SFEEDUP HIGH SPEED & FEED

INDUSTRY 4.0 NEW PRODUCT ANNOUNCEMENT 2020

RHINOTURNX™

AHB TOOLING & MACHINERY

TURNING PRODUCTS

COMPLETE METALWORKING SOLUTIONS

(800) 991-4225
ISO Certified

www.ahbinc.com
customerservice@ahbinc.com

Inserts:
XNMG 2.731 (090404) -
.016" corner rad.
XNMG 3.53.51 (110504) -
.016" corner rad.
XNMG 3.53.52 (110508) -
.031" corner rad.
XNMG 3.53.53 (110512) -
.047" corner rad.

Chip Breakers:
MLP – Semi-finishing to medium
FGP – Finishing to semi-finishing
FLP – Finishing

Grades:
TT8105B, TT8115B, TT8125B –
CVD Coated for Steel

External Holders:
.750" & 1.000"
T-Type clamping
93° and 100° lead angles
With or without thru-coolant

Boring Bars:
93° and 100° lead angles
.625" & .750" – S-Type
.750" – S-Type
1.000" – S-Type & T-Type
1.250" – H-Type & T-Type

New Economical Double-Sided Inserts Featuring a 70° Included Angle

New RhinoTurnX XNMG inserts combine advantages of CNMG and DNMG inserts into a single, economical insert design suitable for general purpose internal and external turning, face turning and profile turning.

Features & Benefits:

- 70° included angle XNMG insert can replace both CNMG and DNMG inserts
- Suitable for multiple applications including internal and external turning, turning, face turning and profile turning
- Thick insert with wide face contact provides excellent rigidity and stability
- Designed for automotive parts such as bearings due to its wide cutting range and excellent chip control in medium to finish turning and boring
- Compared to CNMG inserts:
  - Smaller included angle provides lower cutting forces, better chip control and improved surface finish
  - Profiling capability with ramping angle up to 15°
  - Deeper approach capability on live center (tail stock) end of work piece
- Compared to DNMG inserts:
  - Larger included angle provides more strength
  - Stronger lead angle in face turning allows higher feed rates and better chip control
- Optional COOLBURST thru-coolant external holders

Member IMC Group Ingersoll Cutting Tools

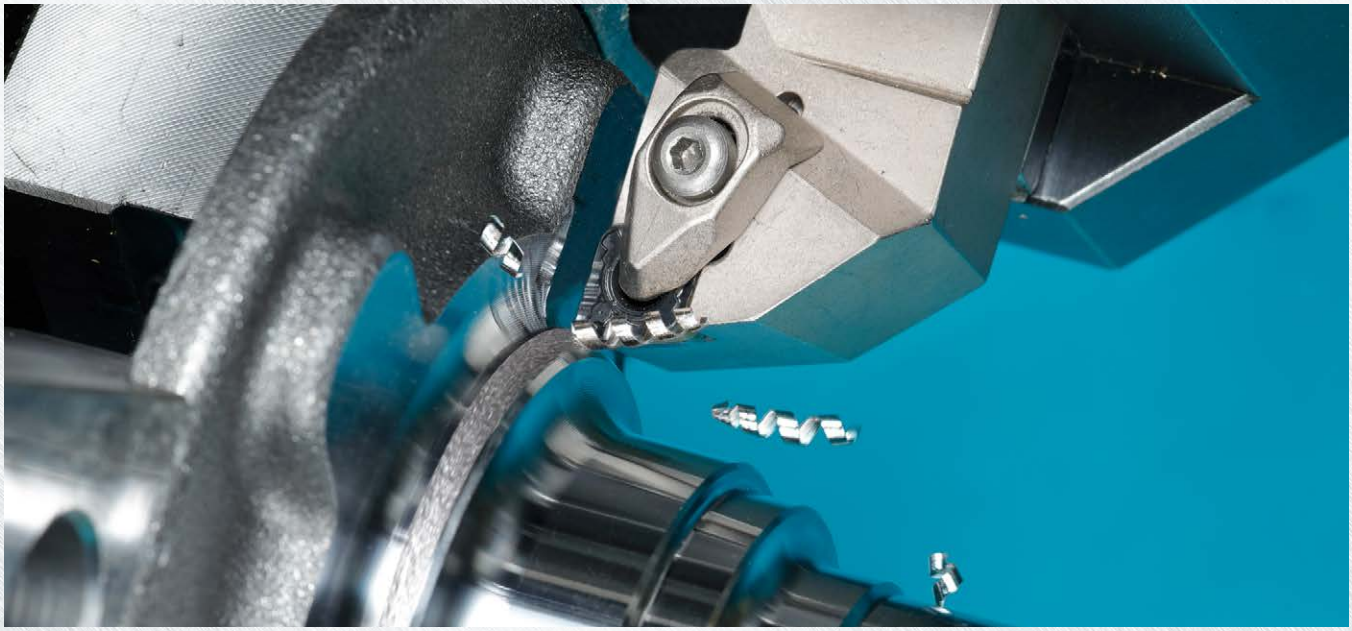
RHINOTURNX™ FEATURES

Developed under rigorous testing conditions, RhinoTurnX inserts demonstrate very good chip control and stable tool life in medium to finish turning applications Compared to traditional CNMG inserts, these XNMG inserts provide a better surface finish and less vibration due to lower radial forces. In addition, the XNMG inserts are thicker and feature a wider contact area that increases rigidity and stability, making them ideal for demanding turning applications, particularly when machining automotive components.

For external turning, the handed TXJNR / TXJNL holders with a 93° entering angle are ideal for virtually all applications, particularly those that require profile turning up to 15° on the outer diameter.

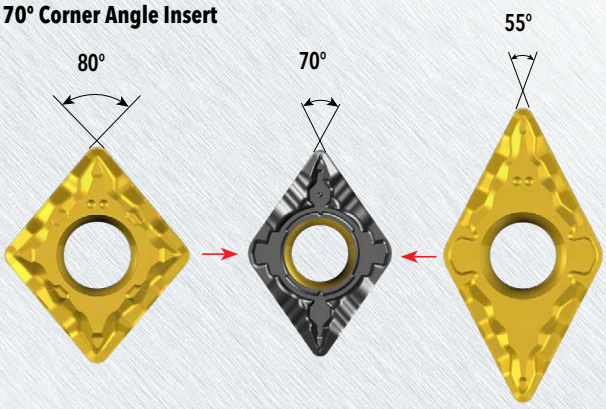
Meanwhile, the handed TXQNR / TXJNL holders feature a 100° entering angle and position the insert such that 10° of both radial and axial clearance is generated. These holders are suitable for external turning, but also provide more strength and clearance for face turning and mild profiling.

In boring applications, the internal holders and XNMG inserts demonstrate excellent chip control and less radial tool pressure compared to CNMG inserts, which is important when machining deeper bores. The insert is positioned in these boring bars with similar lead angles as the external holders, making it possible to machine complicated shapes like internal chamfers and recessed areas with the same holder.



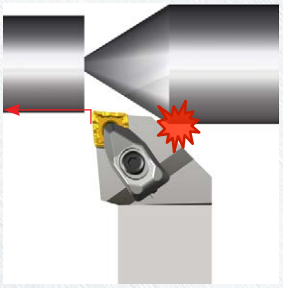
RHINOTURNX™

70° Corner Angle Insert

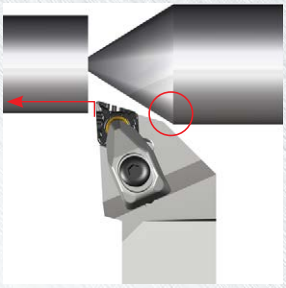


CNMG XNMG DNMG

Easy Access to the Live Center



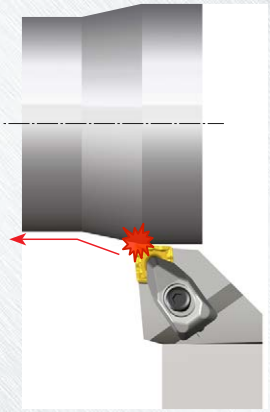
CNMG+TCLNR



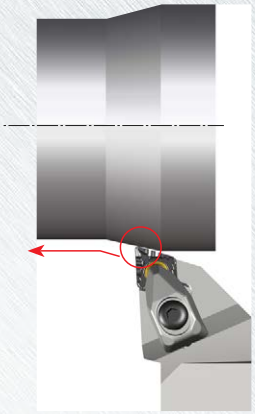
XNMG+TXJNR

RHINOTURNX™ ADVANTAGE DURING TURNING

Profile Turning

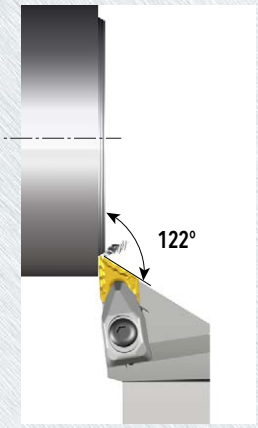


CNMG+TCLNR
Impossible to ramp down

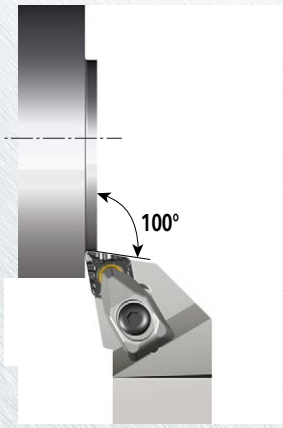


XNMG+TXJNR
Max.15° ramping angle

Face Turning



DNMG+TDJNR
Occurrence of burrs



XNMG+TXQNR
No burrs

RHINOTURNX™ NEW CHIP BREAKER PART NUMBER

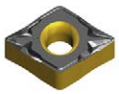
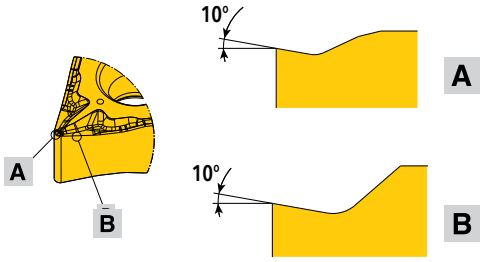
F	G	P
1	2	3

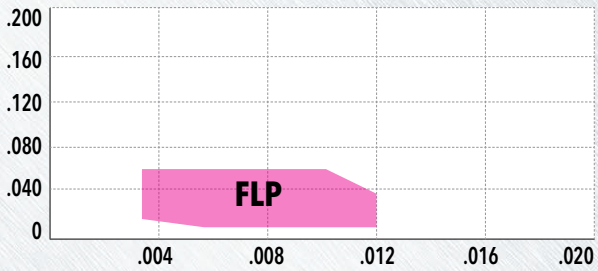
1 - Applications	
F	Finishing
M	Medium
R	Roughing

2 - Cutting Conditions	
L	Light cutting
G	General cutting
T	Tough cutting

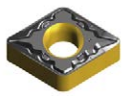
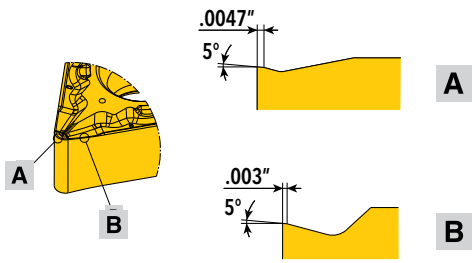
3 - Workpiece Materials	
P	Steel
M	Stainless steel
K	Cast iron
S	High temperature alloys

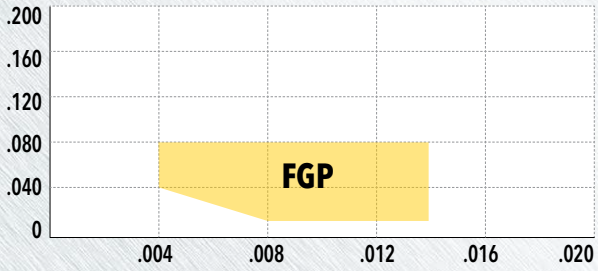
RHINOTURNX™ XNMG CHIP BREAKER GEOMETRY/CHIP CONTROL RANGE

Chip breaker	Cutting edge geometry
 XNMG FLP For finishing	

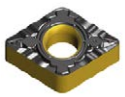
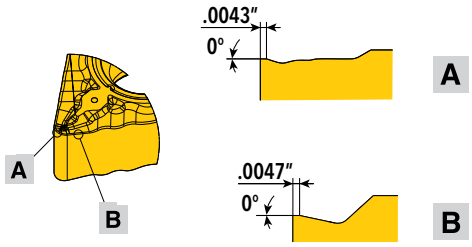


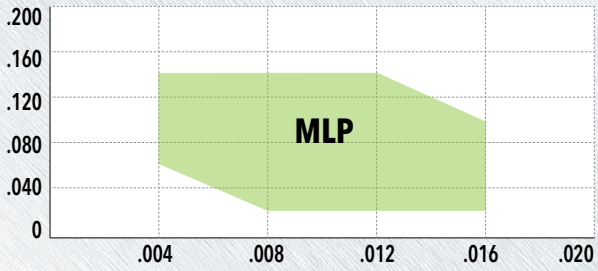
- Insert : XNMG 2.731 FLP
- Cutting speed (sfm) : 650
- Material : AISI 4140 (HB230-260)

Chip breaker	Cutting edge geometry
 XNMG FGP For finishing to semi-finishing	



- Insert : XNMG 3.53.52 FGP
- Cutting speed (sfm) : 650
- Material : AISI 4140 (HB230-260)

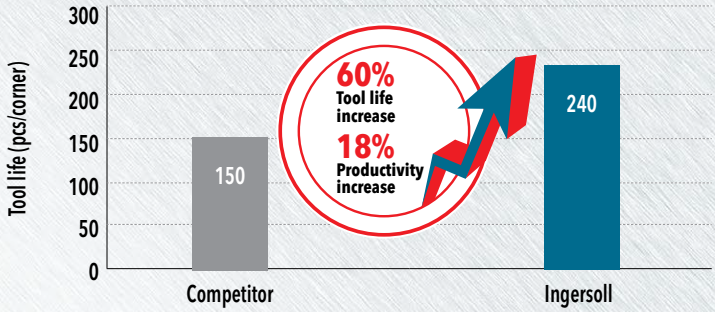
Chip breaker	Cutting edge geometry
 XNMG MLP For semi-finishing to medium	



- Insert : XNMG 3.53.52 MLP
- Cutting speed (sfm) : 650
- Material : AISI 4140 (HB230-260)

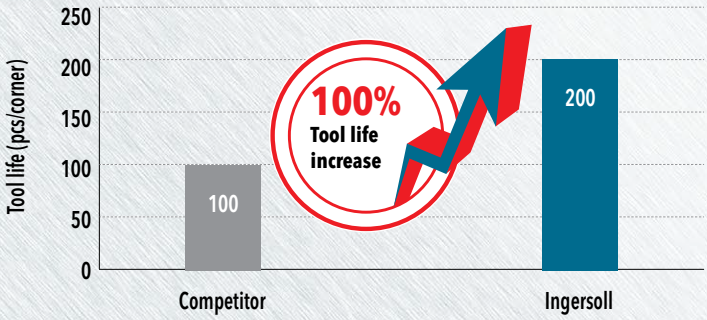
RHINOTURNX™ CASE STUDY 1 - COMPARED TO CNMG 432 INSERT

		Competitor	Ingersoll
Part Name		Gear	
Material		AISI 5132 / DIN 1.7033 34Cr4	
Operation		External and face turning	
Insert		CNMG 432 CVD coated	XNMG 3.53.52 MLP TT8115B
Cutting speed	V (sfm)	1115-1230	1115-1230
Feed rate	f (ipr)	.008-.010	.010-.011
Depth of cut	ap (inch)	.020-.040	.020-.040
Coolant		Wet	Wet
Tool life (min)		150	240

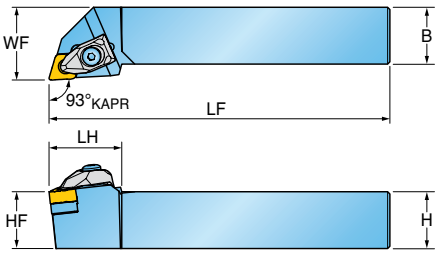


RHINOTURNX™ CASE STUDY 2 - COMPARED TO DNMG 442 INSERT

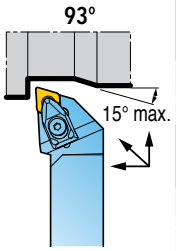
		Competitor	Ingersoll
Part Name		Coupling	
Material		AISI 1045	
Operation		External turning	
Insert		DNMG 442 cermet	XNMG 3.53.52 MLP TT8125B
Cutting speed	V (sfm)	480	480
Feed rate	f (ipr)	.010	.010
Depth of cut	ap (inch)	.020	.020
Coolant		Wet	Wet
Tool life (min)		100	200



RHINOTURNX™ TXJNR/L T-HOLDERS



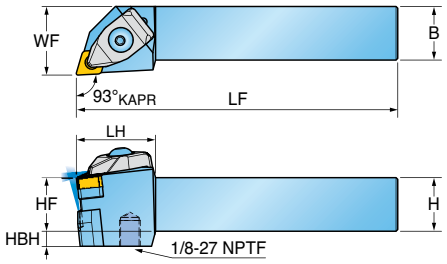
TXJNR

Approach angle	Part Number	Dimension (inch)						Insert
		H Shank Height	HF Functional Height	B Shank Width	LF Functional Length	WF Functional Width	LH Head Length	
	TXJNR/L 12-2.7B	.750	.750	.750	4.5	1.00	.98	XNMG 2.73_
	TXJNR/L 16-2.7D	1.000	1.000	1.000	6.0	1.25	.98	
	TXJNR/L 12-3.5D	.750	.750	.750	6.0	1.00	1.26	XNMG 3.53.5
	TXJNR/L 16-3.5D	1.000	1.000	1.000	6.0	1.25	1.26	

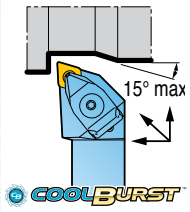
Spare Parts

Part Number	Clamp	Clamp Screw	Spring	Shim	Shim Screw	Wrench	
							
2.73_	DLM 2.5-NX	DLS 3	DSP 3	TSX 2.73	SO 40085I	L-W 2.5	T 15
3.53.5_	DLM 3.5-NX	DLS 4	DSP 4	TSX 3.53	SM 50-122-50	L-W 3	T 20

RHINOTURNX™ TXJNR/L-TB T-HOLDERS WITH HIGH-PRESSURE COOLANT



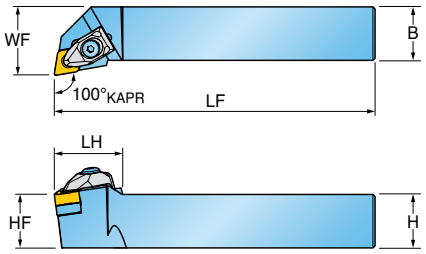
TXJNR-TB

Approach angle	Part Number	Dimension (inch)							Insert
		H Shank Height	HF Functional Height	B Shank Width	LF Functional Length	WF Functional Width	LH Head Length	HBH Head Bottom Offset Height	
93° 	TXJNR/L 16-2.7D-TB	1.000	1.000	1.000	6.0	1.250	1.25	.28	XNMG 2.73
	TXJNR/L 16-3.5D-TB	1.000	1.000	1.000	6.0	1.250	1.25	.28	XNMG 3.53.5

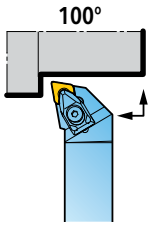
Spare Parts

Part Number	Clamp	Clamp Screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim Screw	Wrench	
									
2.73_	DLM 3-NX-TB	BH M4x0.7x 16-TB	DSP 3	O-RING ID4.47x 1.78	O-RING ID6.07x 1.78	TSX 2.73	SO 40085I	L-W 3	T 15
3.53.5_	DLM 3.5-NX-TB	BH M5x0.8x 21-MO-TB	DSP 4	O-RING ID5.28x 1.78	O-RING ID7.59x 2.62	TSX 3.53	SO 50090I	L-W 3	T 20

RHINOTURNX™ TXQNR/L T-HOLDERS



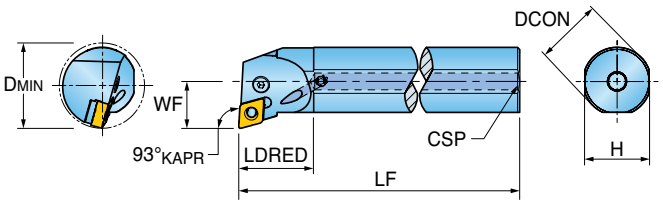
TXQNR

Approach angle	Part Number	Dimension (inch)						Insert
		H Shank Height	HF Functional Height	B Shank Width	LF Functional Length	WF Functional Width	LH Head Length	
 100°	**TXQNR/L 12-2.7B**	.750	.750	.750	4.5	1.00	.98	XNMG 2.73
	TXQNR/L 16-2.7D	1.000	1.000	1.000	6.0	1.25	.98	
	TXQNR/L 12-3.5B	.750	.750	.750	4.5	1.00	1.26	XNMG 3.53.5
	TXQNR/L 16-3.5D	1.000	1.000	1.000	6.0	1.25	1.26	

Spare Parts

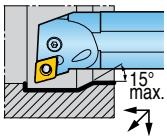
Part Number	Clamp	Clamp Screw	Spring	Shim	Shim Screw	Wrench	
							
2.73_	DLM 2.5-NX	DLS 3	DSP 3	TSX 2.73	SO 40085I	L-W 2.5	T 15
3.53.5_	DLM 3.5-NX	DLS 4	DSP 4	TSX 3.53	SM 50-122-50	L-W 3	T 20

RHINOTURNX™ A-HXUNR/L HOOK LEVER TYPE BORING BAR WITH THRU COOLANT



Coolant

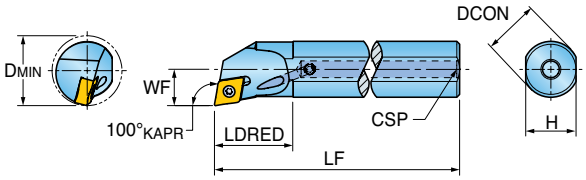
A-HXUNR

Approach angle	Part Number	Dimension (inch)						Insert
		DCON Shank Diameter	DMIN Min. Bore Diameter	LF Functional Length	WF Functional Width	LDRED Reduced Body Dia. Length	H Shank Height	
93° 	A20U-HXUNR/L-3.5	1.250	1.500	14.0	.861	1.38	1.17	XNMG 3.53.5_

Spare Parts

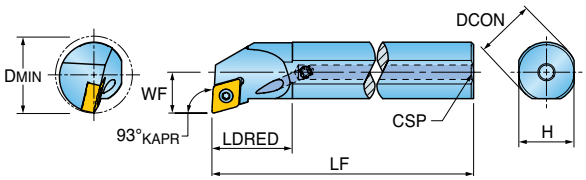
Part Number	Lever	Lever screw	Shim	Shim pin	Wrench
					
3.53.5_	LCL 11-NX	LCS 4S	LSX 3.52B	LSP 4	L-W 3

RHINOTURNX™ A-SXQNR/L, A-SXUNR/L SCREW TYPE BORING BARS WITH THRU COOLANT



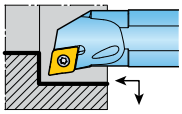
Coolant

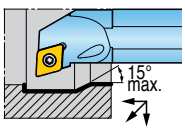
A-SXQNR



Coolant

A-SXUNR

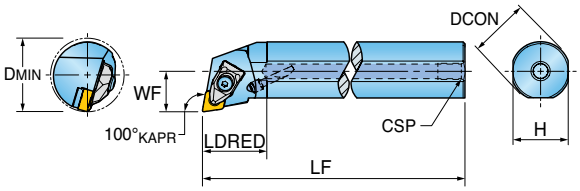
Approach angle	Part Number	Dimension (inch)						Insert
		DCON Shank Diameter	DMIN Min. Bore Diameter	LF Functional Length	WF Functional Width	LDRED Reduced Body Dia. Length	H Shank Height	
100° 	A10R-SXQNR/L-2.7	.625	.787	8.0	.431	.97	.46	XNMG 2.73_
	A12S-SXQNR/L-2.7	.750	.980	10.0	.493	1.10	.58	
	A12S-SXQNR/L-3.5	.750	.980	10.0	.493	1.10	.58	XNMG 3.53.5_

Approach angle	Part Number	Dimension (inch)						Insert
		DCON Shank Diameter	DMIN Min. Bore Diameter	LF Functional Length	WF Functional Width	LDRED Reduced Body Dia. Length	H Shank Height	
93° 	A16T-SXUNR/L-3.5	1.000	1.250	12.0	.677	1.32	.92	XNMG 3.53.5_

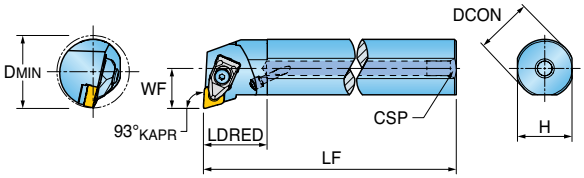
Spare Parts

Part Number	Screw	Wrench	
			
2.73_	TS 30080I/HG	T 9	
3.53.5_	TS 40G110I	T 15	

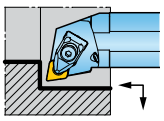
RHINOTURNX™ A-TXQNR/L, A-TXUNR/L T-HOLDER TYPE BORING BARS WITH THRU COOLANT

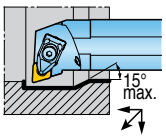


A-TXQNR



A-TXUNR

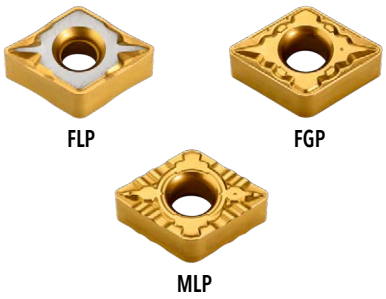
Approach angle	Part Number	Dimension (inch)						Insert
		DCON Shank Diameter	DMIN Min. Bore Diameter	LF Functional Length	WF Functional Width	LDRED Reduced Body Dia. Length	H Shank Height	
100° 	A16T-TXQNR/L-3.5	1.000	1.250	12.0	.677	1.32	.92	XNMG 3.53.5_
	A20U-TXQNR/L-3.5	1.250	1.500	14.0	.861	1.38	1.17	

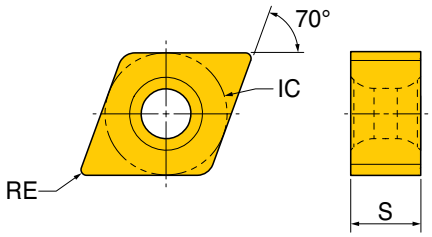
Approach angle	Part Number	Dimension (inch)						Insert
		DCON Shank Diameter	DMIN Min. Bore Diameter	LF Functional Length	WF Functional Width	LDRED Reduced Body Dia. Length	H Shank Height	
93° 	A20U-TXUNR/L-3.5	1.250	1.500	14.0	.861	1.38	1.17	XNMG 3.53.5_

Spare Parts

Part Number	Clamp	Clamp Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	
								
A16T…3.5…	DLM 3.5-NX	DLS 4	DSP 4	-	-	NZ 62	L-W 3	-
A20U…3.5…	DLM 3.5-NX	DLS 4	DSP 4	LSX 3.52B	SM 50-107-10	NZ 62	L-W 3	T 20

RHINOTURNX™ XNMG NEGATIVE 70° RHOMBIC INSERTS





Size	Dimensions (inch)		
	IC Inscribed Circle Dia.	S Thickness	RE Corner Radius
2.731	.343	.187	.016
3.53.51	.437	.219	.016
3.53.52	.437	.219	.031
3.53.53	.437	.219	.047

Part Number ANSI (ISO)	ap (inch)	Feed (ipr)	CVD Coated		
			TT8105B	TT8115B	TT8125B
XNMG 2.731 (090404) FLP	.008-.060	.003-.009	•	•	•
XNMG 3.53.51 (110504) FGP	.010-.080	.003-.009	•	•	•
XNMG 3.53.52 (110508) FGP	.012-.080	.004-.014	•	•	•
XNMG 3.53.53 (110512) FGP	.014-.080	.006-.016	•	•	
XNMG 3.53.52 (110508) MLP	.020-.138	.004-.016	•	•	•
XNMG 3.53.53 (110512) MLP	.024-.138	.006-.020	•	•	•

•: Standard items