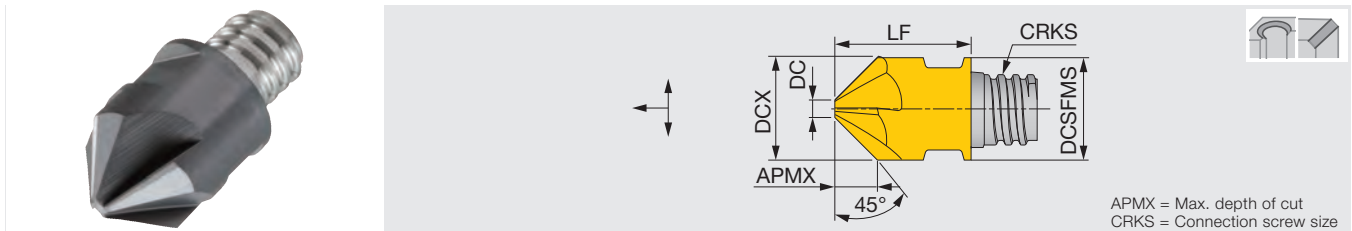
Metric	New	AH715	AH725	NOF	FHA	DC	DCSFMS	APMX	RE	CRKS	LF	Wrench	Torque*
VBD160L12.0-BG-04S10	●	●		4	30°	16	15.3	12	7.978	S10	20.5	KEYV-S10	28

• The tolerance of R : ± 0.012
 *Torque: Recommended torque (N-m) for clamping.
 Package quantity = 2 pcs.

●: Line up
 ●: New

VCA** -06...

TungMeister head with 4 or 6 flutes for countersinking and chamfering

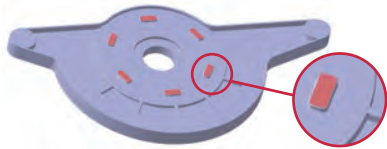

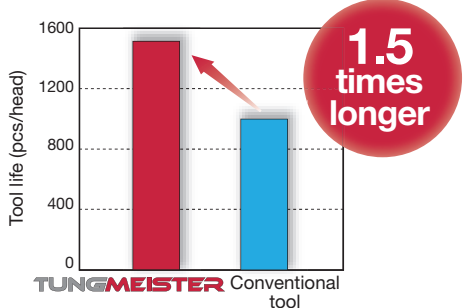
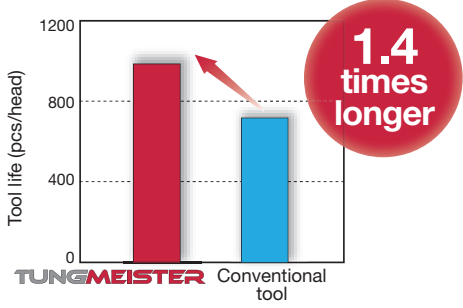


Metric	New	AH715	AH725	NOF	FHA	DCX	DCSFMS	APMX	DC	CRKS	LF	Wrench	Torque*
VCA160L06.5A45-06S10	●	●		6	0°	16	16	6.5	3	S10	20.3	KEYV-S10	28

**Torque: Recommended torque (N-m) for clamping.
 Package quantity = 2 pcs.

●: Line up
 ●: New

PRACTICAL EXAMPLES

Workpiece type		Cover	Bolt sheet
Shank		VSSD16L100S10-S (Steel, $\phi 16$)	VSSD16L100S10-S (Steel, $\phi 16$)
Head		VED160L12.0R05-04S10 ($\phi 16$)	VED160L12.0C60I04S10 ($\phi 16$)
Grade		AH715	AH715
		Class 25	60-40-18
Workpiece material			
Cutting conditions	Cutting speed :Vc (sfm)	820	197
	Feed per tooth :fz (ipt)	0.005	0.003
	Depth of cut :ap (in)	0.039	0.079
	Width of cut :ae (in)	0.394	0.630
	Coolant	Dry	Wet
Results		 <p>1.5 times longer</p> <p>TUNGMEISTER Conventional tool</p> <p>AH715's latest coating technology improved wear and chipping resistance. The result was 1.5 times longer and with more stable tool life than the conventional tool.</p>	 <p>1.4 times longer</p> <p>TUNGMEISTER Conventional tool</p> <p>AH715's latest coating technology improved wear resistance. The result was 1.4 times longer than the conventional tool with good surface finish.</p>

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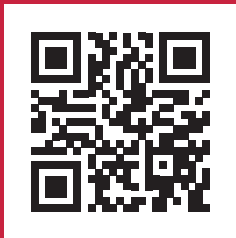
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