T-FEED™ HIGH TURN

New HF Chipbreaker
DOUBLES YOUR FEED RATE!

Features
Feed rates from .020 to .118 ipr
Depth of cuts from .020 to .100"
6 cutting edges

Insert Styles
BNMX style, negative inserts
Inserts feature a .590" radius for maximum feed and strength
Right and left-handed available

Grades
TT8115 - Wear resistant steel grade
TT8125 - General purpose steel grade

Holders
1" and 1 ¼" external
Right and left-handed

Ingersoll introduces a new, specialized turning insert for ultra high feed machining up to .118 inches per revolution (3.0mm/rev). The T-Feed insert has been developed to provide exceptionally high feed rates with a surprisingly smooth cutting action at cutting depths up to .100" (2.5mm).

The HF chip breaker's double-sided configuration offers economical advantages compared to other competitor's single sided high feed inserts. Suitable for facing and external turning, this chip breaker allows feed rates up to 2 ½ times that of conventional turning inserts.

The inserts work in conjunction with a unique, hooked lever clamping system that firmly secures the rest pads on the insert surface to the pocket seat. The result is a very rigid system that provides an opportunity for dramatic reductions in cycle time!

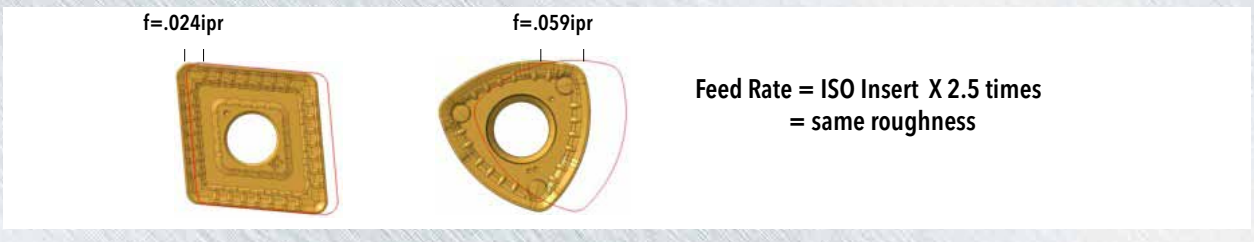
Member IMC Group
Ingersoll Cutting Tools

TOFEED™ HIGH TURN

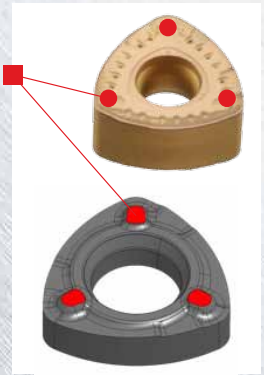
Features:

- *Economy*
  - √ Utilizes double-sided technology with 6 cutting edges!
  - √ Reduces cycle time, increases productivity.
  - √ Double-sided insert offers economical advantages when compared to competitors inserts.

- *Performance*
  - √ Optimized chip breaker geometry designed for high feed machining, up to .118 inches per revolution (3mm/rev).
  - √ Reduced cutting forces and surprisingly smooth cutting action due to a positive, but strong, cutting edge.
  - √ Chip thinning principle reduces depth of cut notching, prolonging tool life.
  - √ Maximum feed rate =.118ipr , Maximum machining depth = .100"

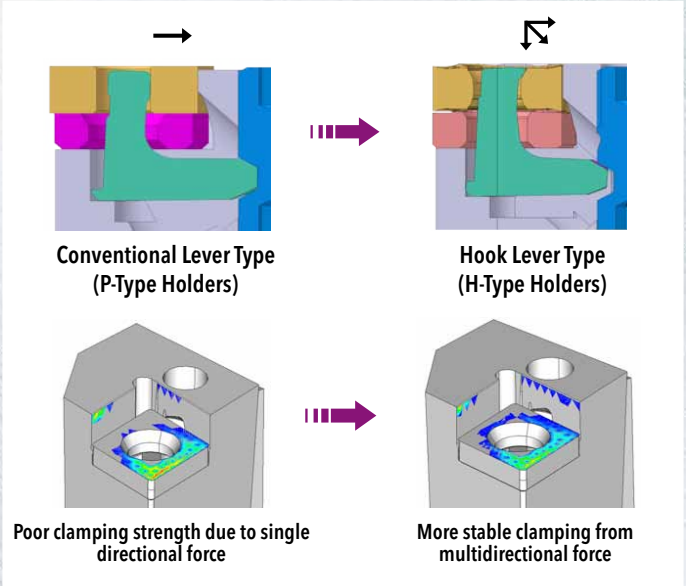


- *Stability & Design*
  - √ Increased clamping stability from unique & patented, 3-dimensional seat design that works in conjunction with rest pads on insert.
  - √ Unique clamping solution developed by Ingersoll is free from chip interruption.
  - √ Maximum clamping stability due to a hooked lever that provides multidirectional clamping force.



Clamping Features:

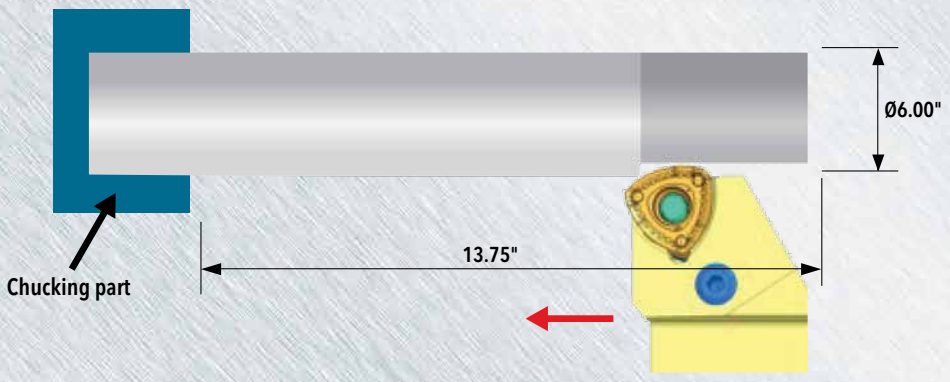
- √ Quick change lever lock system with rigid clamping force.
- √ Increased clamping force due to hooked lever design.



1. TEST RESULTS

Surface Finish

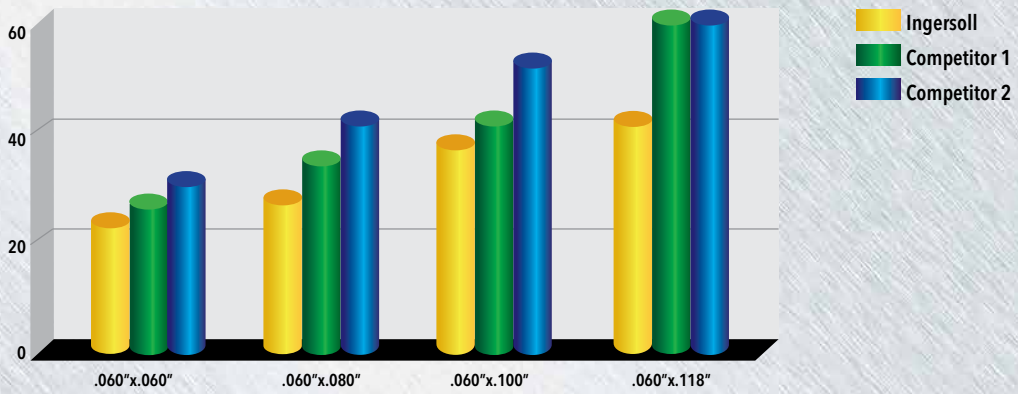
* Cutting condition: Vc=495sfm, DOC(inch) X F(ipr) =.060"x.060" → .060"x.080" → .060"x.100" → .060"x.118"
* Material: 0.45% carbon steel



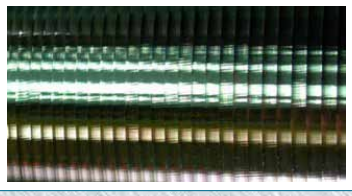
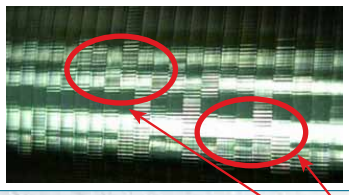
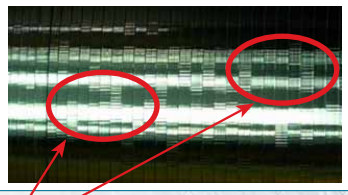
Cutting Force (Load meter) (Ra: µm)

DOC (inch) x F (ipr)	.060"x.060"	.060"x.080"	.060"x.100"	.060"x.118"
Ingersoll	22	27	33	41
Competitor 1	25	33	44	Breakage
Competitor 2	29	41	55	Breakage

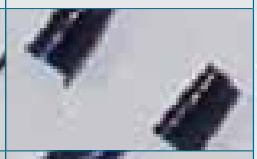
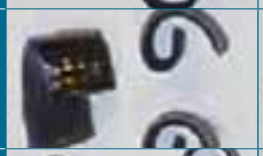
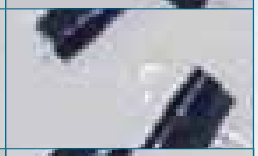
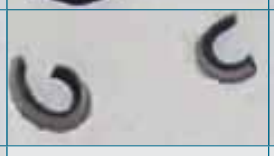
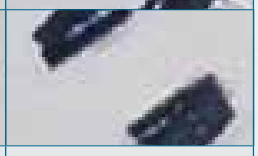
• Under the same machining conditions, T•FEED produced the best surface finish.



2. VIBRATION COMPARISON TEST RESULTS

Ingersoll	Competitor 1	Competitor 2
		

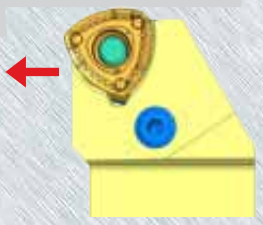
3. CHIP BREAKING COMPARISON TEST RESULTS

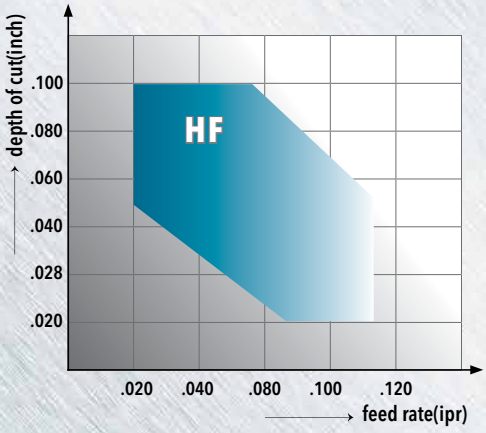
DOC (inch) x F (ipr)	Ingersoll	Competitor 1	Competitor 2
.060"x.060"			
.060"x.080"			
.060"x.100"			
.060"x.118"		Breakage	Breakage

4. CHIP BREAKING RANGE: EXTERNAL TURNING

Feed: 0.020 - .118ipr
Ap: 0.020 - .100"

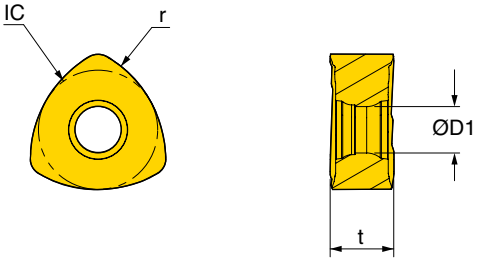
External Turning





- Insert: BNMX 150720 R-HF
- Cutting speed: 495sfm
- Material: 0.45% Carbon Steel

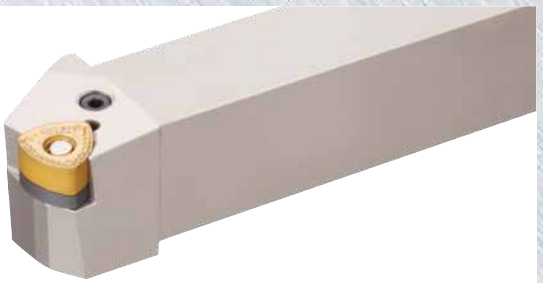
BNMX HF

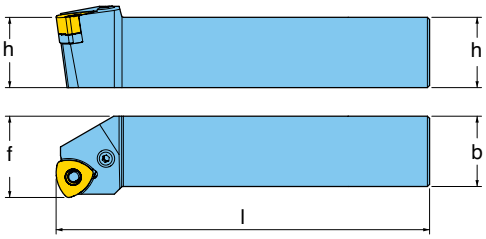


ANSI Number	ISO Number	feed (ipr)	DOC (inch)	Dimensions (inch) IC	t	r	D1	Grade TT8115	TT8125
BNMX 150720R/L HF	BNMX 150720R/L HF	.020 - .118	.020 - .100	.590	.315	.590	.244	●	●

● = P ● = M ● = K ● = N ● = S ○ = H

HBXNR/L





DESIGNATION	Dimensions (inch) h	b	l	f	Insert	Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
HBXNR/L 16-55D	1.00	1.00	6.00	1.15	BNMX 150720R/L-HF	LCL 16-NX	LCS 5-L25.5	LSB 53 R/L	LSP 5	SPP 5-6	L-W3
HBXNR/L 20-55E	1.25	1.25	7.00	1.45	BNMX 150720R/L-HF	LCL 16-NX	LCS 5-L25.5	LSB 53 R/L	LSP 5	SPP 5-6	L-W3

*Note: Right hand insert uses right hand holder.
Left hand insert uses left hand holder.