

CBN insert

HARDBREAKER HP

Tungaloy Report No. 518S3-US

Economical **MiniForce-Turn** 6-cornered **CBN** inserts now available with HP chipbreaker





For more information

HP chipbreaker with WavyJoint brazing technology provides predictable tool life and excellent chip control

UNIQUE 6QS-WXGU22**R/L-HP (6QS-WXGU0403**R/L-HP) INSERTS

Double-sided positive geometry (with HP chipbreaker)

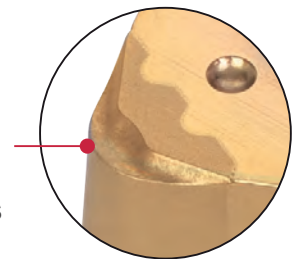


BXA10



BXA20

Optimized cutting edge design for low cutting forces



EXCELLENT CHIP CONTROL

HP chipbreaker provides excellent chip control in finish machining of hardened steel parts while eliminating chip packing during continuous cuts of I.D. turning operations.

HARDBREAKER HP

Competitor's ISO insert (w/o chipbreaker)



- H** Insert : 6QS-WXGU221L-HP BXA10
 Toolholder : A10-SWLXR2-D14
 Workpiece material : 4140 (60HRC)
 Cutting speed : $V_c = 492$ sfm
 Feed : $f = 0.004$ ipr
 Depth of cut : $a_p = 0.004$ "
 Coolant : Wet
 Application : Continuous cut, I.D. turning

LOW CUTTING FORCES

HP chipbreaker features soft cutting geometry for reduced cutting forces while eliminating chatter during continuous cuts of I.D. turning operations that use long overhang tool setup.



	Tool overhang (in)						
	1.181	1.378	1.575	1.772	1.969	2.165	2.362
HARDBREAKER HP	OK						Chatter
Competitor's ISO insert (w/o chipbreaker)	OK			Chatter			

■ OK
■ Chatter

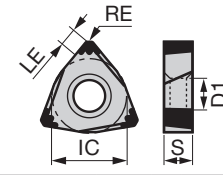
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CBN INSERTS POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

Shape	Designation		BXA10	BXA20	No. of corners	Dimension (in)					Edge prep.					Wiper	Chipbreaker	
	Inch	Metric				LE	RE	IC	S	D1	Standard	SP	L	LF	LC			H
	6QS-WXGQ	6QS-WXGQ 220.5SPR 6QS-WXGQ040302SPR	●	●	6	0.071	0.008	0.250	0.125	0.106	○							
		6QS-WXGQ 220.5SPL 6QS-WXGQ040302SPL	●	●	6	0.071	0.008	0.250	0.125	0.106	○							
		6QS-WXGQ 221SPR 6QS-WXGQ040304SPR	●	●	6	0.071	0.016	0.250	0.125	0.106	○							
		6QS-WXGQ 221SPL 6QS-WXGQ040304SPL	●	●	6	0.071	0.016	0.250	0.125	0.106	○							
		6QS-WXGQ 222SPR 6QS-WXGQ040308SPR	●	●	6	0.067	0.031	0.250	0.125	0.106	○							
		6QS-WXGQ 222SPL 6QS-WXGQ040308SPL	●	●	6	0.067	0.031	0.250	0.125	0.106	○							
	6QS-WXGU**	6QS-WXGU 221R HP 6QS-WXGU040304R-HP	●	●	6	0.071	0.016	0.250	0.125	0.106								○
		6QS-WXGU 221L HP 6QS-WXGU040304L-HP	●	●	6	0.071	0.016	0.250	0.125	0.106								○
		6QS-WXGU 222R HP 6QS-WXGU040308R-HP	●	●	6	0.067	0.031	0.250	0.125	0.106								○
		6QS-WXGU 222L HP 6QS-WXGU040308L-HP	●	●	6	0.067	0.031	0.250	0.125	0.106								○

● : New
● : Line-up



STANDARD CUTTING CONDITIONS

ISO	Grade	Edge preparation	Workpiece condition	Cutting speed Vc (sfm)	Depth of cut ap (in)	Feed f (ipr)
H	BXA10	No symbol	Continuous	328 - 755	0.002 - 0.02	0.001 - 0.012
			Light interrupted	328 - 755	0.002 - 0.02	0.001 - 0.008
		-HP	Continuous	328 - 755	0.002 - 0.008	0.001 - 0.008
	BXA20	No symbol	Continuous	197 - 591	0.002 - 0.02	0.001 - 0.012
			Interrupted	197 - 591	0.002 - 0.02	0.001 - 0.008
		-HP	Continuous	197 - 591	0.002 - 0.008	0.001 - 0.008

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