

NEW



GROOVEX

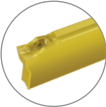
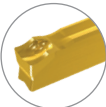
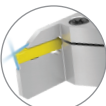
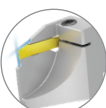
Innovative Grooving & Turning Solutions

MAIN CATALOG **SUPPLEMENT**

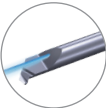
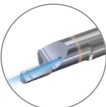
2020 | METRIC

MAIN CATALOG **SUPPLEMENT** 2020

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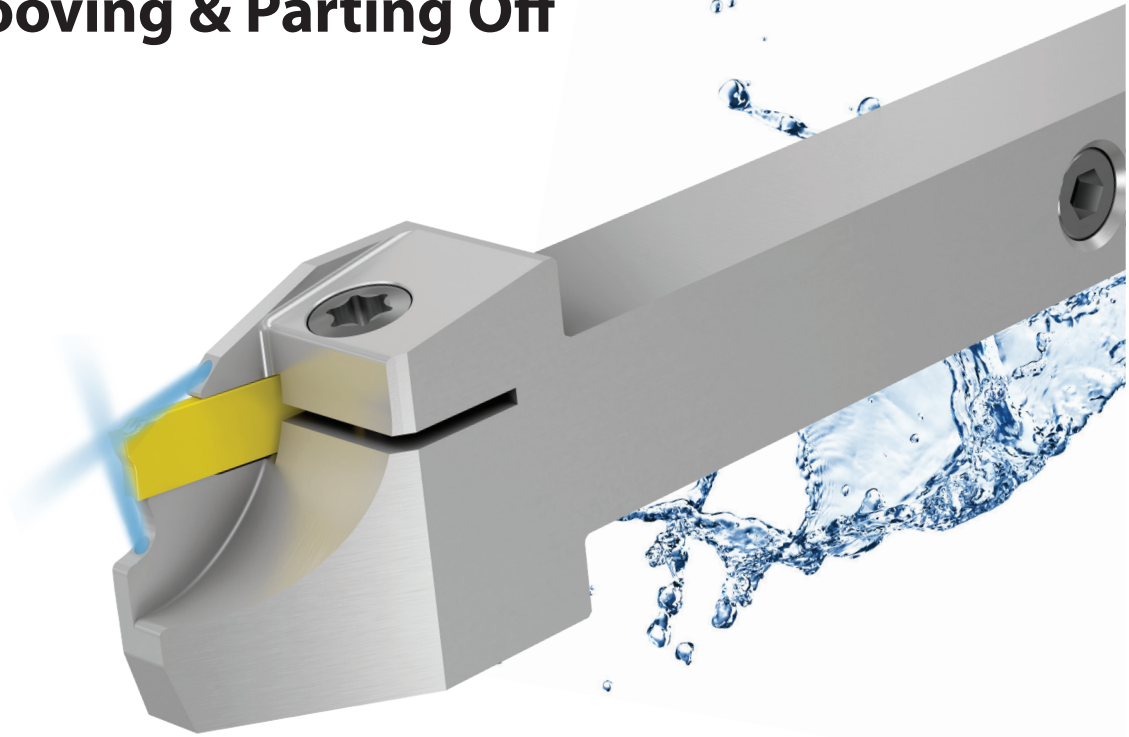
Note: High Pressure Coolant (HPC)

All tools with high pressure coolant are marked with "C" in ordering code.
All HPC tools are up to 100 Bar

VG-Cut

1.5mm Inserts and Holders for Deep Grooving & Parting Off

NEW



Features and Benefits

Inserts:

- Double-sided, 1.5mm inserts for deep grooving and parting off applications
- GM Geometry - Positive sharp cutting edge, which decreases build-up on the edge
- Grades:
 - VMG: Very tough substrate. PVD coated, M35 for low cutting speeds
 - VPG: Excellent anti-fracture resistance
Sub-micron substrate for a wide range of applications
TiAlN PVD coated, P30, K20

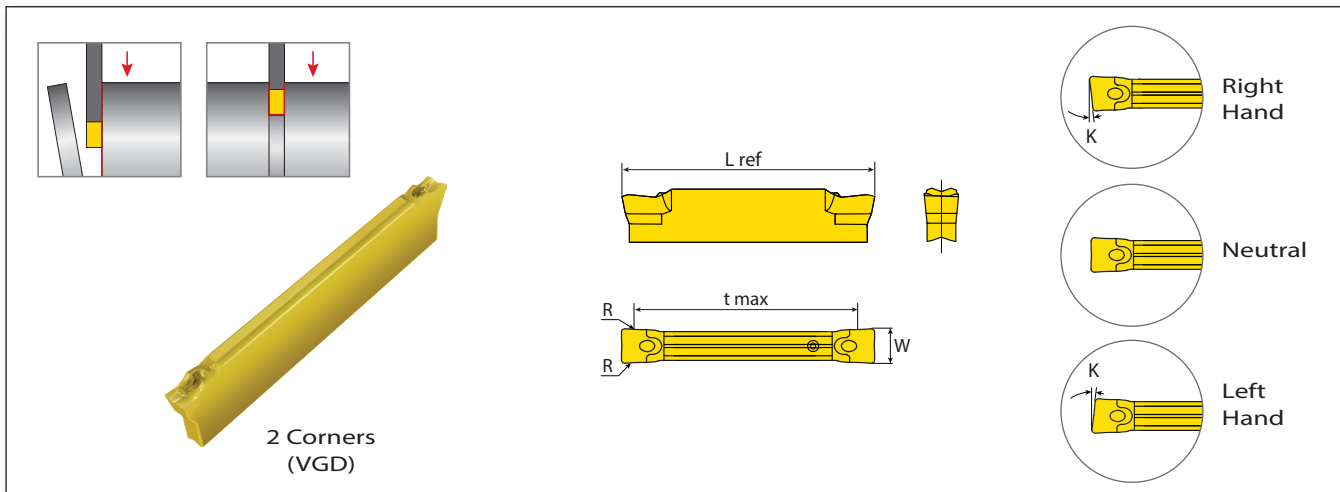
Holders:

- Reinforced monoblock holders (PH) are available with and without high pressure coolant
- Two high pressure coolant outlets (up to 100 Bar) are designed to directly cool insert rake and flank
- Shanks sizes: 10mm, 12mm, & 16mm
- T max:
 - 10 & 12mm shanks - 6.5 and 10.0mm
 - 16mm shank - 10.0mm

VG-Cut 1.5mm inserts and holders will be available in Q4 2019

Parting Off & Deep Grooving - Double Sided Inserts 1.5 mm Width

VG-Cut

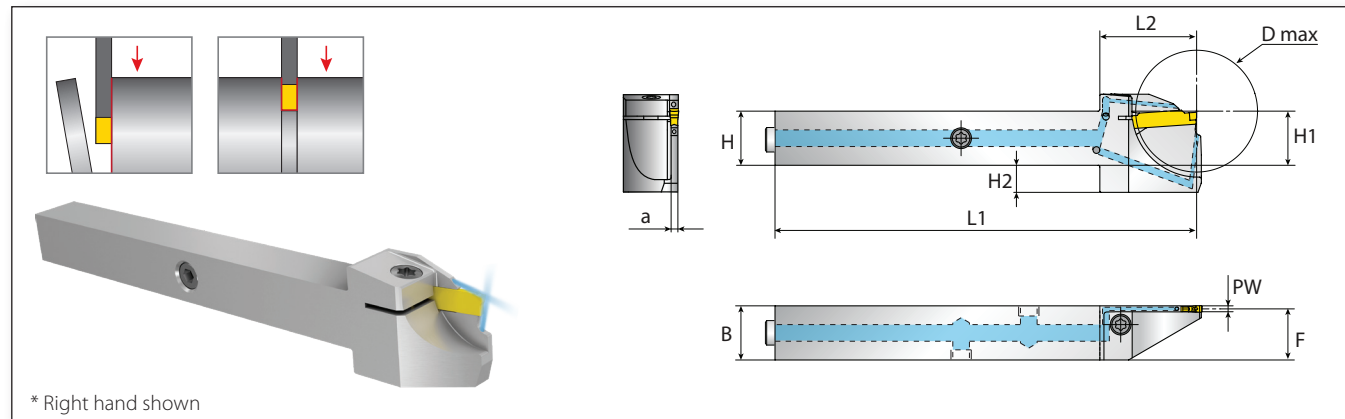


	Pocket Size	Ordering Code	Dimensions mm					Feed Range (mm/rev)	Grade	
			W ^{±0.04}	R	t max	K°	L ref		VPG	VMG
Positive sharp cutting edge, for low feed & speed	1.5	VGD1.50-012-GM	1.5	0.12	20	0	22	0.03-0.08	•	•
	1.5	VGD1.50-003-15R-GM	1.5	0.03	20	15	22	0.03-0.06	○	•
	1.5	VGD1.50-003-15L-GM	1.5	0.03	20	15	22	0.03-0.06	○	•

■ In stock • Available upon request

VG-Cut 1.5mm inserts and holders will be available in Q4 2019

Reinforced Monoblock Tools with Two HPC Coolant Outlets **VG-Cut** Grooving, Parting Off



Ordering Code										Spare Parts		
Dimensions mm												
RH/LH	PW	D max	HXB	H1	F	L1	L2	a	H2	Cylindrical Screw*	Key	Plug Screw
VGER/L1010-1.5T10-PHC	1.5	20	10x10	10	9.35	110	24.6	1.3	7	SM4x14 T15	K3TF	Plug M6x6
VGER/L1212-1.5T10-PHC		20	12x12	12	11.35	125	22.6		5			
VGER/L1616-1.5T10-PHC		20	16x16	16	15.35	125	22.6		2			

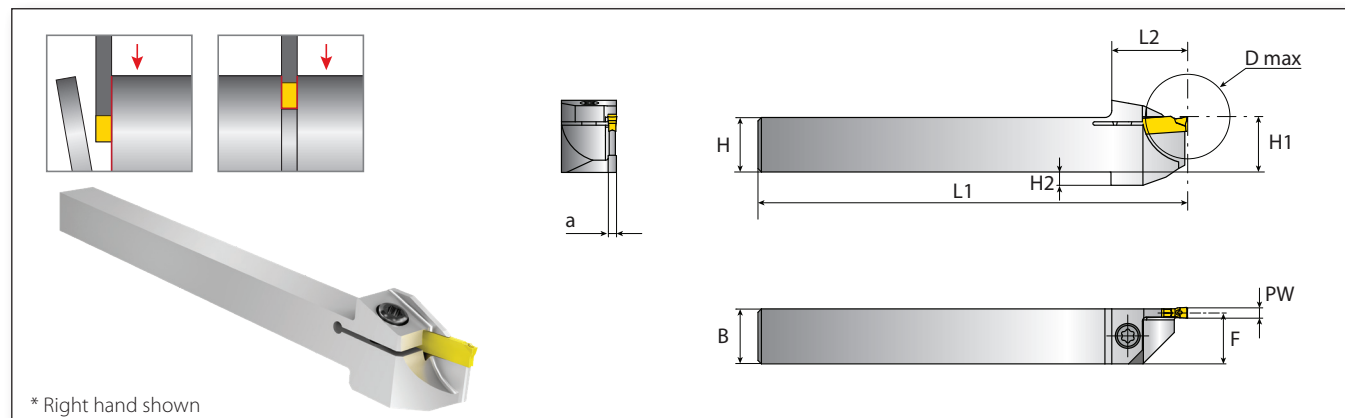
* Tightening Torque: **Cannot Exceed 3 Nm max**

Standard Key K3TF is supplied with tool. A torque meter can be ordered separately for greater tightening accuracy.

The following VARGUS accessories for use with HPC can be ordered separately:

1. Tube Connector 25-6P (x1)
 2. Fittings (x2): Angled Fitting M6x6P or Straight Fitting M6x6P
- For more information see page 8.

Reinforced Monoblock Tools Grooving, Parting Off



Ordering Code										Spare Parts	
Dimensions mm											
RH/LH	PW	D max	HXB	H1	F	L1	L2	a	H2	Cylindrical Screw*	Key
VGER/L1010-1.5T6.5-PH	1.5	13	10x10	10	4	9.35	125	1.3	4	SM4x14 T15	K3TF
VGER/L1010-1.5T10-PH		20	10x10	10	4	9.35	125		4		
VGER/L1212-1.5T6.5-PH		13	12x12	12	4	11.35	125		4		
VGER/L1212-1.5T10-PH		20	12x12	12	4	11.35	125		4		
VGER/L1616-1.5T10-PH		20	16x16	16	-	15.35	125		-		

* Tightening Torque: **Cannot Exceed 3 Nm max**

Standard Key K3TF is supplied with tool. A torque can be ordered separately for greater tightening accuracy.

VG-Cut 1.5mm inserts and holders will be available in Q4 2019

External Machining

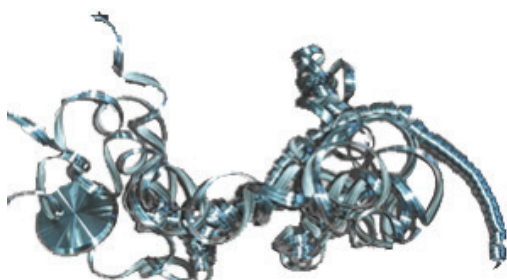
VG-Cut

GM2 - Chip Breaker Geometry for Grooving and Parting Off in Low Feeds

NEW

Features & Benefits

- Unique chip breaker for gummy and hard to break materials
- Specially made for grooving and parting off in very low feeds
- Positive sharp cutting edge
- VMG Grade: Very tough substrate, recommended for parting off on stainless steel and interrupted cuts



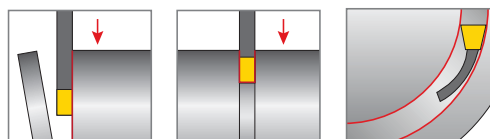
External Parting Off – Competitors



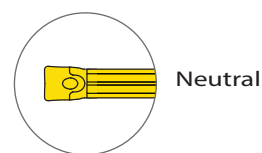
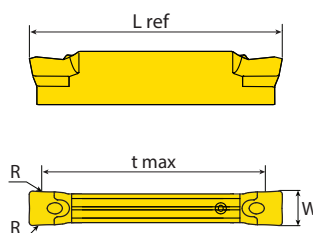
External Parting Off – GM2

NEW

Parting Off & Deep Grooving - Double Sided Inserts



2 Corners
(VGD)



Pocket Size	Ordering Code	Dimensions mm				Feed Range (mm/rev)	Grade		
		$W \pm 0.04$	R	t max	K°	L ref	VPG	VMG	VKG
3	VGD3.00-030-GM2	3.00	0.30	20.0	0.0	22.0	0.04 - 0.12	○	● ○

● In stock ○ Available upon request

External Machining

VG-Cut

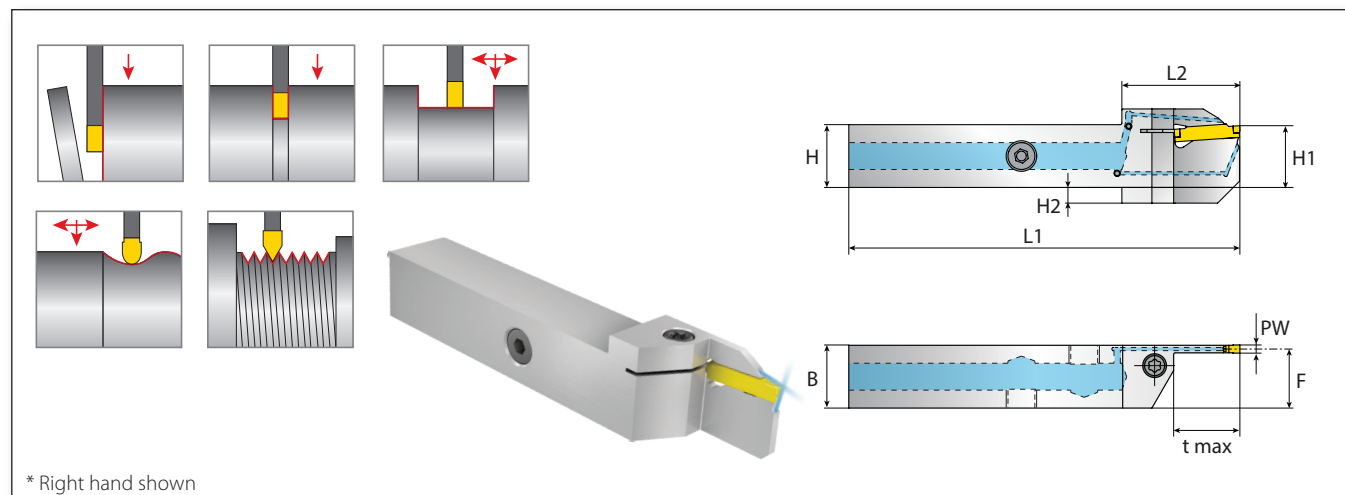
Monoblock Holders with Two High Pressure Coolant Outlets



Features and Benefits

- Monoblock Holders and Reinforced Monoblock Holders with two high pressure coolant outlets, designed to cool down the insert rake and flank, and improve chip evacuation
- High pressure coolant up to 100 bar
- Superior chip removal and better tool life
- Current pocket width range: 2.0, 3.0, & 4.0mm

Monoblock Holders with Two High Pressure Coolant Outlets Grooving, Parting Off, Turning & Threading

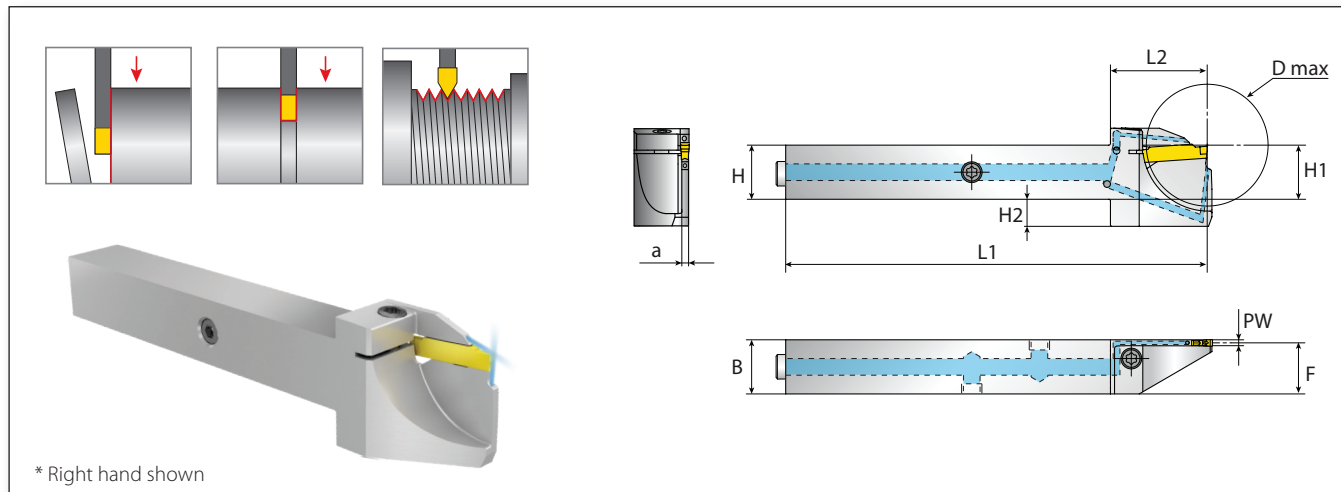


Ordering Code										Spare Parts		
Dimensions mm												
RH/LH	PW	t max	HXB	H1	F	L1	L2	a	H2	Cylindrical Screw*	Key	Plug Screw x2
VGER/L2020-3T12C	3	12	20x20	20	18.8	124.6	28.6	2.4	-	SM4x14 T15	K25T	Plug G1/8" GAS
VGER/L2020-3T21C		21	20x20	20	18.8	124.6	37.6		-			
VGER/L2525-3T12C		12	25x25	25	23.8	124.6	30.6		-			
VGER/L2525-3T21C		21	25x25	25	23.8	124.6	37.6		-			
VGER/L2525-4T21C	4	21	25x25	25	23.3	124.6	37.6		-			

* Tightening Torque: 5 Nm max

Reinforced Monoblock Tools with Two High Pressure Coolant Outlets | Grooving, Parting Off & Threading

VG-Cut



Ordering Code										Spare Parts			
Dimensions mm													
RH/LH	PW	D max	HXB	H1	F	L1	L2	a	H2	Cylindrical Screw	Key*	Key*	Plug Screw x2
VGER/L1010-2T10PHC	2	20	10x10	10	9.1	109.6	26	1.8	7	SM4x14 T15	K3TF	-	Plug M6x6
VGER/L1212-2T12PHC		24	12x12	12	11.1	124.6	24		6				
VGER/L1616-2T12PHC		24	16x16	16	15.1	124.6	24		2				
VGER/L1616-2T18PHC		36	16x16	16	15.1	124.6	30		8				
VGER/L2020-2T18PHC	3	36	20x20	20	19.1	124.6	30	2.4	4		-	KT-15	Plug G1/8"
VGER/L2020-3T21PHC		42	20x20	20	18.8	124.6	32		7				
VGER/L2525-3T21PHC		42	25x25	25	23.8	124.6	32		2				

* Tightening Torque: K3TF Key - 3 Nm max; KT-15 Key - 5 Nm max.

High Pressure Coolant Accessories (not included)

Image	For Shanks 10, 12, 16		For Shanks 20, 25	
	Ordering Code	Item Number	Ordering Code	Item Number
	Tube Connector 25-6P	013-00941	Tube Connector 25-6P	013-00941
	Angled Fitting M6x6P	013-01011	Angled Fitting G1_8x6P	013-00947
	Straight Fitting M6x6P	013-01012	Straight Fitting G1_8x6P	013-00942

The above mentioned HPC accessories can be ordered separately:

1. Tube Connector 25-6P (x1)
- 2a. **Shanks 10, 12, 16:** Fittings (x2) - Straight Fitting M6x6P and/or Angled Fitting M6x6P
- 2b. **Shanks 20, 25:** Fittings (x2)- Straight Fitting G1_8x6P and/or Angled Fitting G1_8x6P

Internal Machining

VG-Cut

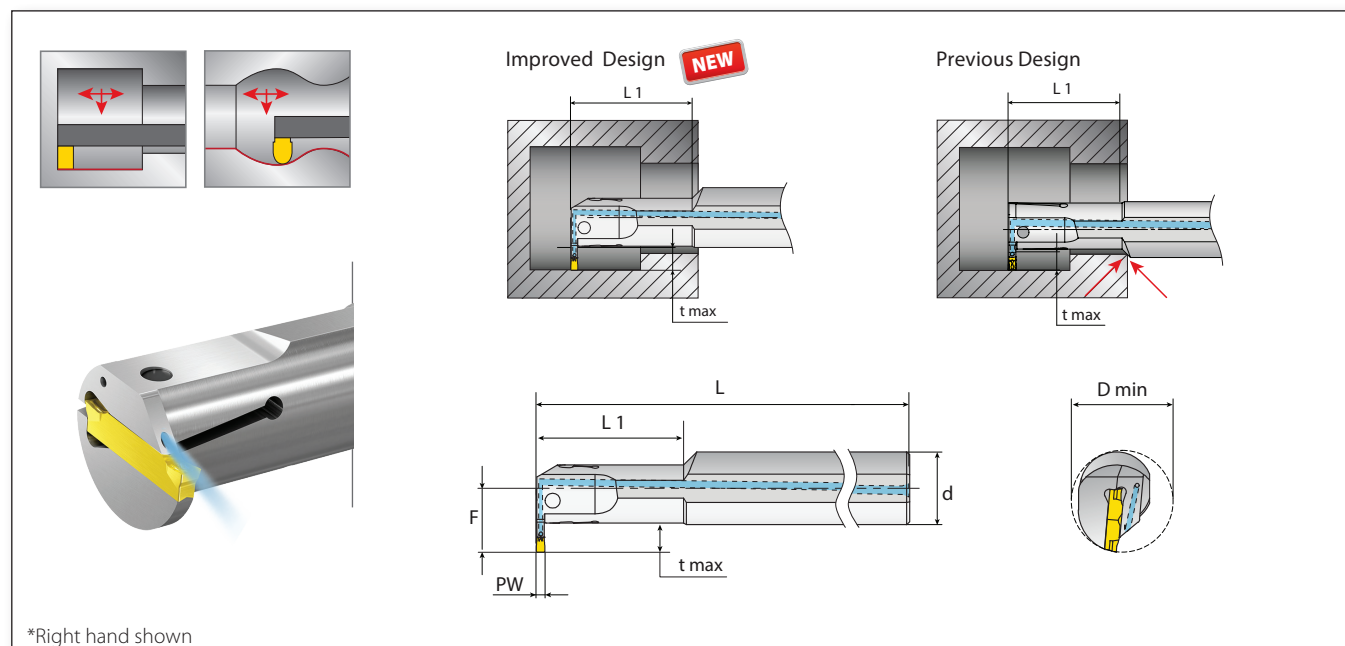
Internal Boring Bars

NEW

Improved Design for Grooving in Deeper Holes

Features and Benefits

- Improved design where tool overhang (L1) no longer limits machining on the axial plane
- Available in pocket widths: 2.0, 3.0, 4.0, 5.0 & 6.0mm
- High pressure coolant up to 100 Bar
- New holders are now available. Previous design is available while supplies last



*Right hand shown

New Design - Dimension L1 no longer limits machining on the axial plane

Spare Parts

Ordering Code								Dimensions mm			
RH/LH	PW	t max	L1	D min	d	F	L	Screw*	Key		
VGIR/L-20-24-2C	2	7.5	40.0	24	20	17.5	180	SM5x12	K4H		
VGIR/L-25-31-2C		9.5	50.0	31	25	22.0	200	SM5X14			
VGIR/L-20-24-3C	3	7.5	40.0	24	20	17.5	180	SM5x12			
VGIR/L-25-31-3C		9.5	50.0	31	25	22.0	200	SM5X14			
VGIR/L-32-39-3C		11.5	63.0	39	32	27.5	250				
VGIR/L-20-27-4C	4	9.5	41.0	27	20	19.5	180	SM5x12			
VGIR/L-25-31-4C		9.5	50.0	31	25	22.0	200	SM5X14			
VGIR/L-32-39-4C		11.5	63.0	39	32	27.5	250				
VGIR-32-39-5C	5	11.5	63.0	39	32	27.5	250	SM5x20			
VGIR-40-50-6C	6	11.5	80.0	50	40	30.5	300				

* Tightening Torque: For 2 PW holders - 4 Nm max.; For 3-6 PW holders - 7 Nm max.

microscope

Boring & Profiling Tools with Chip Breaker and High Pressure Coolant (CBLF)

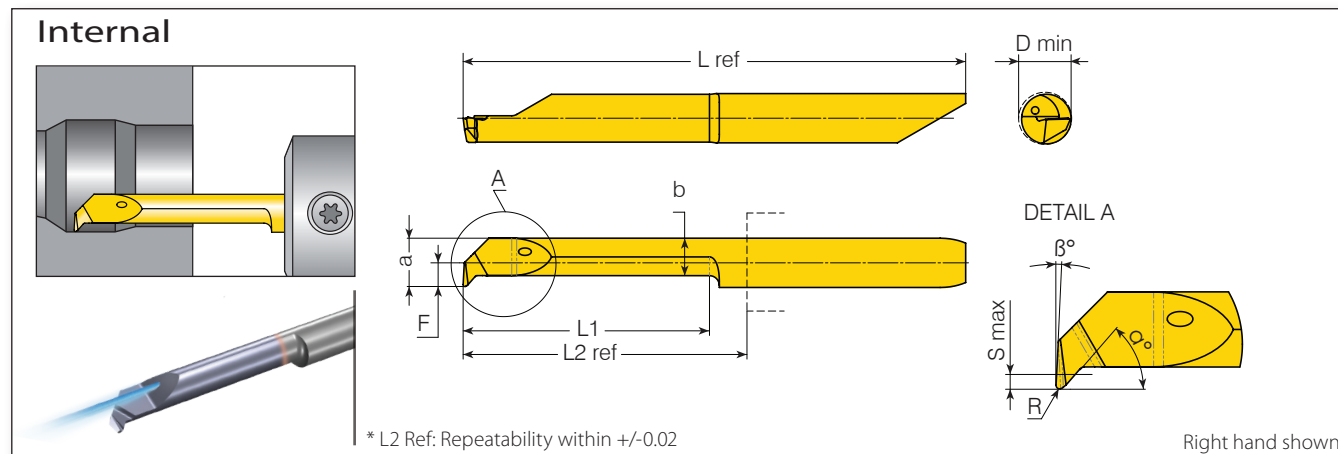


Features and Benefits

- Very positive Chip Breaker Type "F" - Excellent for stainless and mild steel
- Helical short chips for better chip evacuation
- Prevents tangled chips around the tool and workpiece
- Excellent for blind holes
- High Pressure Coolant (up to 100 Bar) for longer tool life
- **VTX Grade:**
 - Tough sub-micron substrate
 - AlTiN PVD coated, P30, K20
 - Multipurpose grade for medium to high cutting speeds

Boring & Profiling Tools with Chip Breaker and High Pressure Coolant (CBLF)

microscope



Shank Dia.	Min. Bore Dia.	Ordering Code				Dimensions mm						Grades			
d (mm)	D min. (mm)	RH/LH	L1	R	F	S max	a	b	α°	β°	L2 ref*	L ref	VBX	VTX	
4.0	4.2	M442CBLFR15 L10R/LC	10	0.15	1.9	0.7	3.9	3.1	47	3	11.5	28.5	○	●	
		M442CBLFR15L16R/LC	16								18.2	35.2	○	●	
		M442CBLFR15L21R/LC	21								22.8	39.8	○	●	
5.0	5.2	M552CBLFR20L16R/LC	16	0.2	2.4	0.95	4.9	3.8	49		18.15	41	○	●	
		M552CBLFR20L25R/LC	25								28.15	51	○	●	
6.0	6.2	M662CBLFR20L16R/LC	16	0.2	2.78	1.75	5.8	3.9	49		18.3	42	○	●	
		M662CBLFR20L21R/LC	21								23.3	47	○	●	
		M662CBLFR20L30R/LC	30								32.3	56	○	●	

● In stock ○ Available upon request

Inserts marked with C are available with internal coolant

Boring & Profiling Technical Data

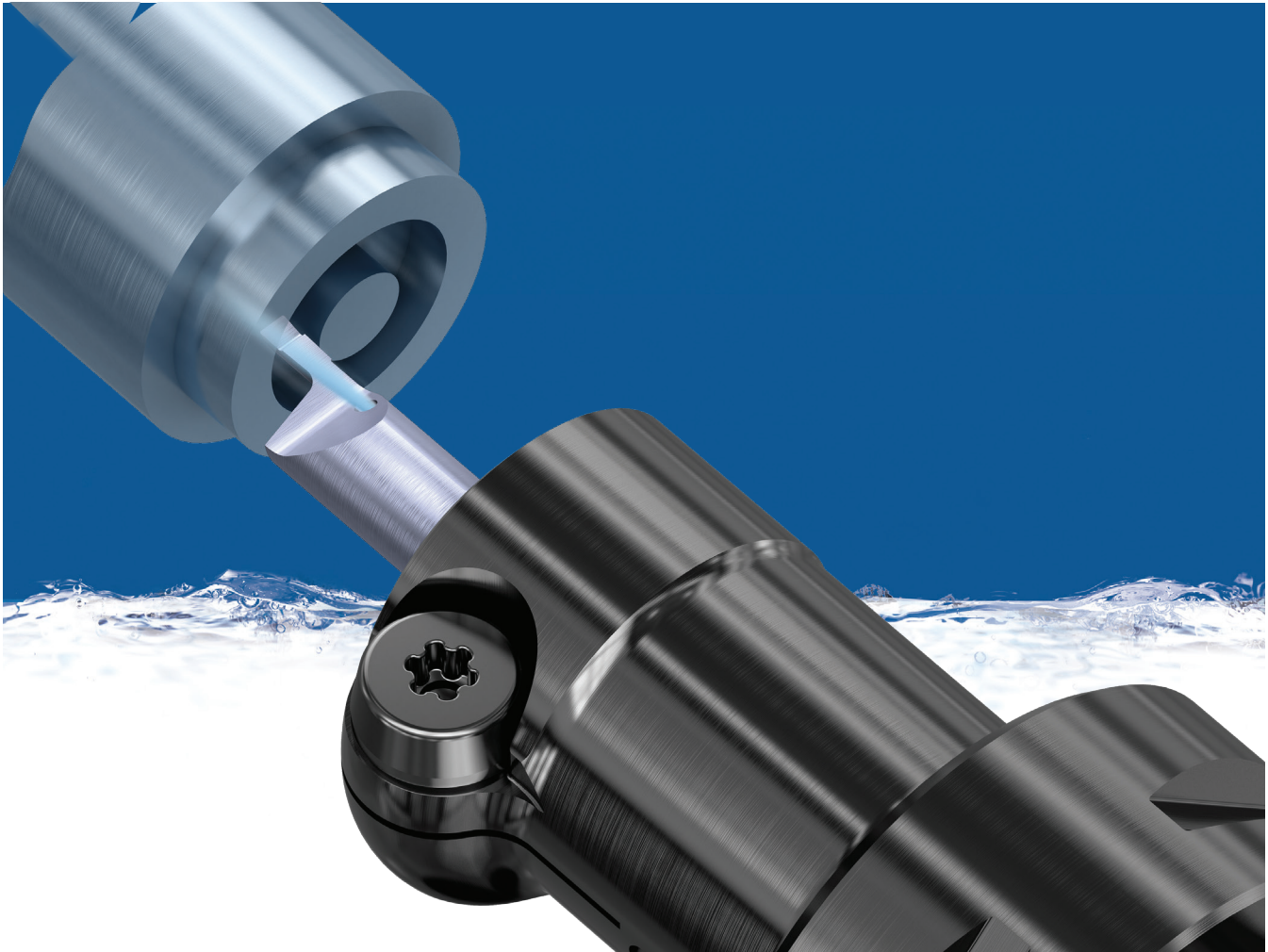
Recommended Depth of Cut [ap max. (mm)] and Feed f [mm/rev]

High Alloy Steel, 330 HB, 2100 Kc [N/mm ²]		
D min.	ap. max (mm)	f mm/rev
3.8 mm - 4.2 mm	0.25	0.025
4.3 mm - 5.2 mm	0.3	0.03
5.2 mm - 6.2 mm	0.3	0.035

Austenitic Stainless Steel, 200 HB, 2600 Kc [N/mm ²]		
D min.	ap. max (mm)	f mm/rev
3.8 mm - 4.2 mm	0.25	0.015
4.3 mm - 5.2 mm	0.3	0.025
5.2 mm - 6.2 mm	0.3	0.03

microscope

**Face Grooving Improved Geometry
Available with High Pressure Coolant**



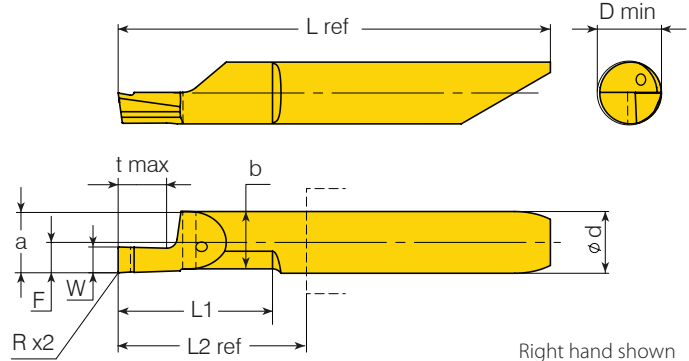
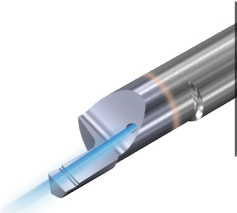
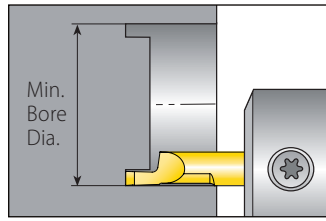
Features and Benefits

- Reinforced cutting edge in face grooving & face turning
- New positive chip former for greater chip control
- Wide range of grooving widths: 1.00mm up to 3.18mm
- New Face Grooving inserts with High Pressure Coolant (up to 100 bar)
- **VTX Grade:**
 - Tough sub-micron substrate
 - AlTiN PVD coated
 - Multipurpose grade for medium to high cutting speeds

Face Grooving with High Pressure Coolant

microscope

Internal



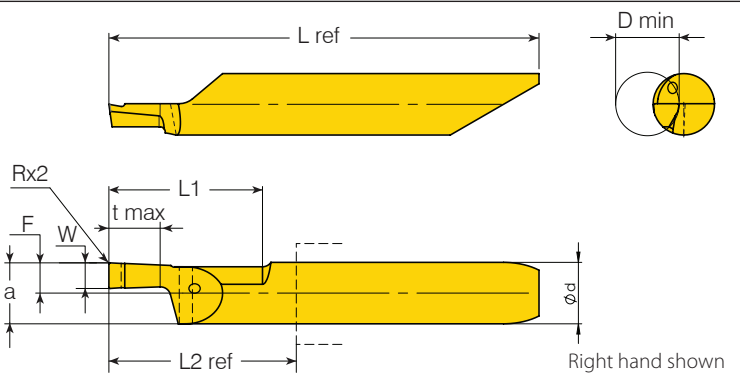
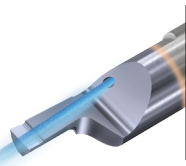
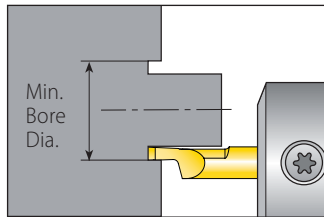
* L2 Ref: Repeatability within +/-0.02

Shank Dia.	Min. Bore Dia.	Ordering Code				Dimensions mm						Grades	
d (mm)	D min. (mm)	RH/LH	W $\pm$ 0.025	t max	L1	F	R	a	b	L2 ref*	L ref	VBX	VTX
6.0	8.0	M680FGW10L15R/LC	1.00	2.0	15	2.8	0.10	5.8	5.55	18.3	42.0	○	●
		M680FGW117L15R/LC	1.17				0.15					○	●
		M680FGW15L15R/LC	1.50				0.10					○	●
		M680FGW157L15R/LC	1.57	3.0			0.15					○	●
		M680FGW198L15R/LC	1.98				0.15					○	●
		M680FGW20L15R/LC	2.00				0.10					○	●
		M680FGW239L15R/LC	2.39	5.0			0.15					○	●
		M680FGW25L15R/LC	2.50				0.10					○	●
		M680FGW30L15R/LC	3.00				0.10					○	●
		M680FGW318L15R/LC	3.18	6.0			0.15					○	●

● In stock ○ Available upon request

Face Grooving with High Pressure Coolant

External



* L2 Ref: Repeatability within +/-0.02

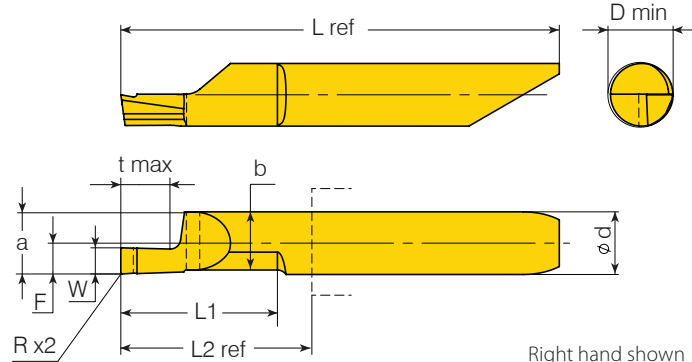
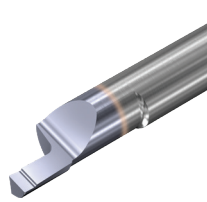
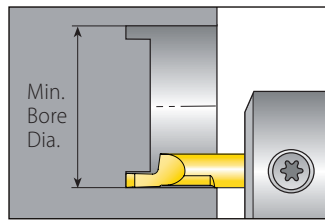
Shank Dia.	Min. Bore Dia.	Ordering Code				Dimensions mm						Grades	
d (mm)	D min. (mm)	RH/LH	W ^{±0.025}	t max	L1	F	R	a	b	L2 ref*	L ref	VBX	VTX
6.0	8.0	M680FPW10L15R/LC	1.00	2.0	15	2.8	0.10	5.8	5.55	18.3	42.0	○	●
		M680FPW117L15R/LC	1.17				0.15					○	●
		M680FPW15L15R/LC	1.50				0.10					○	●
		M680FPW157L15R/LC	1.57	3.0			0.15					○	●
		M680FPW198L15R/LC	1.98				0.15					○	●
		M680FPW20L15R/LC	2.00				0.10					○	●
		M680FPW239L15R/LC	2.39	5.0			0.15					○	●
		M680FPW25L15R/LC	2.50				0.10					○	●
		M680FPW30L15R/LC	3.00				0.10					○	●
		M680FPW318L15R/LC	3.18	6.0			0.15					○	●

● In stock ○ Available upon request

Face Grooving

microscope

Internal



* L2 Ref: Repeatability within +/-0.02

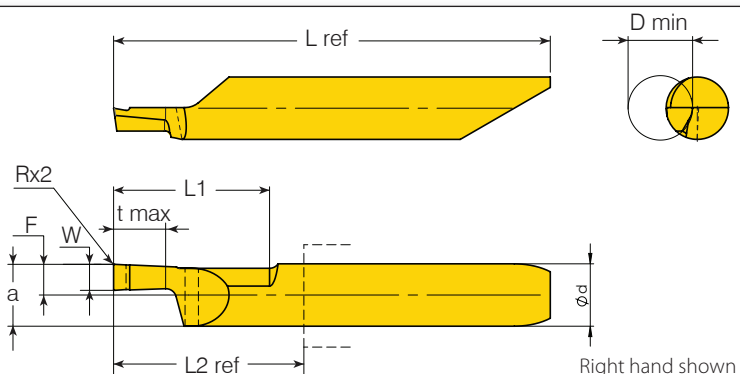
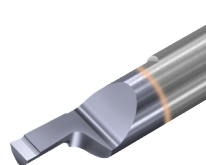
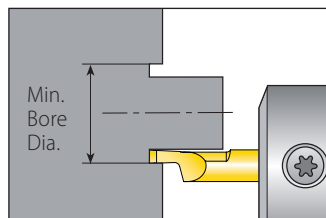
Right hand shown

Shank Dia.	Min. Bore Dia.	Ordering Code			Dimensions mm							Grades	
d (mm)	D min. (mm)	RH/LH	W ± 0.025	t max	L1	F	R	a	b	L2 ref*	L ref	VBX	VTX
6.0	6.2	MN662FGW10L15R/L	1.00	2.0	15	2.95	0.10	5.95	5.57	18.3	42.0	○	●
		MN662FGW117L15R/L	1.17				0.15					○	●
		MN662FGW15L15R/L	1.50	3.0			0.10					○	●
		MN662FGW157L15R/L	1.57				0.15					○	●
		MN662FGW198L15R/L	1.98	4.0			0.15					○	●
		MN662FGW20L15R/L	2.00				0.10					○	●
		MN662FGW239L15R/L	2.39	5.0			0.15					○	●
		MN662FGW25L15R/L	2.50				0.10					○	●
	6.6	MN662FGW30L15R/L	3.00	6.0			0.10					○	●
		MN666FGW318L15R/L	3.18				0.15					○	●

● In stock ○ Available upon request

Face Grooving

External



* L2 Ref: Repeatability within +/-0.02

Right hand shown

Shank Dia.	Min. Bore Dia.	Ordering Code				Dimensions mm						Grades	
d (mm)	D min. (mm)	RH/LH	W ^{±0.025}	t max	L1	F	R	a	b	L2 ref*	L ref	VBX	VTX
6.0	6.2	MN662FPW10L15R/L	1.00	2.0	15	2.95	0.10	5.95	5.57	18.3	42.0	○	●
		MN662FPW117L15R/L	1.17				0.15					○	●
		MN662FPW15L15R/L	1.50	3.0			0.10					○	●
		MN662FPW157L15R/L	1.57				0.15					○	●
		MN662FPW198L15R/L	1.98	4.0			0.15					○	●
		MN662FPW20L15R/L	2.00				0.10					○	●
		MN662FPW239L15R/L	2.39	5.0			0.15					○	●
		MN662FPW25L15R/L	2.50				0.10					○	●
	MN662FPW30L15R/L	3.00	6.0	0.10			○					●	
	6.6	MN666FPW318L15R/L		3.18			0.15					○	●

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VARGUS Ltd. - Global Headquarters +972 4 9855 101 | mrktg@vargus.com

EUROPE

 **DENMARK**
VARGUS Scandinavia
+45 8794 4100
vargus@vargus.dk

 **FRANCE**
VARGUS France
+33 1 4601 7060
commercial@vargus.fr

 **GERMANY**
VARGUS Germany
+49 7043 36 161
info@vargus.de

 **ISRAEL**
NEUMO-VARGUS
+972 3 537 3275
neumo@neumo-vargus.co.il

 **POLAND**
VARGUS Poland
+48 46 834 9904 / 46 831 5140
vargus@neumo.pl

 **SPAIN**
VARGUS Ibérica
+34 977 52 49 00
sales@vargus.es

 **SWITZERLAND**
VARGUS Switzerland
+41 41784 2121
info@vargus.ch

 **TURKEY**
VARGUS Turkey
+90 212 875 01 41
info@vargusturkey.com

 **UNITED KINGDOM**
VARGUS Tooling UK
+44 1952 583 222
tooling.uk@vargustooling.co.uk

ASIA

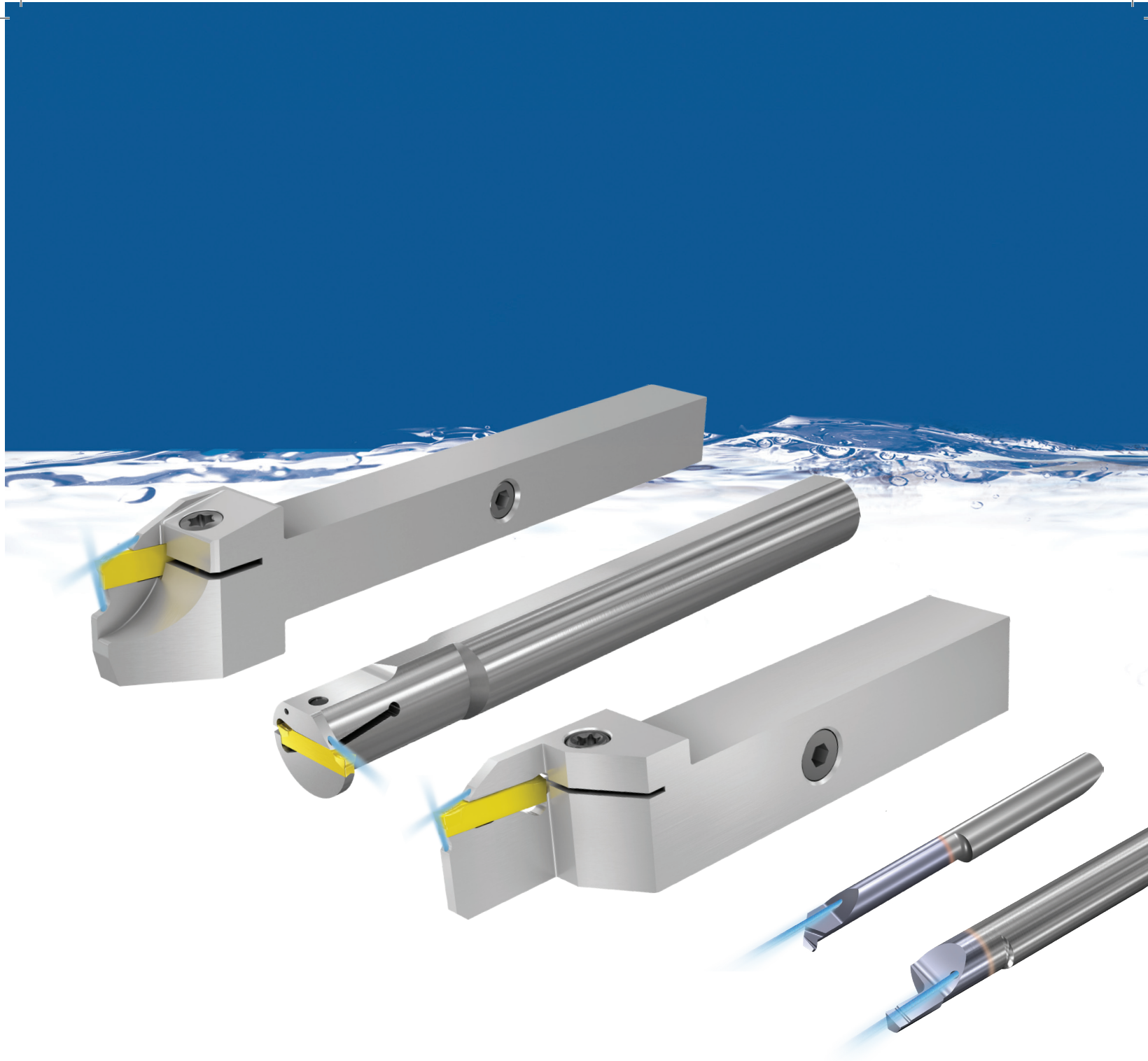
 **CHINA**
VARGUS China
+86 21 516 88300
info@varguschina.net

 **INDIA**
VARGUS India
+91 2135 654748
info@vargusindia.com

NORTH & LATIN AMERICA

 **BRAZIL**
VARGUS Brazil
+55 47 3084 8001
info@vargus.com.br

 **USA**
VARGUS USA
+1 800 828 8765 / 608 756 4930
sales@vargususa.com



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