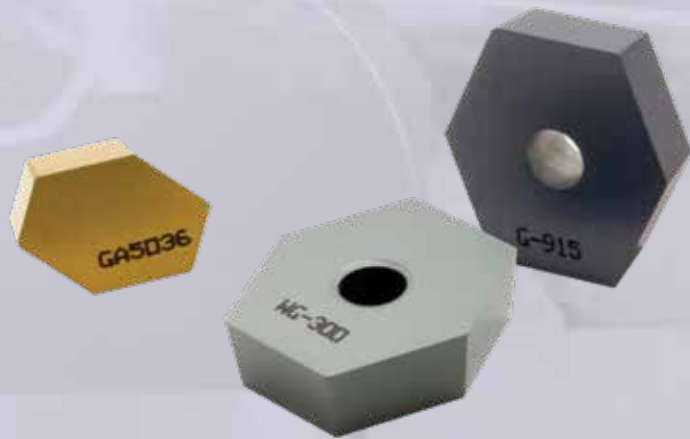


API Ring Groove

Ring Max™ Inserts	RM 02-06
Ring Max™ II	RM 07-14
Ring Max™ III	RM 15-21
Ring Max™ Cartridges	RM 22-24
Ring Max™ STX	RM 25-29
Machining Methods Reference Guide	RM 30
Request Forms	RM 31



SIFOM

114-116 Boulevard Voltaire
F - 75543 Paris Cedex 11
www.sifom.fr

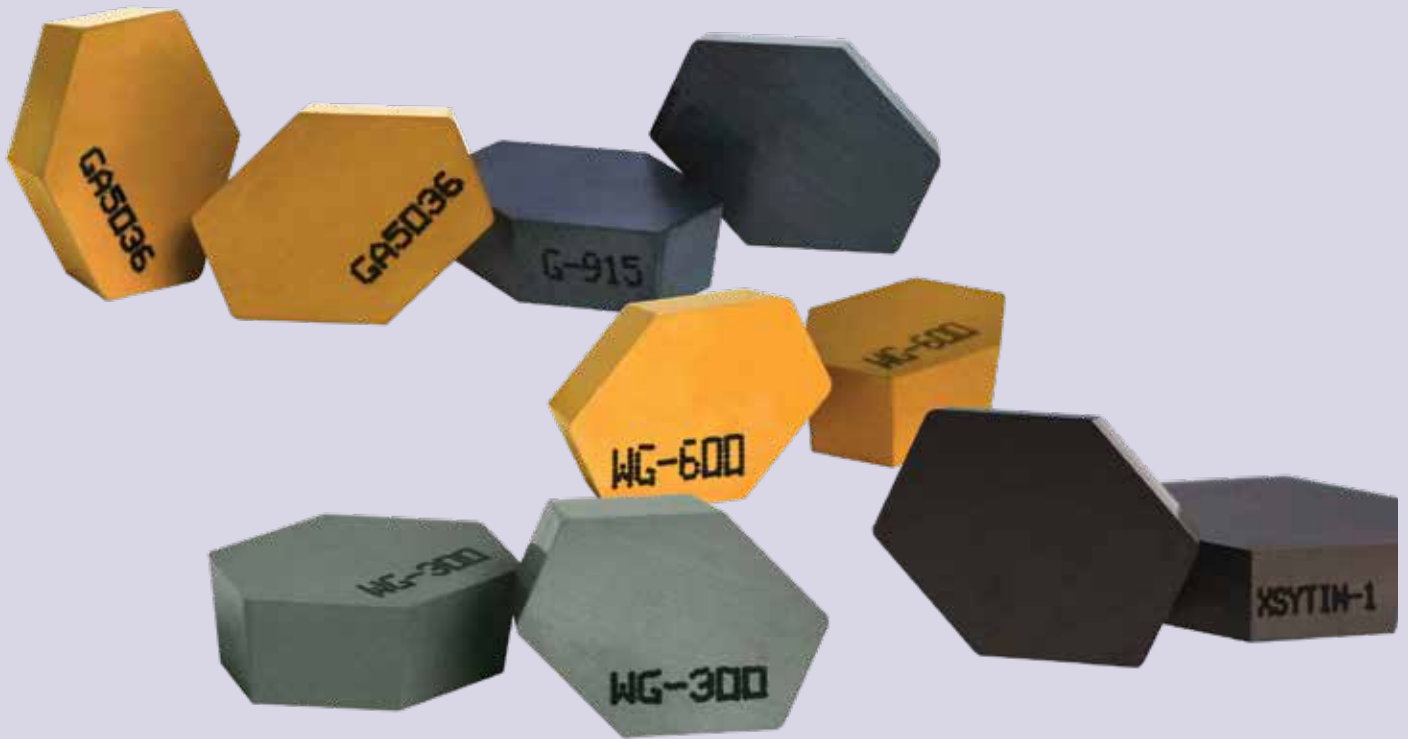
Tél. : +33 (0)1 48 05 87 46
Fax : +33 (0)1 48 06 07 90
email : sifom@sifom.fr



Ring Max™ Grooving Inserts

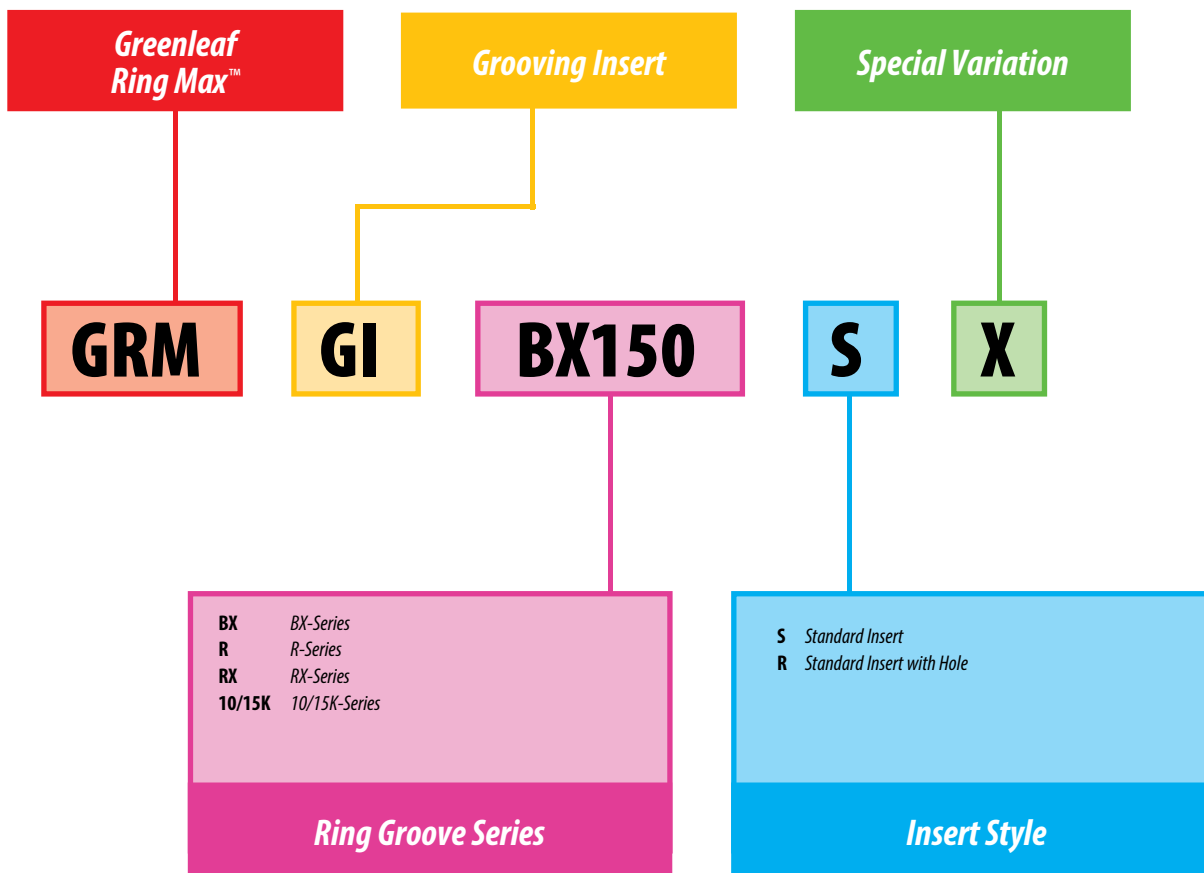
Greenleaf's Ring Max Grooving Inserts are a unique solution for machining API ring grooves and provide the capability of roughing and finishing in various materials. These inserts are specifically designed for use in Ring Max and will significantly increase productivity and savings.

Please contact Greenleaf Corporation for any questions or assistance.



Ring Max™

Grooving Insert Identification System



API RING GROOVE MACHINING

Insert Grades

Carbide



GA5036

A carbide grade that is best combined with the Ring Max for use in cast-steel applications, GA5036 has an advanced MT-CVD coating that promotes long tool life at high speeds.



G-915

Greenleaf's most versatile grade for machining API ring grooves, G-915 can easily machine most materials and works well on machines with low RPMs.

Ceramic



WG-300®

A whisker-reinforced Al_2O_3 ceramic that is very effective at machining high-temp alloy ring grooves, WG-300® offers increased removal rates up to 10 times higher than carbide.



WG-600®

A coated whisker-reinforced Al_2O_3 ceramic that offers longer tool life and better performance over uncoated ceramics due to excellent thermal and wear resistance at very high surface speeds.

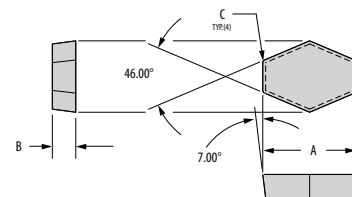


XSYTIN®-1

A phase-toughened ceramic for your most demanding applications, XSYTIN®-1 can run at lower RPMs and higher feed rates than any other ceramic grade and should be considered a first choice when machining rough weld overlay for API ring grooves.

Ring Max™ Inserts

GRM-GI



Insert	Part Number	Steel		Stainless Steel		Heat-Resistant Super Alloys			Dimensions (mm)			
		P		M		S			A	B	C	
		G-915	GA5035	WG-300	G-915	WG-300	WG-600	XSXTIN-1				G-915
	GRM-GI-BX150S	●	▲	◆	◆	●	◆	▲	▲	15,88	6,35	0,79
	GRM-GI-BX151S	●	▲	◆	◆	●	◆	▲	▲	15,88	6,35	0,79
	GRM-GI-BX152S	●	▲	◆	◆	●	◆	▲	▲	19,05	6,35	0,79
	GRM-GI-BX153S	●	▲	◆	◆	●	◆	▲	▲	19,05	6,35	0,79
	GRM-GI-BX154S	●	▲	◆	◆	●	◆	▲	▲	19,05	6,35	0,79
	GRM-GI-BX155R	●	▲	◆	◆	●	◆	▲	▲	22,23	6,35	0,79
	GRM-GI-BX156R	●	▲	◆	◆	●	◆	▲	▲	25,73	7,93	0,79
	GRM-GI-BX169R	●	▲	◆	◆	●	◆	▲	▲	25,40	6,35	0,79
	GRM-GI-RSET1-SX*	●	▲	◆	◆	●	◆	▲	▲	25,40	6,35	0,79
	GRM-GI-R46R	●	▲	◆	◆	●	◆	▲	▲	25,40	6,35	1,52
	GRM-GI-RSET2-SX*	●	▲	◆	◆	●	◆	▲	▲	15,88	3,96	0,79
	GRM-GI-RX201/5SX*	●	▲	◆	◆	●	◆	▲	▲	15,34	4,78	0,38
	GRM-GI-10K/15KSX*	●	▲	◆	◆	●	◆	▲	▲	15,88	6,35	0,76

CARBIDE COATINGS: ME-CVD Coated PVD Coated Uncoated First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ✦ Grade descriptions — pages RM 05

CERAMIC CLASSIFICATION: Whisker Ceramic Phase-Toughened Silicon Nitride Alumina TiC

* Denotes multiple groove sizes (See chart to below)

NOTE: Depending on groove size, some Ring Max™ inserts may have a hole. All pre-clad groove inserts are designed and built to suit customer specifications.

NOTE: API groove specification GA/ISO-10423 is used for all finish inserts.

Group	Groove Size
R-SET1SX	R-21, R-23, R-24, R-26, R-27, R-30, R-31, R-34, R-35, R-37, R-39, R-41, R-44, R-45, R-49, R-53, R-57, R-61, R-65, R-69, R-82, R-84, R-99
R-SET2SX	R-12, R-13, R-14, R-15, R-16, R-17, R-18, R-19, R-20, R-22, R-25, R-29, R-33, R-36, R-40, R-43, R-48, R-52
10K/15KSX	10K-2V16, 10K-3V16, 15K-3V16

API RING GROOVE MACHINING

Ring Max™ II Ring Groove Tooling

The Ring Max™ II cutters are designed to use fewer components for even greater dimensional accuracy and repeatability from groove to groove. Their unique design ensures accurate seating and secure locking of the insert cartridge into the cutter body.

Standard features and benefits include:

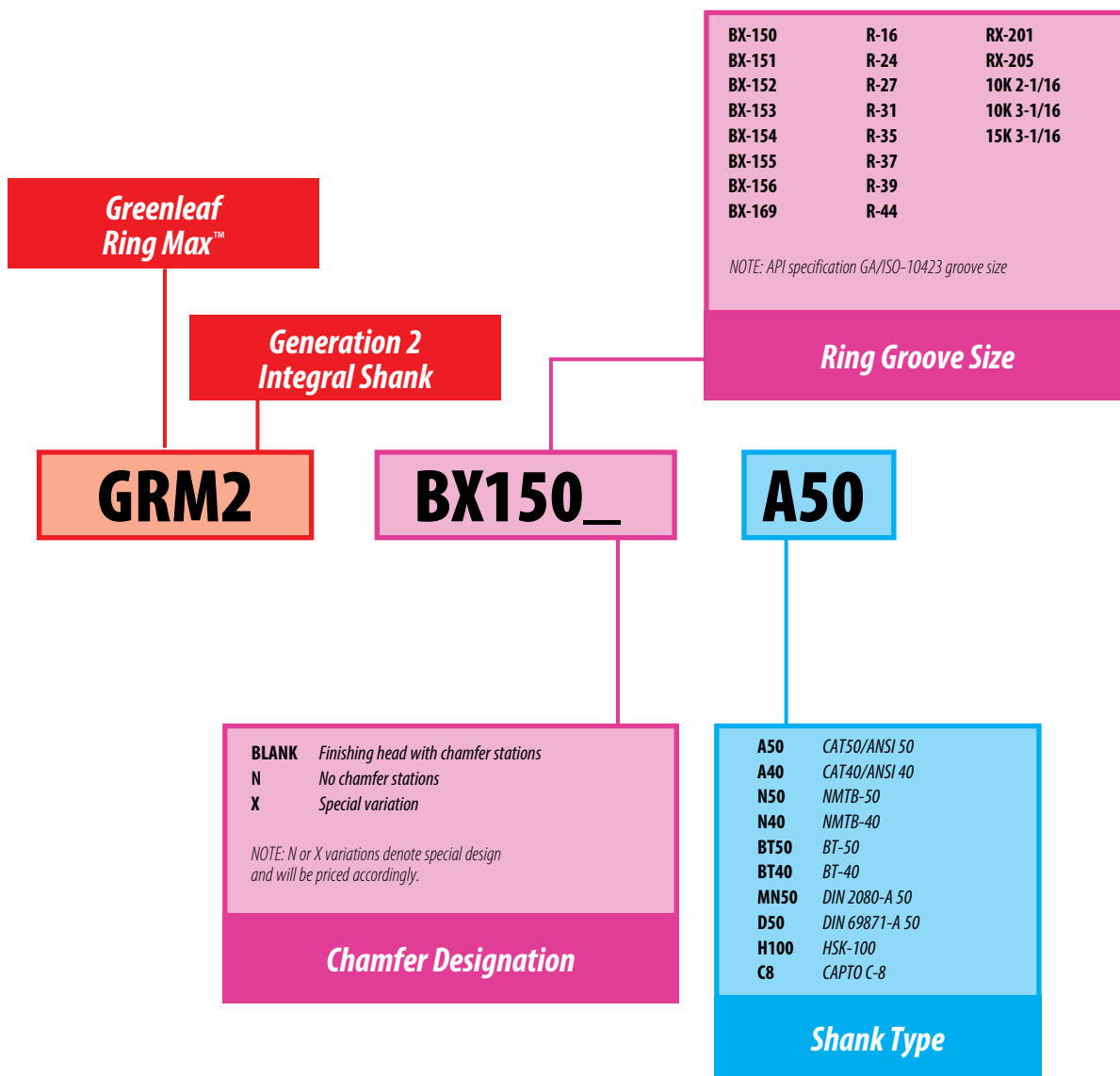
- Cutting of BX, R, and RX API ring grooves in Inconel 625 clad overlay in less than one minute!
- Machines the groove and chamfers in one operation.
- Adjustable and replaceable cartridge design for easy maintenance.

Please contact Greenleaf Corporation for any questions or assistance.



Ring Max™ II

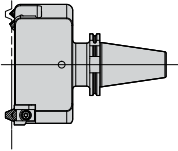
Finishing Head Identification System



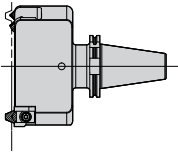
API RING GROOVE MACHINING

Pictorial & Reference Index

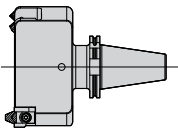
Ring Max™ II Tooling



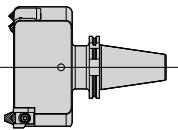
BX Series
page: *RM 10*



R Series
page: *RM 11*



RX Series
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10K and 15K Series
page: *RM 12*

Reference

Ring Max™ II

Models
page: *RM 13*

Ring Max™ II Pre-Clad

Models
page: *RM 14*

Machining Methods

Reference Guide
page: *RM 30*

Special Toolchanger Clearance

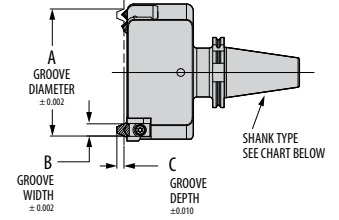
Request Form
page: *RM 31*

Pre-Clad Head

Quote Request Form
page: *RM 31*

Ring Max™ II

BX Series



Part Number Groove Series - Shank Type*	Stock	Dimensions (mm)			Standard Components		Inserts	
		A	B	C	Grooving Cartidge	Chamfer Cartidge	Grooving Insert	Chamfer Insert
GRM2-BX150-_____	See chart below for stocked sizes.	73,53	11,48	5,84	GRM-GC-BX-150	GRMCC01	GRM-GI-BX150S	SPGN-322
GRM2-BX151-_____		77,83	11,89	5,84	GRM-GC-BX-151	GRMCC01	GRM-GI-BX151S	SPGN-322
GRM2-BX152-_____		86,28	12,70	6,10	GRM-GC-BX-152	GRMCC01	GRM-GI-BX152S	SPGN-322
GRM2-BX153-_____		102,82	14,12	7,11	GRM-GC-BX-153	GRMCC01	GRM-GI-BX153S	SPGN-322
GRM2-BX154-_____		119,05	15,44	7,87	GRM-GC-BX-154	GRMCC01	GRM-GI-BX154S	SPGN-322
GRM2-BX155-_____		150,67	17,78	8,64	GRM-GC-BX-155	GRMCC01	GRM-GI-BX155R	SPGN-322
GRM2-BX156-_____		241,88	23,44	11,43	GRM-GC-BX-156	GRMCC01	GRM-GI-BX156R	SPGN-322
GRM2-BX169-_____		176,71	16,97	9,91	GRM-GC-BX-169	GRMCC01	GRM-GI-BX169R	SPGN-322

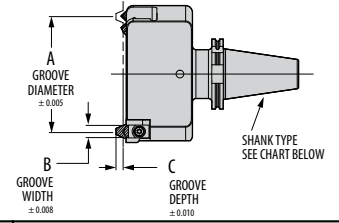
* See chart to below

Shank Description	Ordering Code
CAT50/ANSI 50	A50
CAT40/ANSI 40	A40
NMTB-50	N50
NMTB-40	N40
BT-50	BT50
BT-40	BT40
DIN 2080-A 50	MN50
DIN 69871-A 50	D50
HSK-100	H100
CAPTO C-8	C8

Stocked Sizes	
GRM2-BX150-A50	GRM2-BX154-A40
GRM2-BX150-BT50	GRM2-BX154-A50
GRM2-BX150-D50	GRM2-BX154-BT50
GRM2-BX151-A50	GRM2-BX154-D50
GRM2-BX151-BT50	GRM2-BX155-A40
GRM2-BX151-D50	GRM2-BX155-A50
GRM2-BX152-A40	GRM2-BX155-BT50
GRM2-BX152-A50	GRM2-BX155-D50
GRM2-BX152-BT50	GRM2-BX156-A50
GRM2-BX152-D50	GRM2-BX169-A50

Ring Max™ II

R Series



Part Number Groove Series - Shank Type*	Stock	Dimensions (mm)			Standard Components		Inserts	
		A	B	C	Grooving Cartidge	Chamfer Cartidge	Grooving Insert	Chamfer Insert
GRM2-R16-_____	See chart below for stocked sizes.	50,80	8,74	6,35	GRM-GC-RSET 2 X	GRMCC01	GRM-GI-RSET 2 SX	SPGN-322
GRM2-R24-_____		95,25	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R27-_____		107,95	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R31-_____		123,83	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R35-_____		136,53	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R37-_____		149,23	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R39-_____		161,93	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R44-_____		193,68	11,91	8,13	GRM-GC-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
GRM2-R46-_____		211,15	13,49	9,91	GRM-GC-R46	GRMCC01	GRM-GI-R46R	SPGN-322

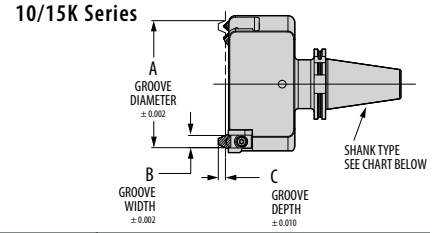
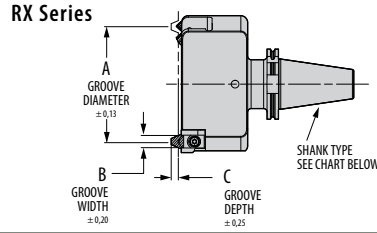
*See chart to below

Shank Description	Ordering Code
CAT50/ANSI 50	A50
CAT40/ANSI 40	A40
NMTB-50	N50
NMTB-40	N40
BT-50	BT50
BT-40	BT40
DIN 2080-A 50	MN50
DIN 69871-A 50	D50
HSK-100	H100
CAPTO C-8	C8

Stocked Sizes
GRM2-R24-A50
GRM2-R24-D50
GRM2-R24N-A50
GRM2-R24N-D50

Ring Max™ II

RX Series / 10K and 15K Series



Part Number	Stock	Dimensions (mm)			Standard Components		Inserts	
		A	B	C	Grooving Cartidge	Chamfer Cartidge	Grooving Insert	Chamfer Insert
GRM2-RX201N-____	See chart below for stocked sizes.	46,05	5,56	4,06	GRM-GCRX201/5-X	N/A	GRM-GI-RX201/5SX	N/A
GRM2-RX205N-____		57,15	5,56	4,06	GRM-GCRX201/5-X	N/A	GRM-GI-RX201/5SX	N/A
GRM2-10K2-____		117,42	9,58	6,55	GRM-GC10/15K-X	GRMCC01	GRM-GI-10/15KSX	SPGN-322
GRM2-10K3N-____		146,00	9,58	6,55	GRM-GC10/15K-X	N/A	GRM-GI-10/15KSX	N/A
GRM2-10K5-____		222,20	9,58	6,55	GRM-GC10/15K-X	GRMCC01	GRM-GI-10/15KSX	SPGN-322
GRM2-15K3-____		168,22	9,58	6,55	GRM-GC10/15K-X	GRMCC01	GRM-GI-10/15KSX	SPGN-322

* See chart to below

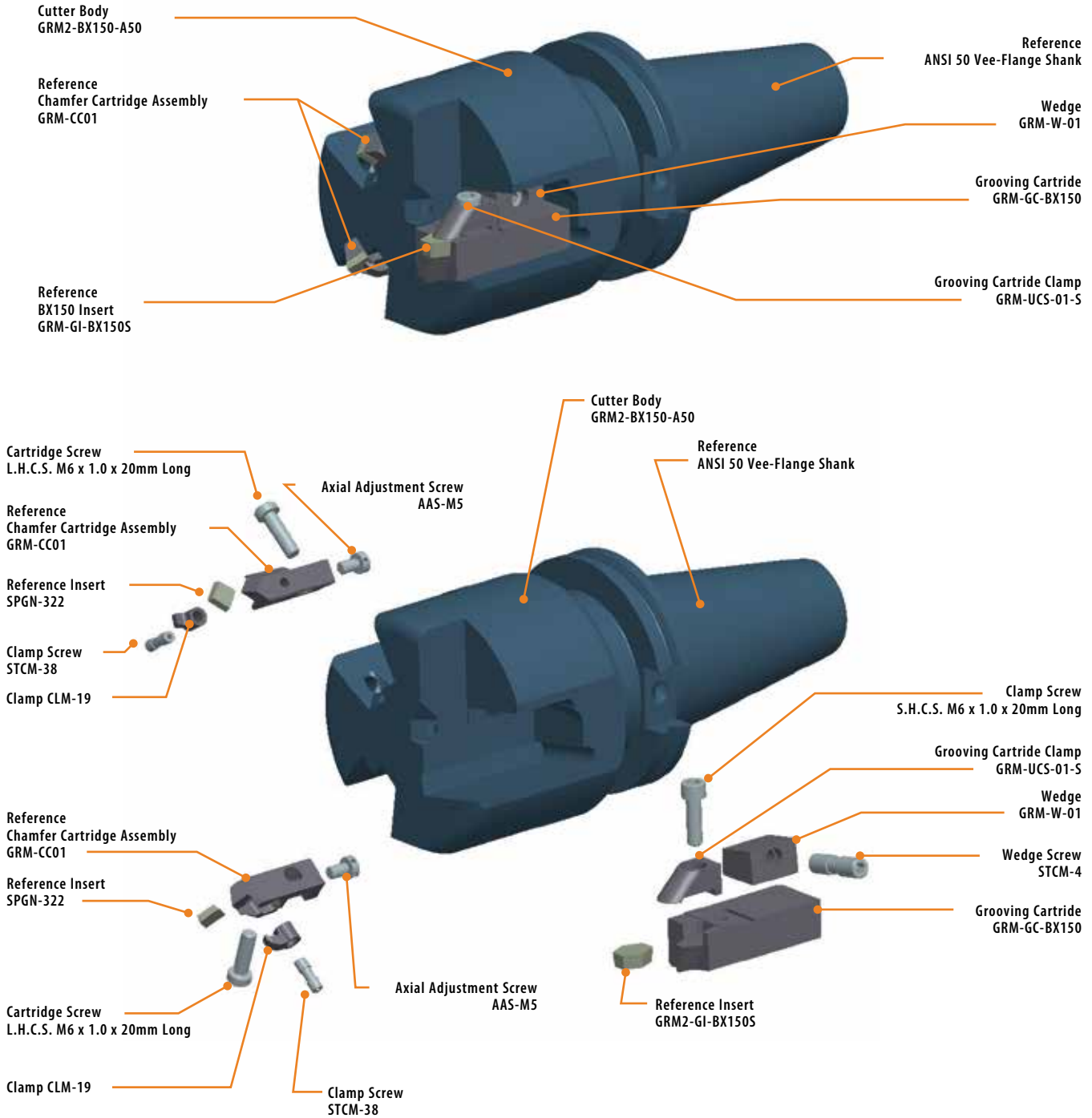
Shank Description	Ordering Code
CAT50/ANSI 50	A50
CAT40/ANSI 40	A40
NMTB-50	N50
NMTB-40	N40
BT-50	BT50
BT-40	BT40
DIN 2080-A 50	MN50
DIN 69871-A 50	D50
HSK-100	H100
CAPTO C-8	C8

Stocked Sizes
Ring Max™ II RX and 10/15K Series are not standard stocked items.

API RING GROOVE MACHINING

Ring Max™ II

Assembled and Exploded Views Reference Guide

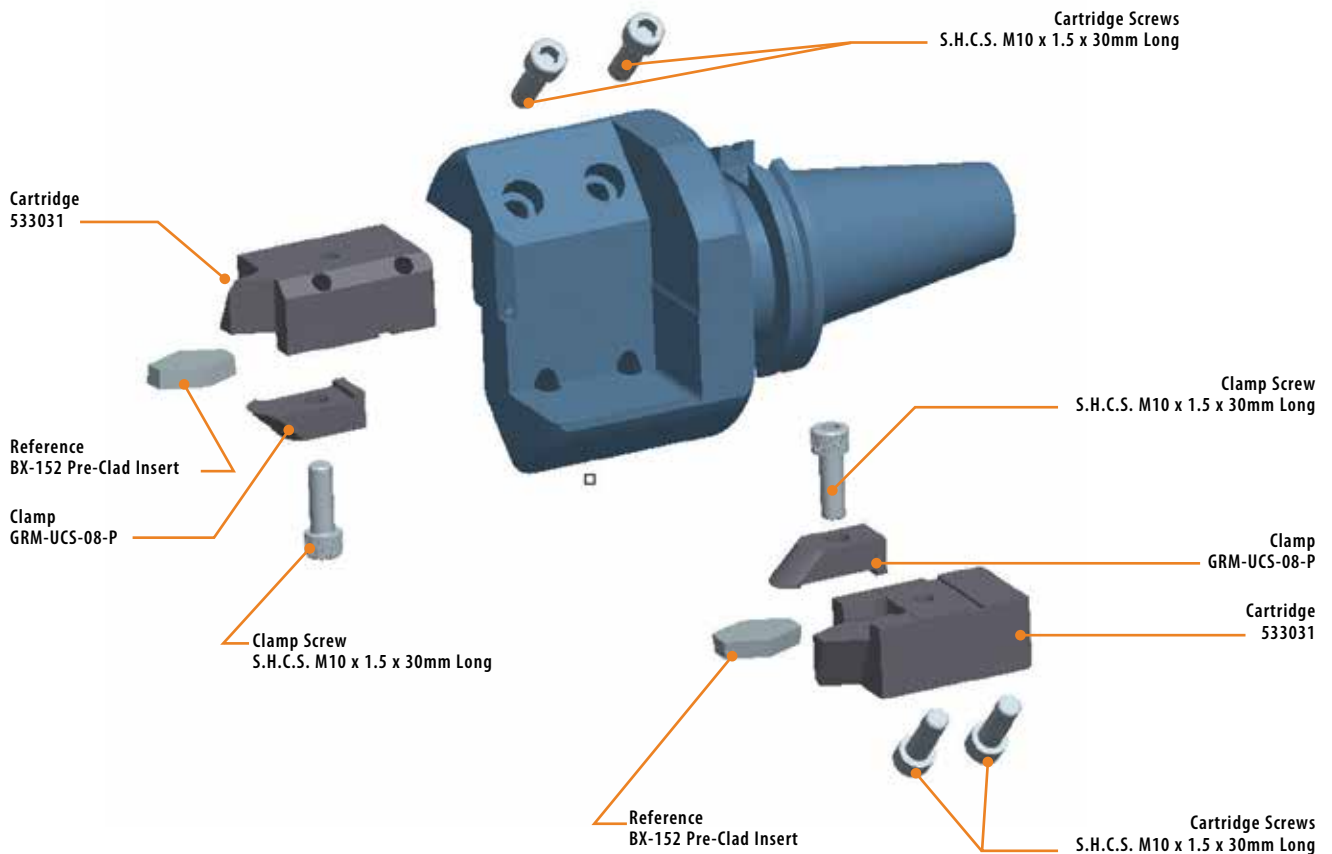
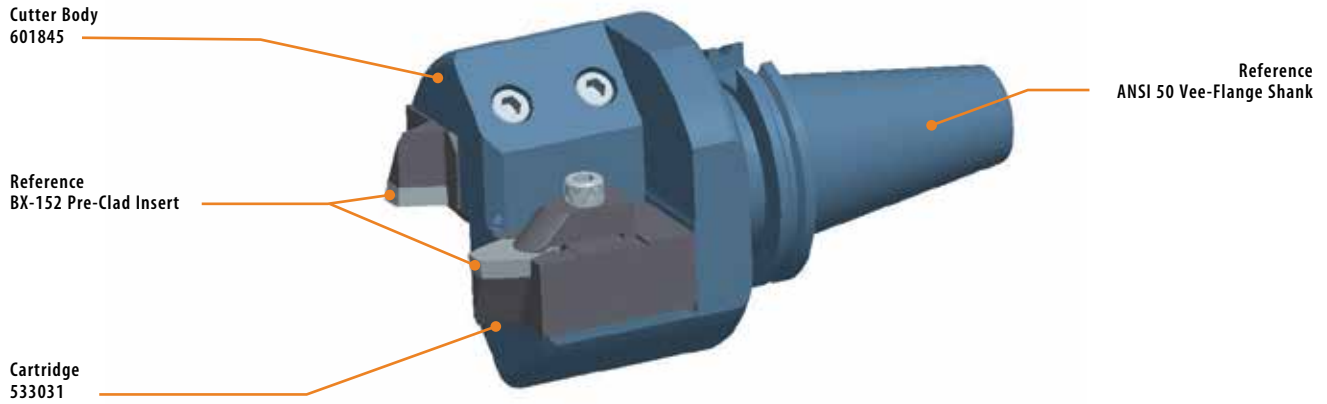


API RING GROOVE MACHINING

Ring Max™ II Quote Request Form For information for a quote form you can download, see page RM 31.

Ring Max™ BX-152 Pre-Clad

Assembled and Exploded Views Reference Guide



Special Toolchanger Clearance Request Form For information for a quote form you can download, see page RM 31.

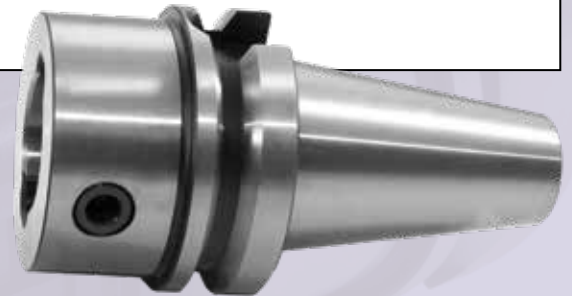
Ring Max™ III Ring Groove Tooling

The Ring Max™ III is a high-precision, two-piece modular system for shop versatility. This system offers many head and shank configurations, including adaptability to Greenleaf's Excelerator® face mills. The Ring Max™ III line delivers the ultimate economical and flexible solution for any shop machining multiple API ring groove sizes.

Standard features and benefits include:

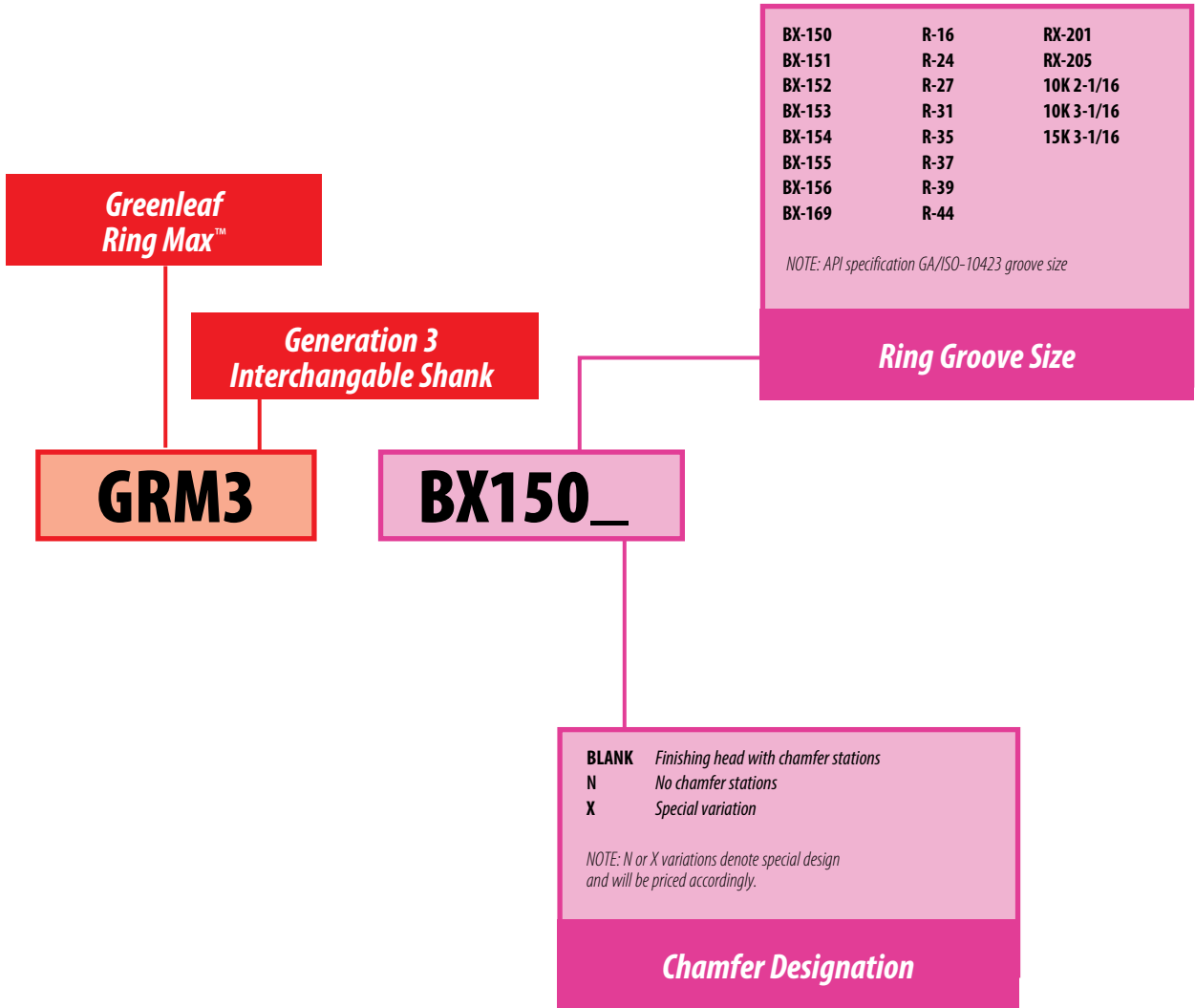
- Cutting of BX, R, and RX API ring grooves in Inconel 625 clad overlay in less than one minute.
- Machines the groove and chamfers in one operation.
- Adjustable and replaceable cartridge design for easy maintenance.

Please contact Greenleaf Corporation for any questions or assistance.



Ring Max™ III

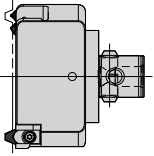
Finishing Head Identification System



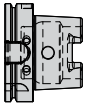
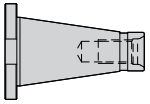
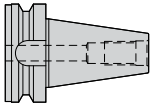
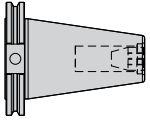
API RING GROOVE MACHINING

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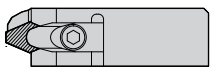
Ring Max™ III Tooling



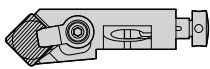
BX Series
R Series
RX Series
10/15K Series
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Ring Max™
Shank Options
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Ring Max™
Grooving Cartridge
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Ring Max™
Chamfer Cartridge
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Reference

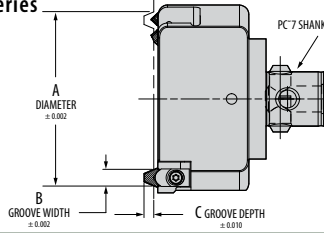
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Ring Max™ III Pre-Clad
Models
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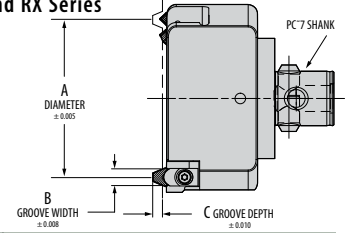
Machining Methods
Reference Guide
page: RM 30

Pre-Clad Head
Quote Request Form
page: RM 31

BX and 10/15K Series



R and RX Series



Ring Max™ III

BX Series / R Series / RX and 10/15K Series

	Part Number	Dimensions (mm)			Standard Components		Inserts		
		Groove Series - Shank Type*	A	B	C	Grooving Cartridge	Chamfer Cartridge	Grooving Insert	Chamfer Insert
BX Series	GRM3-BX150		73,53	11,48	5,84	GRM-GI-BX-150	GRMCC01	GRM-GI-BX150S	SPGN-322
	GRM3-BX151		77,83	11,89	5,84	GRM-GI-BX-151	GRMCC01	GRM-GI-BX151S	SPGN-322
	GRM3-BX152		86,28	12,70	6,10	GRM-GI-BX-152	GRMCC01	GRM-GI-BX152S	SPGN-322
	GRM3-BX153		102,82	14,12	7,11	GRM-GI-BX-153	GRMCC01	GRM-GI-BX153S	SPGN-322
	GRM3-BX154		119,05	15,44	7,87	GRM-GI-BX-154	GRMCC01	GRM-GI-BX154S	SPGN-322
	GRM3-BX155		150,67	17,78	8,64	GRM-GI-BX-155	GRMCC01	GRM-GI-BX155R	SPGN-322
	GRM3-BX169		176,71	16,97	9,91	GRM-GI-BX-169	GRMCC01	GRM-GI-BX169R	SPGN-322
R Series	GRM3-R16		50,80	8,74	6,35	GRM-GI-RSET 2 AX	GRMCC01	GRM-GI-RSET 2 SX	SPGN-322
	GRM3-R24		95,25	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R27		107,95	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R31		123,83	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R35		136,53	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R37		149,23	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R39		161,93	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
	GRM3-R44		193,68	11,91	8,13	GRM-GI-RSET 1 X	GRMCC01	GRM-GI-RSET 1 SX	SPGN-322
RX and 10/15K Series	GRM3-RX201N		46,05	5,56	4,06	GRM-GIRX201/5-X	N/A	GRM-GI-RX201/5SX	N/A
	GRM3-RX205N		57,15	5,56	4,06	GRM-GIRX201/5-X	N/A	GRM-GI-RX201/5SX	N/A
	GRM3-10K2		117,42	9,58	6,55	GRM-GI10/15K-X	GRMCC01	GRM-GI-10/15KSX	SPGN-322
	GRM3-10K3N		146,00	9,58	6,55	GRM-GI10/15K-X	N/A	GRM-GI-10/15KSX	N/A
	GRM3-15K3		168,22	9,58	6,55	GRM-GI10/15K-X	GRMCC01	GRM-GI-10/15KSX	SPGN-322

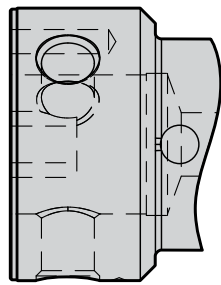
NOTE: Due to blank availability, special designs may need to be a two-piece weld construction or no quote.

API RING GROOVE MACHINING

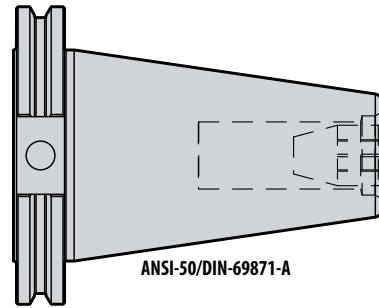
Ring Max™ III

Shank Options

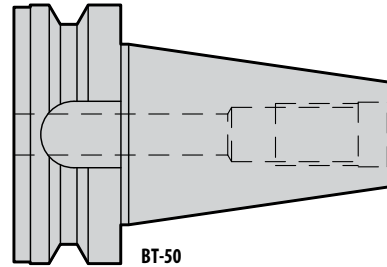
Adapter Designation	Shank A	Shank B
04-GRMA50-000	PC-7	CAT-50 (ANSI-50) Vee Flange
04-GRMA50-000		DIN-69871 (ISO-50) Vee Flange
04-GRMBT50-000		BT-50 Vee Flange
04-GRMMTB50-000		NMTB-50 Vee Flange
04-GRMHSK100-000		HSK-100A



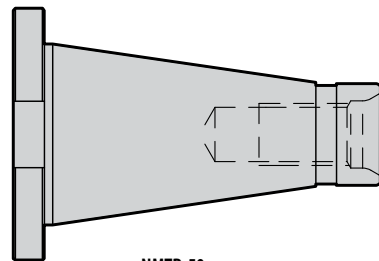
PC-7 Connector



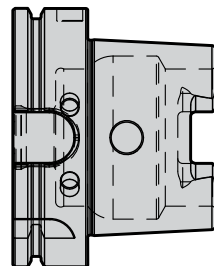
ANSI-50/DIN-69871-A



BT-50



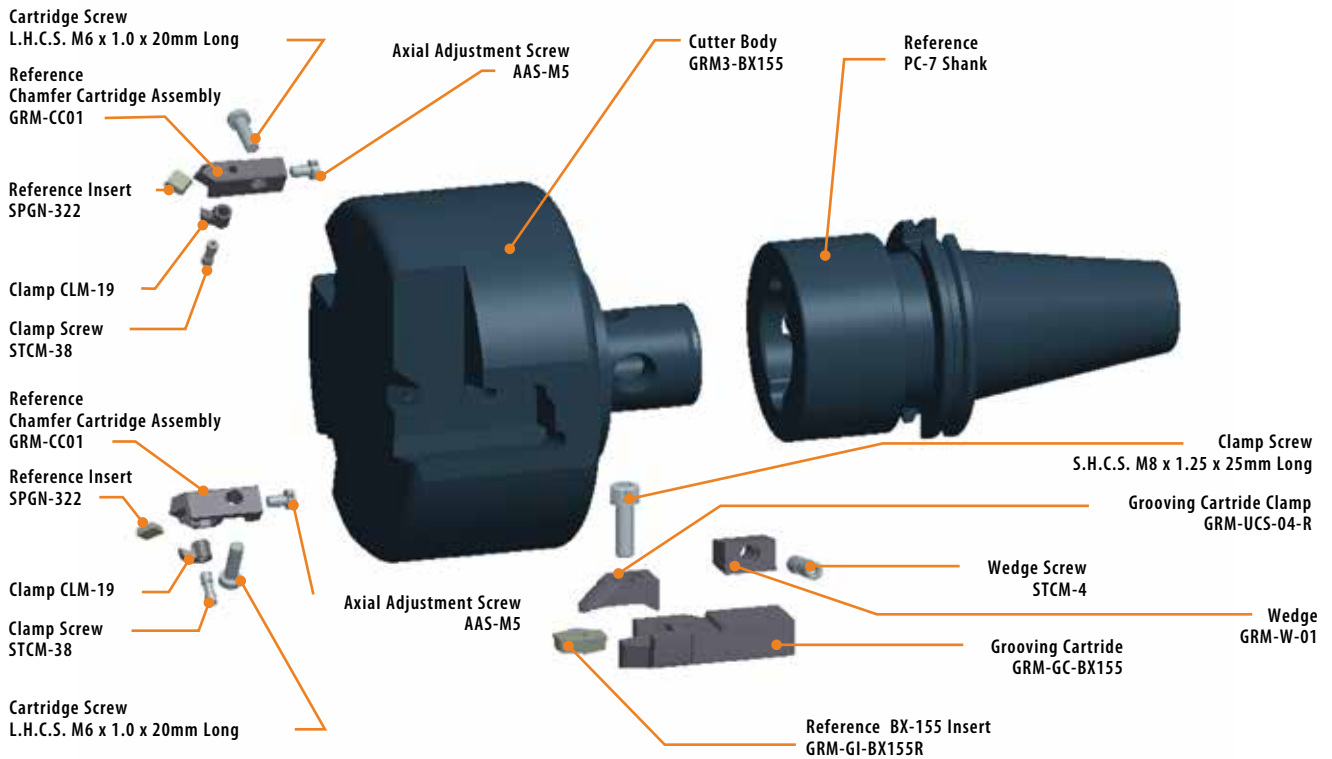
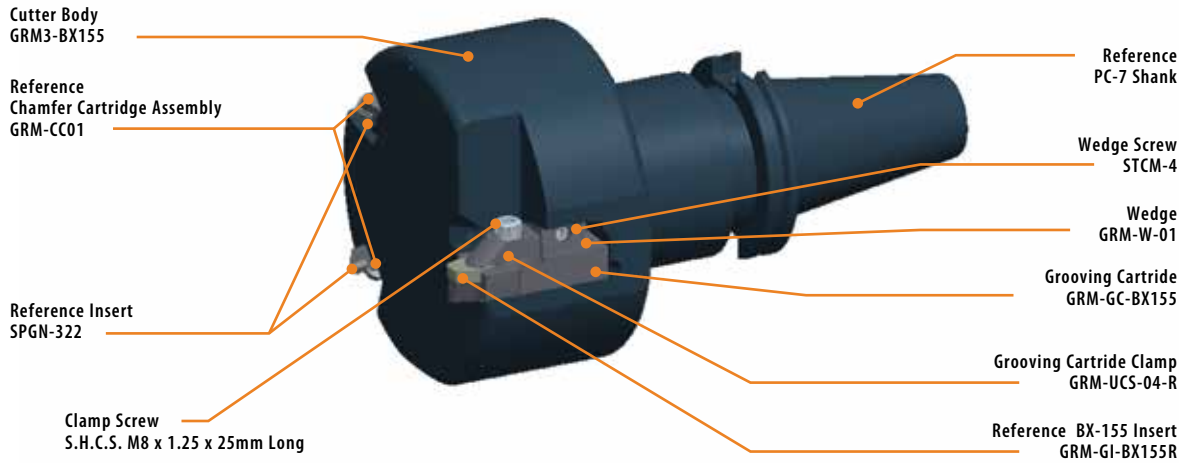
NMTB-50



HSK-100

Ring Max™ GRM3-BX155

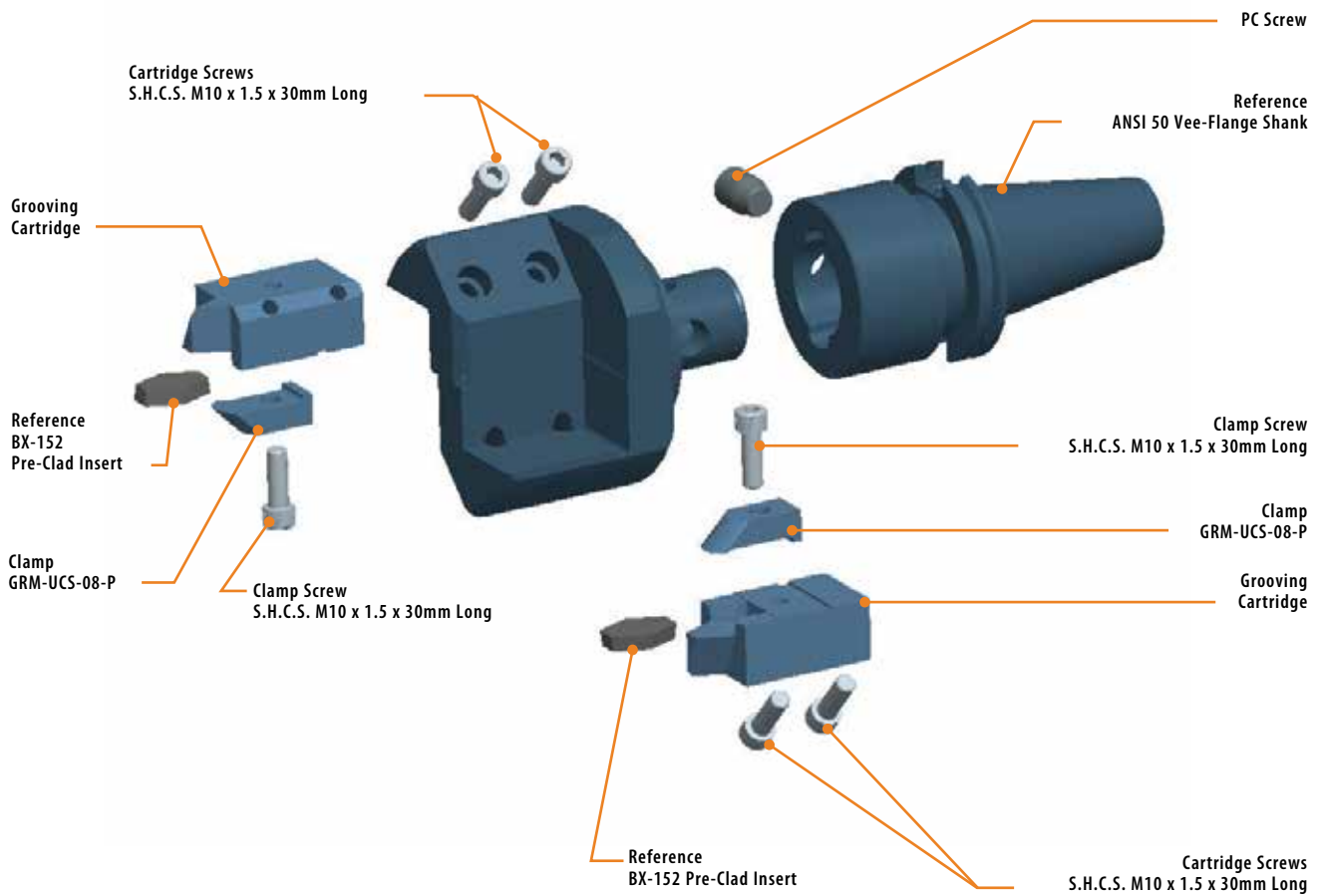
Assembled and Exploded Views Reference Guide



Special Toolchanger Clearance Request Form For information for a quote form you can download, see page RM 31.

Ring Max™ III Pre-Clad

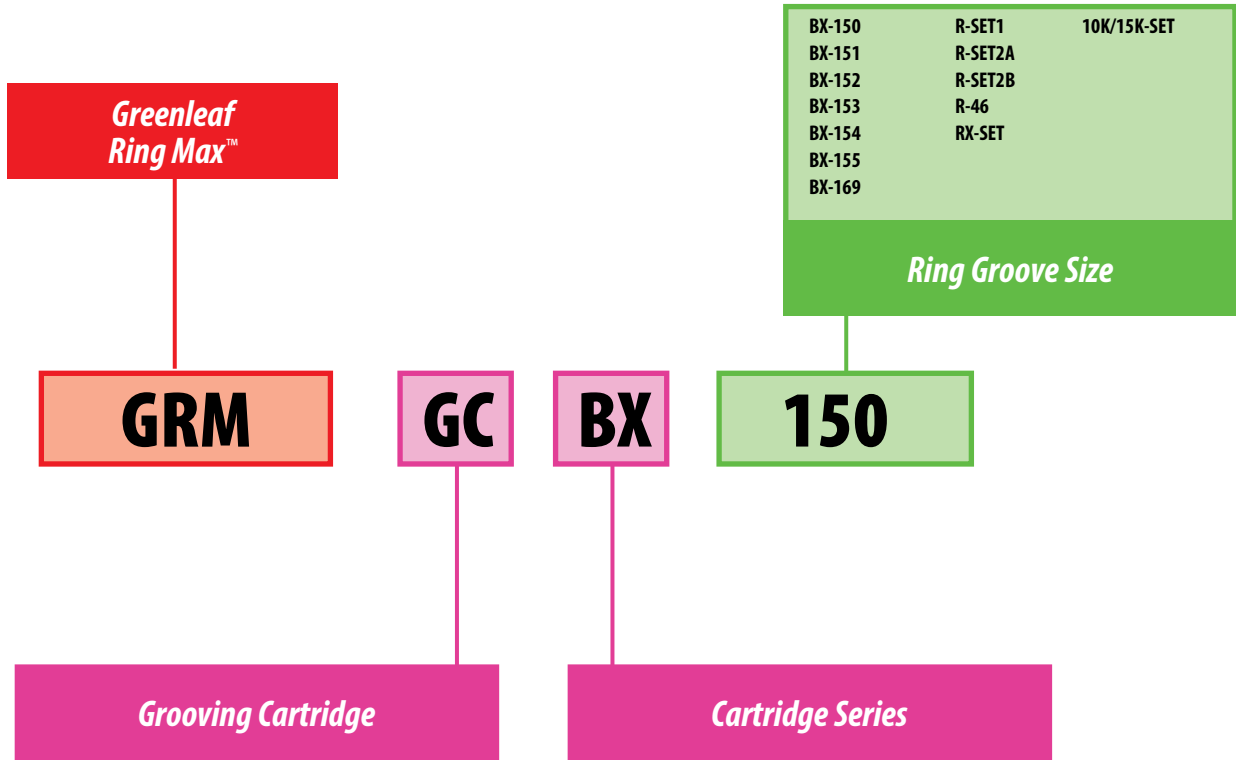
Assembled and Exploded Views Reference Guide



Ring Max™ III Pre-Clad Head Quote Request Form For information for a quote form you can download, see page RM 31.

Ring Max™

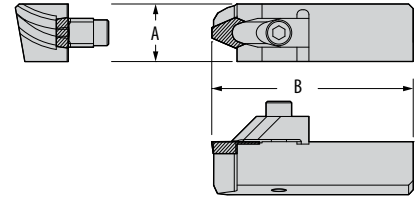
Grooving Cartridge Identification System



API RING GROOVE MACHINING

Ring Max™

Grooving Cartridge



Cartridge		Dimensions (mm)		Standard Components		Inserts
Groove Size	Part Number	A	B	Clamp	Clamp Screw	Purchased Separately
BX-150	GRM-GC-BX-150	25,40	66,68	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX150S
BX-151	GRM-GC-BX-151	25,40	66,68	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX151S
BX-152	GRM-GC-BX-152	25,40	66,68	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX152S
BX-153	GRM-GC-BX-153	25,40	66,68	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX153S
BX-154	GRM-GC-BX-154	28,37	66,68	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX154S
BX-155	GRM-GC-BX-155	31,98	79,38	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX155R
BX-156	GRM-GC-BX-156	30,18	79,38	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX156R
BX-169	GRM-GC-BX-169	25,40	79,38	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX169R
R-SET1*	GRM-GCRSET1-X	25,40	79,38	GRMUCS03S	M6-1.0 SHCS	GRM-GI-RSET1SX
R-SET2A*	GRM-GCRSET2A-X	19,05	66,68	GRMUCS05S	M5-0.8 SHCS	GRM-GI-RSET2SX
R-SET2B*	GRM-GCRSET2B-X	25,40	66,68	GRMUCS03S	M5-0.8 SHCS	GRM-GI-RSET2SX
R-46	GRM-GCR46	25,40	79,38	GRMUCS04R	M8-1.25 SHCS	GRM-GI-R46R
RX-SET*	GRM-GCRX201/5-X	19,05	66,68	GRMUCS05S	M5-0.8 SHCS	GRM-GI-RX201/5SX
10/15K-SET*	GRM-GC10/15-X	25,40	66,68	GRMUCS05S	M5-0.8 SHCS	GRM-GI-10/15K5X

* Denotes multiple groove sizes (See chart below.)

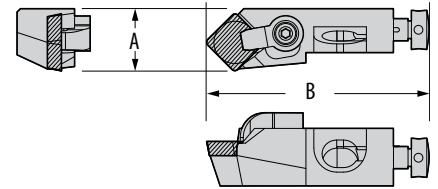
Multiple-Groove Compatibility

Single cartridges can produce multiple grooves when used in the proper gage diameter Ring Max™ grooving head. Use this chart for compatibility.

Shank Description	Ordering Code
R-SET1	R-21, R-23, R-24, R-26, R-27, R-31, R-35, R-37, R-39, R-41, R-44, R-45, R-49, R-53, R-57, R-65, R-69, R-82, R-84
R-SET2A	R-12, R-13, R-14, R-15, R-16, R-17, R-18, R-19, R-20
R-SET2B	R-22, R-25, R-29, R-33, R-36, R-40, R-43, R-48, R-52
RX-SET	RX-201, RX-205
10/15K-SET	10K-2 ¹ / ₁₆ " , 10K-3 ¹ / ₁₆ " , 10K-5 ¹ / ₁₆ " , 15K-3 ¹ / ₁₆ "

Ring Max™

Chamfer Cartridge



Cartridge	Dimension (mm)		Standard Components			Inserts Purchased Separately	Mounting Screws Supplied with Grooving Head M6-1.0 LHCS
	A	B	Clamp	Clamp Screw	Adj. Screw		
GRM-CC01	14,00	50,06	CLM-19	STCM-38	AAS-M5	SPGN-322	

All Ring Max™ heads for generation 2 and 3 use the same chamfer cartridges.

Ring Max™ STX – Lathe Tooling

The Ring Max™ STX system provides the same productivity gains as the Ring Max™ II and Ring Max™ III systems in a square shank tool. Whether you are machining a large diameter groove, or a standard BX, R, or RX groove, the Ring Max™ STX system is your solution for maximizing productivity in multiple API ring groove sizes.

Standard features and benefits include:

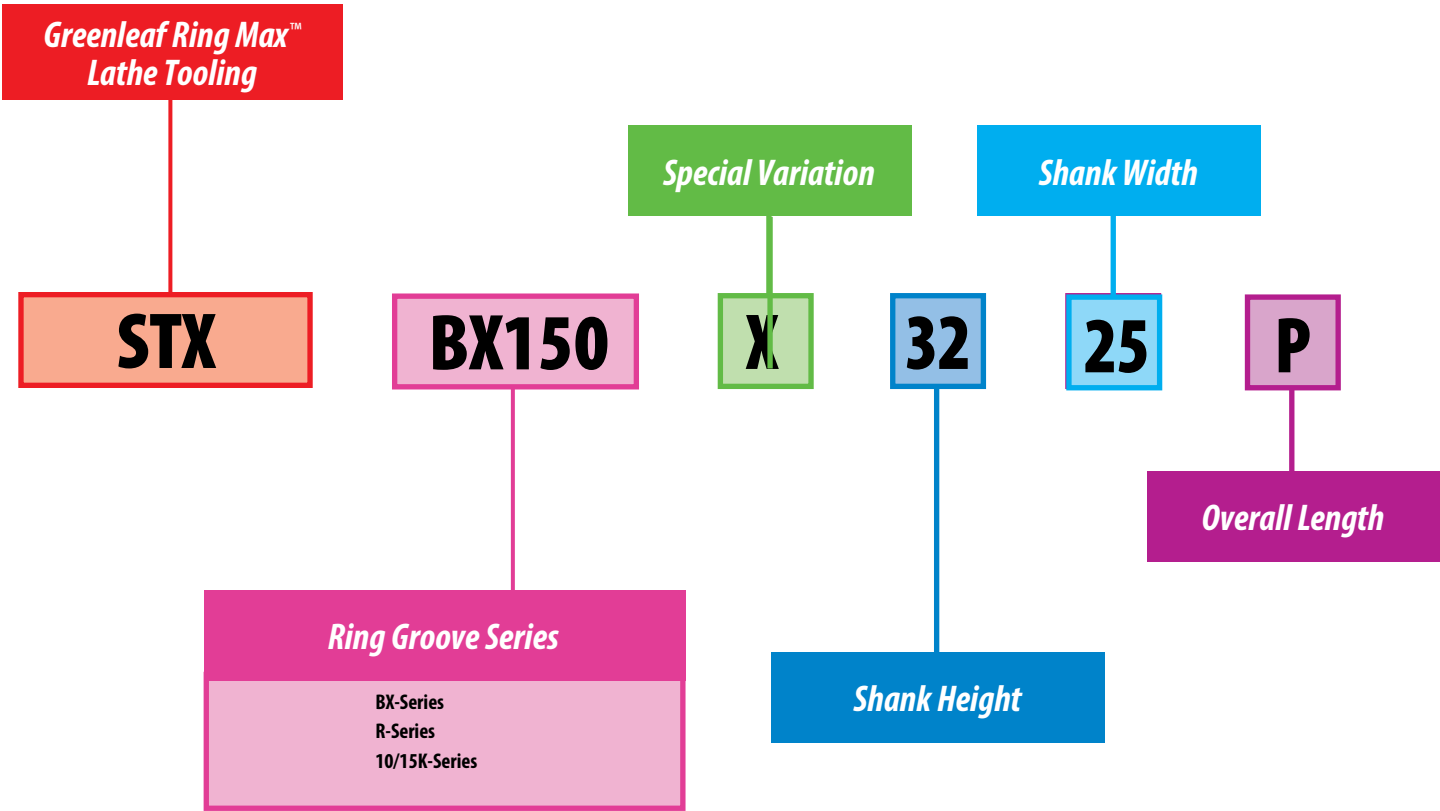
- Roughing and finishing of BX, R, and RX API ring grooves in Inconel 625 clad overlay in less than one minute.
- Utilization of the same clamping system and inserts as the Ring Max™ II and Ring Max™ III™ cutter systems.
- Available in common standard inch and metric shank sizes.

Please contact Greenleaf Corporation for any questions or assistance.



Ring Max™ STX

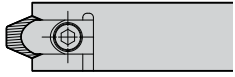
Lathe Tooling Identification System



API RING GROOVE MACHINING

Pictorial & Reference Index

RING MAX™ Lathe Tooling



Ring Max™ STX
Lathe Tooling
page: RM 28

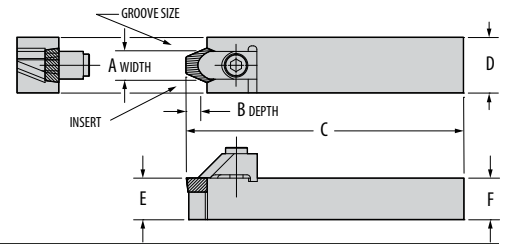
Reference

Ring Max™ STX
Models
page: RM 29

Lathe Tool
Quote Request Form
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Ring Max™ STX

Lathe Tooling



Holder		Dimensions (inches)					
Groove Size	Part Number	A†	B†	C	D	E	F
BX-150	STXBX1502525P	11,48	5,84	170	25	25	25
	STXBX1503225P	11,48	5,84	170	25	32	32
BX-151	STXBX1512525P	11,89	5,84	170	25	25	25
	STXBX1513225P	11,89	5,84	170	25	32	32
BX-152	STXBX1522525P	12,70	6,10	170	25	25	25
	STXBX1523225P	12,70	6,10	170	25	32	32
BX-154	STXBX1542525P	15,44	7,87	170	25	25	25
	STXBX1543225P	15,44	7,87	170	25	32	32
BX-155	STXBX1552525P	17,78	8,64	170	25	25	25
	STXBX1553225P	17,78	8,64	170	25	32	32
BX-156	STXBX1562525P	23,44	11,43	170	25	25	25
	STXBX1563225P	23,44	11,43	170	25	32	32
BX-169	STXBX1692525P	16,97	9,91	170	25	25	25
	STXBX1693225P	16,97	9,91	170	25	32	32
R-SET1SX*	STXRSET12525P	11,91	8,13	170	25	25	25
	STXRSET13225P	11,91	8,13	170	25	32	32
R-SET2SX*	STXRSET22525P	8,74	6,35	170	25	25	25
	STXRSET23225P	8,74	6,35	170	25	32	32
R-46R	STXR462525P	13,49	9,91	170	25	25	25
	STXR463225P	13,49	9,91	170	25	32	32
10/15KSX*	STX1015KX2525P	9,58	6,55	170	25	25	25
	STX1015KX3225P	9,58	6,55	170	25	32	32

† Groove width and depth tolerances comply with API Standard 6A/ISO 10423.
 * Denotes multiple groove sizes (See Multiple-Groove Compatibility chart below.)

Groove Size	Standard Components		Inserts Purchased Separately
	Clamp	Clamp Screw	
BX-150	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX150S
BX-151	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX151S
BX-152	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX152S
BX-154	GRMUCS01S	M6-1.0 SHCS	GRM-GI-BX154S
BX-155	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX155R
BX-156	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX156R
BX-169	GRMUCS04R	M8-1.25 SHCS	GRM-GI-BX169R
R-SET1SX*	GRMUCS03S	M6-1.0 SHCS	GRM-GI-RSET1SX
R-SET2SX*	GRMUCS05S	M5-0.8 SHCS	GRM-GI-RSET2SX
R-46R	GRMUCS04R	M8-1.25 SHCS	GRM-GI-R46R
10/15KSX*	GRMUCS05S	M5-0.8 SHCS	GRM-GI-10/15KSX

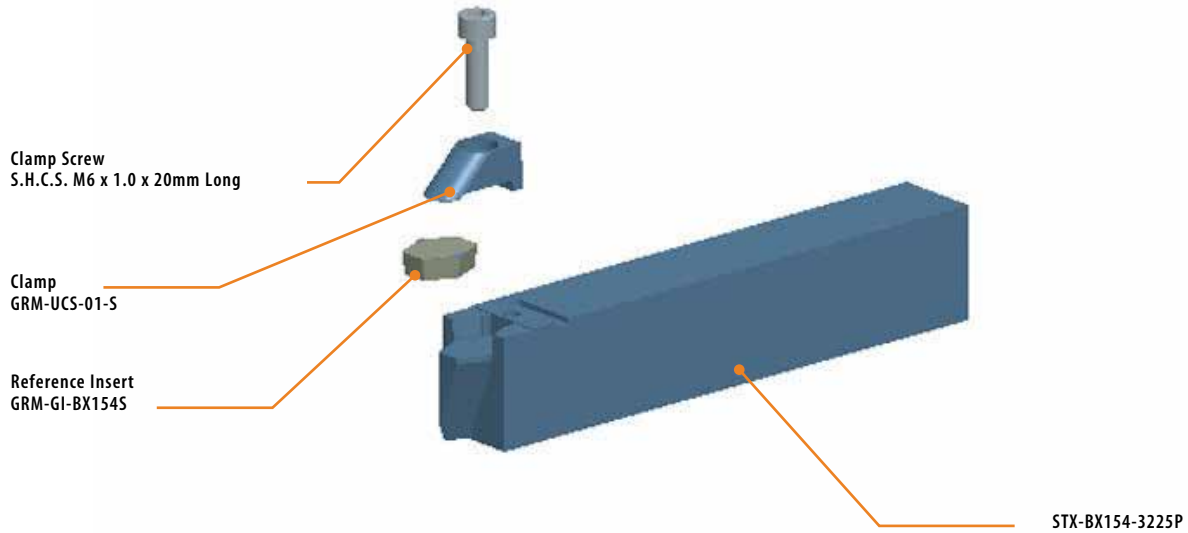
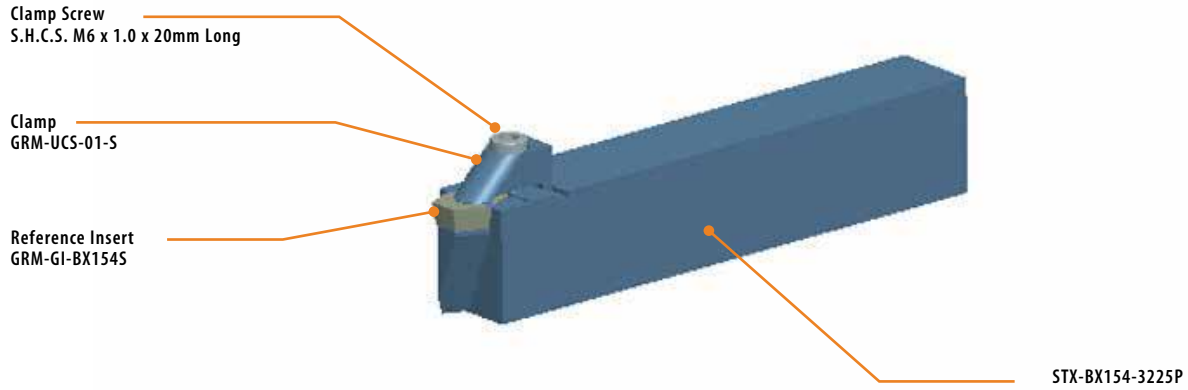
Multiple-Groove Compatibility

Single cartridges can produce multiple grooves. Use this chart for compatibility.

Shank Description	Ordering Code
R-SET1SX	R-21, R-23, R-24, R-26, R-27, R-31, R-35, R-37, R-39, R-41, R-44, R-45, R-49, R-53, R-57, R-65, R-69, R-82, R-84
R-SET2SX	R-12, R-13, R-14, R-15, R-16, R-17, R-18, R-19, R-20
10/15K-SET	10/15K, 10K-2 ¹ / ₁₆ " , 10K-3 ¹ / ₁₆ "

Ring Max™ STX

Assembled and Exploded Views Reference Guide



Ring Max™ Lathe Quote Request Form For information for a quote form you can download, see page RM 31.

Ring Max™

Machining Methods Reference Guide

Method One

Use these instructions for setting gage points and establishing target ring groove depths using an optical comparator.

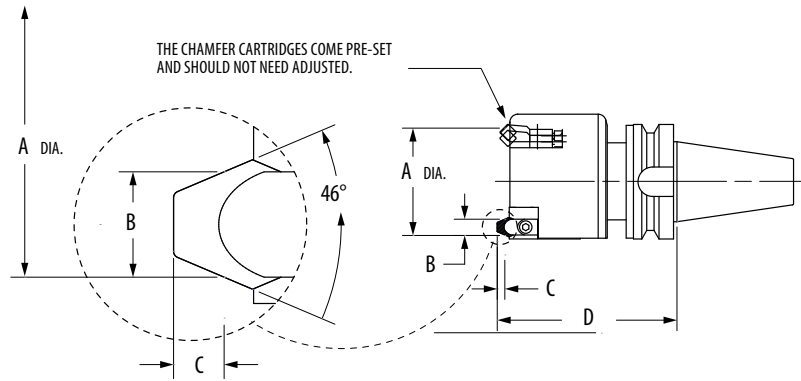
Step One:

Using an optical comparator, find and set the gage points at the groove's A diameter at mid-tolerance. The groove's B dimension will be within the allowable tolerance range.

Step Two:

Once the gage points in Step One have been determined, measure, and record the tool's Z length and the actual measured C dimension over the insert nose.

NOTE: The measured C dimension is the target machining depth and will be within the groove's allowable part tolerance.



Example for BX-152

A		B		C		Z
Part print dimension and tolerance	Target this diameter for gage points	Part print dimension and tolerance	Part print dimension and tolerance	Measure and target this depth for programming	Measure and target this depth for programming	Measure and target this depth for programming
86,233mm +0.10 -0.00	86,283mm	12,649mm +0.10 -0.00	5,84mm			

Method Two

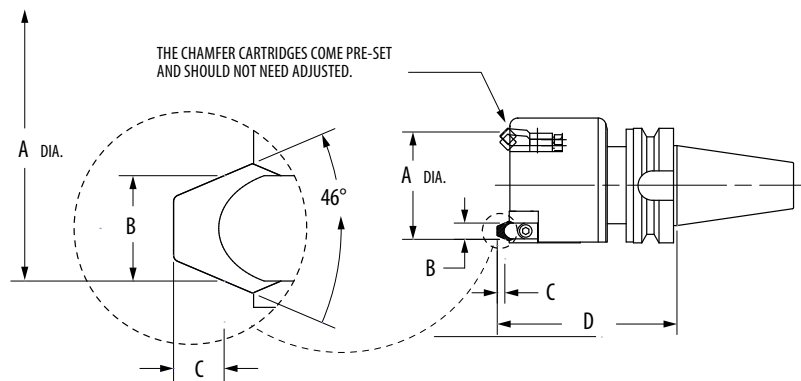
This method is used to machine ring grooves in a rough and finish pass.

Step One:

Machine the groove but reduce the groove depth to leave stock for the finish pass.

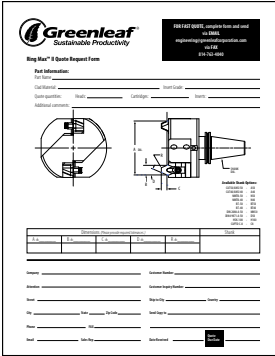
Step Two:

Measure the groove's A diameter and use the chart below to determine the additional D depth necessary to bring the A diameter into mid-tolerance.



If the A groove diameter is undsize by:	Increase the groove depth D by:
0.025mm	0.029mm
0.050mm	0.059mm
0.075mm	0.088mm
0.100mm	0.118mm
0.125mm	0.147mm
0.150mm	0.177mm
0.175mm	0.206mm
0.200mm	0.236mm
0.225mm	0.265mm
0.250mm	0.295mm
0.275mm	0.324mm
0.300mm	0.353mm

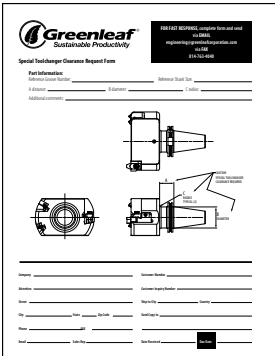
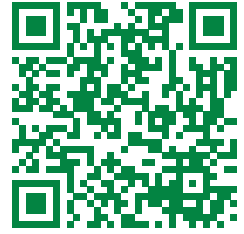
API RING GROOVE MACHINING



Ring Max™ II Quote Request Form

We have a Ring Max™ II Quote Request Form that you can download at — <https://www.greenleafcorporation.com/RingMax2QuoteRequest.pdf>

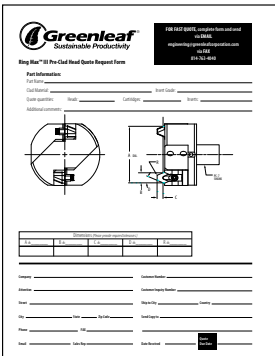
If you have any questions, contact the Greenleaf Tech Team at 800-458-1850, or email the engineering department at engineering@greenleafcorporation.com.



Special Toolchanger Clearance Request Form

We have a Special Toolchanger Clearance Request Form that you can download at — <https://www.greenleafcorporation.com/SpecialToolchangerClearanceRequest.pdf>

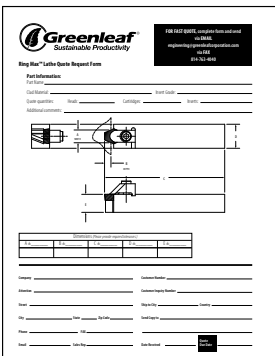
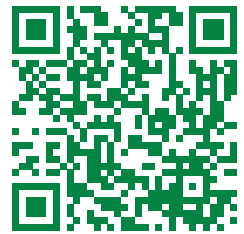
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Ring Max™ III Pre-Clad Head Quote Request Form

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