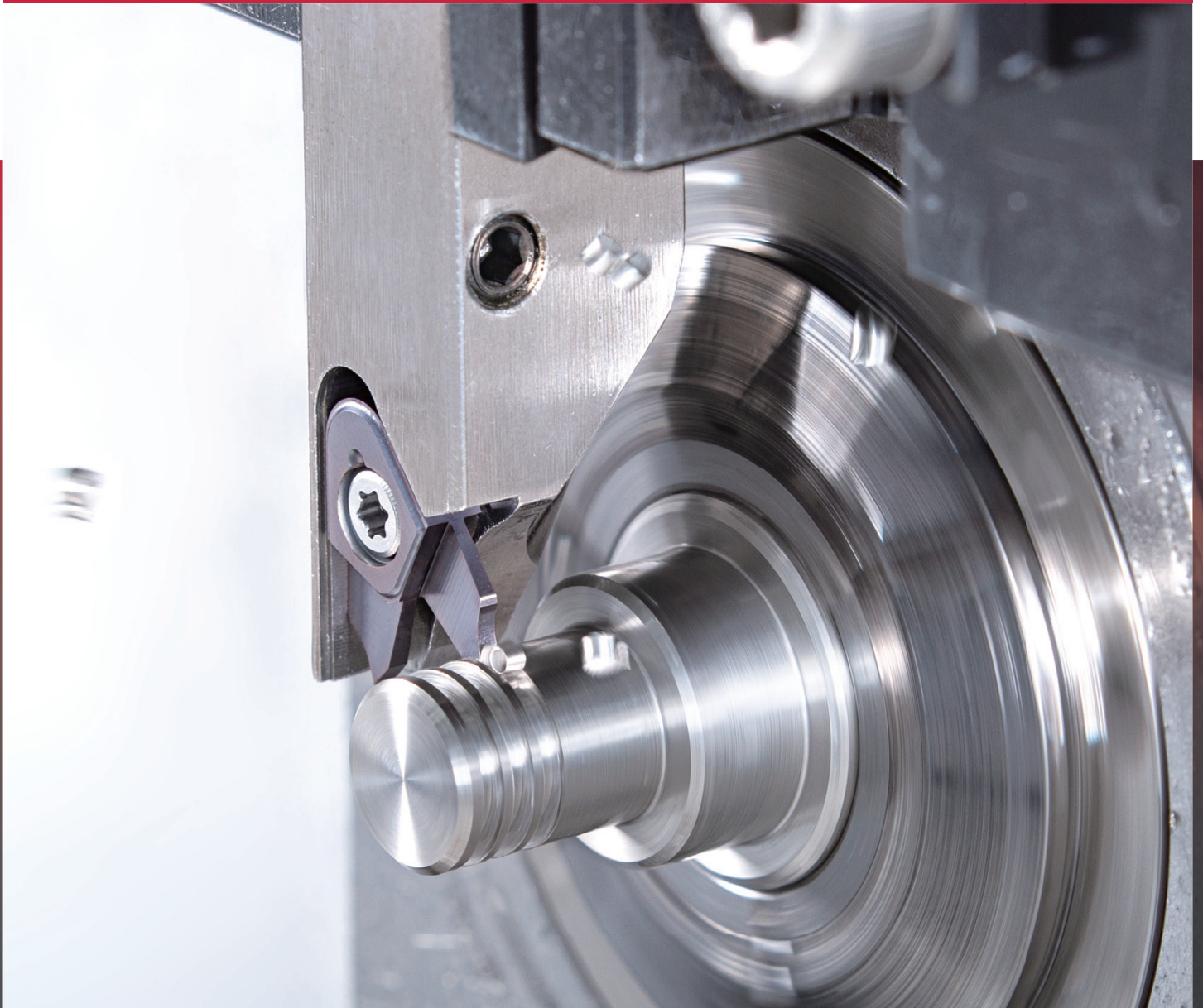


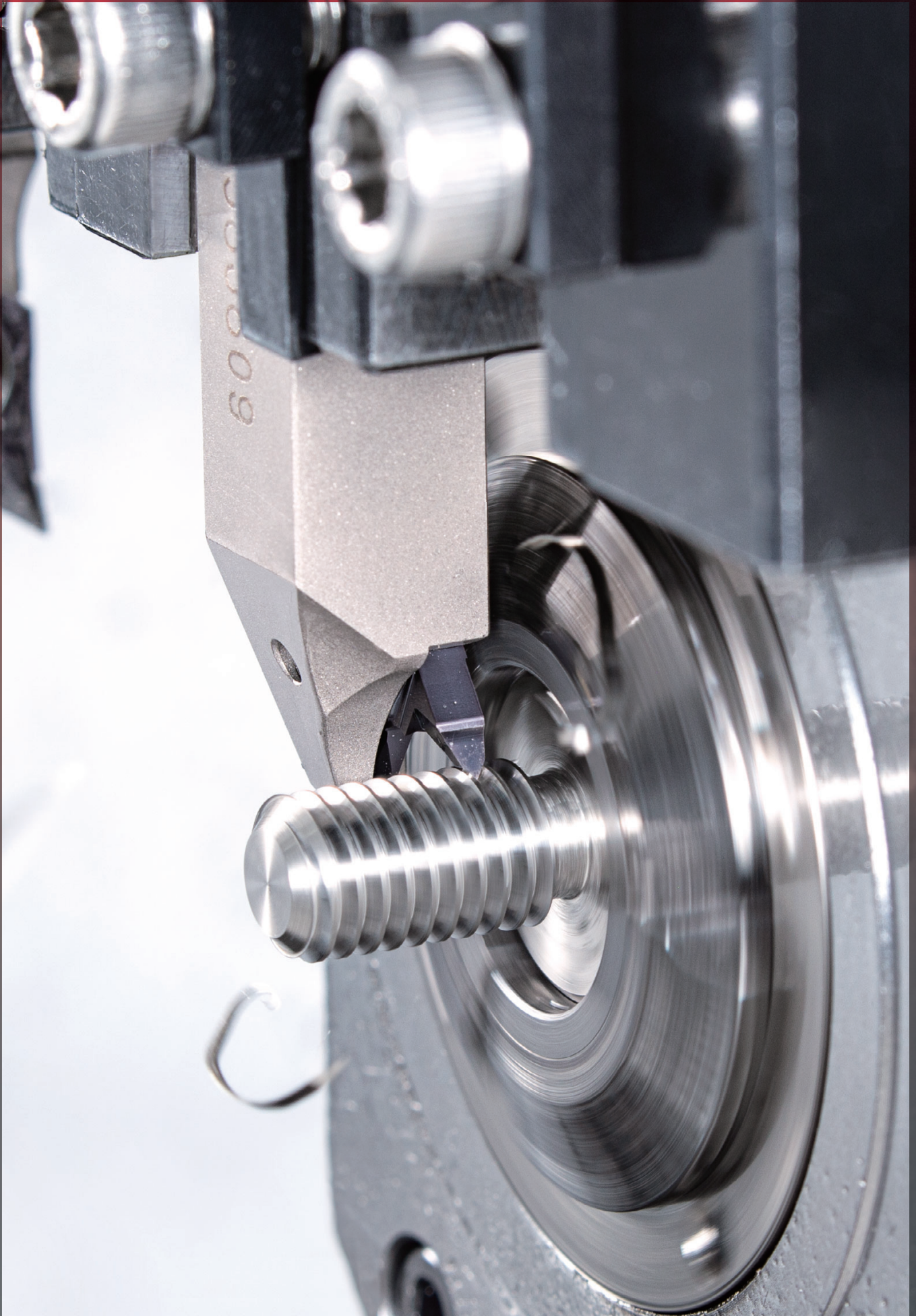
Grooving and Threading Tools for CNC automatic lathes

MINI^{LOCK}VGROOVE

Tungaloy Report No. 557-G

High precision grooving and threading tool series for CNC automatic lathes





INDUSTRY 4.0
FEED the SPEED!



MINI V^{LOCK} GROOVE



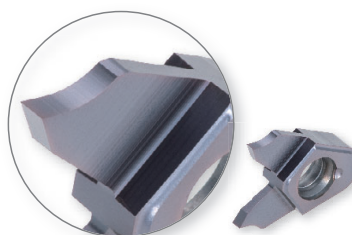
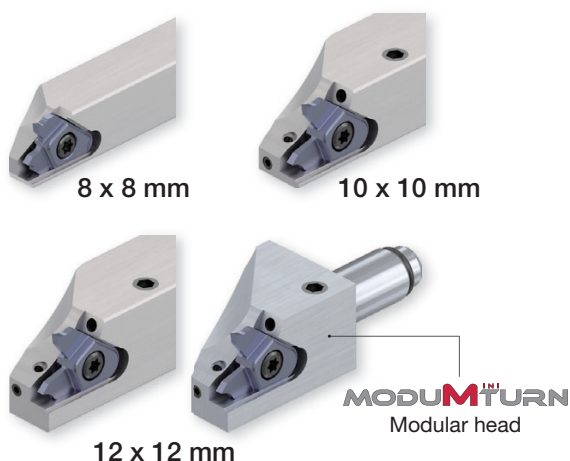
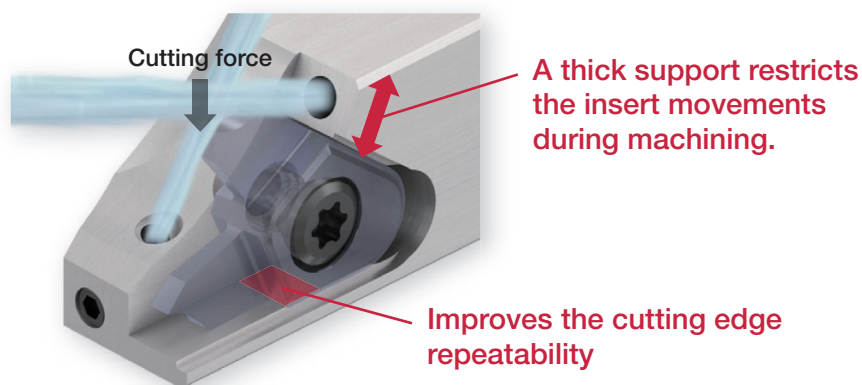
**Toolholders with new insert clamping system
for extra tool rigidity**

Perfect for grooving and threading bar stocks of
12 mm or smaller diameters

MINI^{LOCK}GROOVE

Grooving and threading tools for CNC automatic lathes with unique insert clamping system for extra tool rigidity

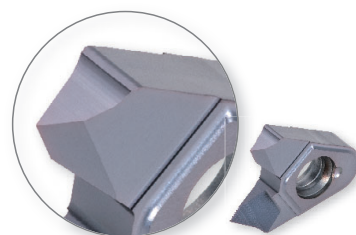
- V-shaped insert pocket retains the insert securely, enabling high precision machining
- Available in 8x8, 10x10, and 12x12 mm square shanks
- High-pressure through coolant directed to the rake and back faces of the cutting edge for smooth machining process and prolonged tool life
- Same inserts for right-hand and left-hand toolholders



For grooving

2-corner insert

CW = 0.33 - 1 mm



For threading

2-corner insert

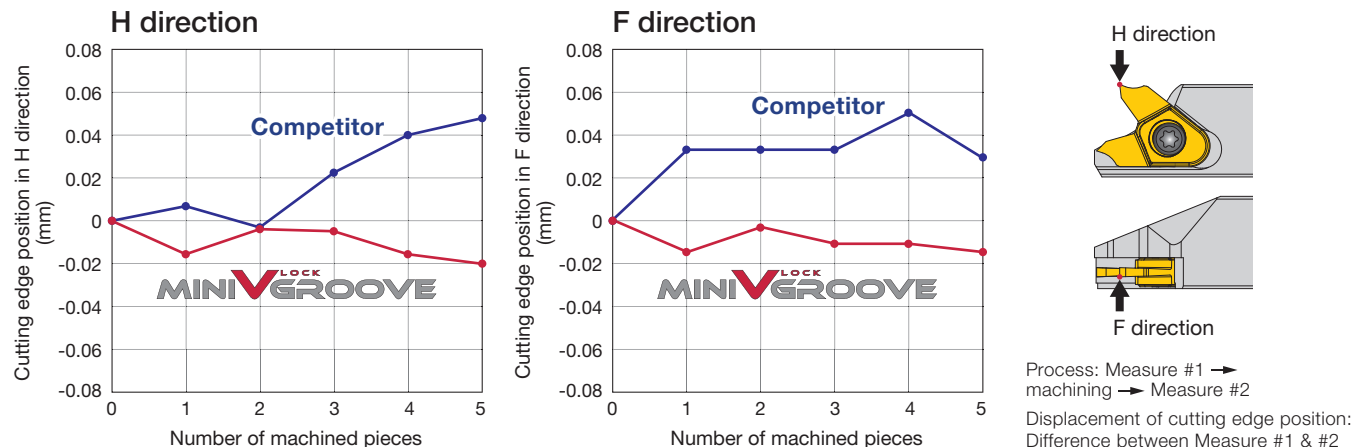
Pitch: 0.4 - 2 mm
Cutting edge angle: 55°, 60°

Slim shank design eliminates interference with neighboring tools

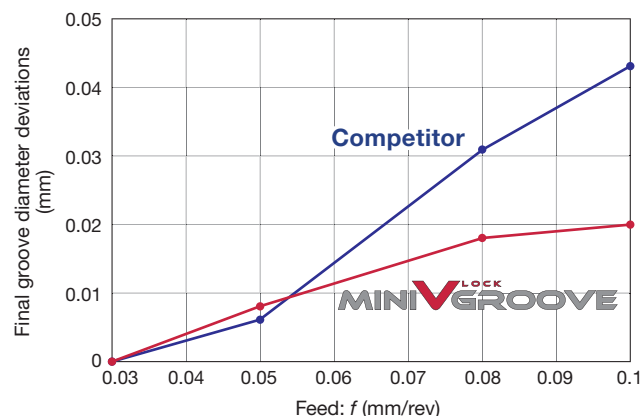


CUTTING PERFORMANCE

Tool rigidity



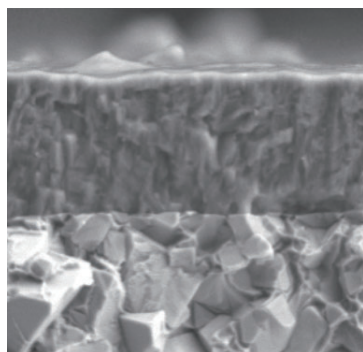
Deviations of final groove diameters



M Toolholder : SVER1010H10
 Insert : VGP10-100F-005 SH725
 Workpiece material : SUS304 / X5CrNi18-9
 Barstock diameter : $\phi 12$ mm
 Cutting speed : $V_c = 80$ m/min
 Groove width : $CW = 1$ mm
 Coolant : Oil

GRADE

SH725



PVD coated grade SH725

(Ti,Al)N coating combined with a tough carbide substrate dedicated for small parts machining offers excellent coating adhesion and edge sharpness.

Excellent resistance to wear and chip welding

Smooth coating surface of the cutting edge prevents coating from peeling off, while its incredible wear resistance provides longer tool life than existing grades.

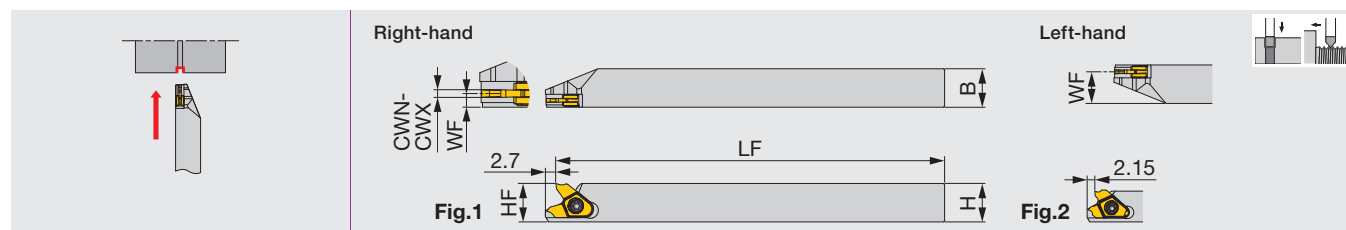
High resistance to plastic deformation

Tough carbide substrate offers stable and longer tool life.

TOOLHOLDERS

SVER/L

External grooving and threading toolholder



Designation	CWN	CWX	H	B	LF	HF	WF ⁽¹⁾	Insert	Torque*	Fig.
SVER/L0808H08	0.33	1	8	8	100	8	1.23/6.78	VGP08...	1.1	2
SVER/L1010H10	0.5	1	10	10	100	10	1.78/8.23	VG*10...	1.3	1
SVER/L1212X10	0.5	1	12	12	120	12	1.78/10.23	VG*10...	1.3	1

Torque*: Recommended clamping torque (N-m)

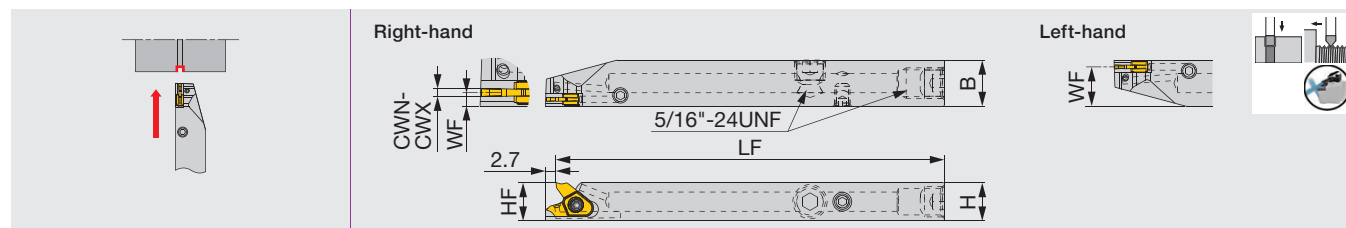
(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

SPARE PARTS

Designation	Clamping screw	Wrench
SVER0808...	CSTB-2.2L053DL	T-7F
SVEL0808...	CSTB-2.2L053DR	T-7F
SVER1010/1212...	CSTB-2.5L054DL	T-7F
SVEL1010/1212...	CSTB-2.5L054DR	T-7F

SVER/L-CHP

External grooving and threading toolholder, with high pressure coolant capability



Designation	CWN	CWX	H	B	LF	HF	WF ⁽¹⁾	Insert	Torque*
SVER/L1012H10-CHP	0.5	1	10	12	100	10	1.78/10.23	VG*10...	1.3
SVER/L1212X10-CHP	0.5	1	12	12	120	12	1.78/10.23	VG*10...	1.3

Compatible to the direct internal coolant supply system without the use of external coolant hose.

Torque*: Recommended clamping torque (N-m)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

SPARE PARTS

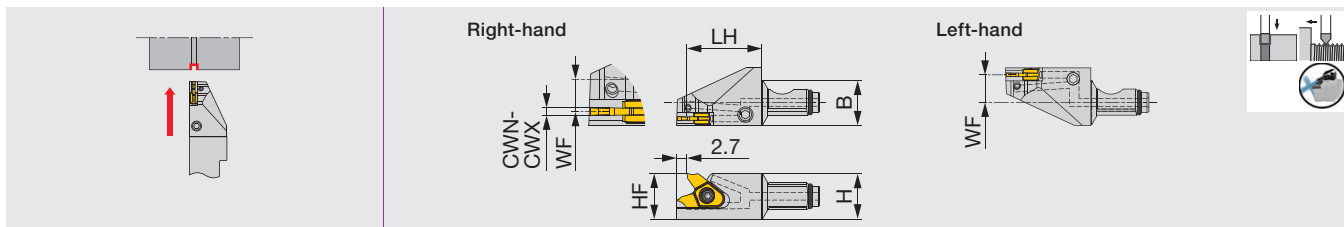
Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
SVER1012/1212...	CSTB-2.5L054DL	T-7F	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2
SVEL1012/1212...	CSTB-2.5L054DR	T-7F	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

MODULAR HEAD

QC12-SVER/L-CHP

MODUM^{INI}TURN

Modular head for external grooving and threading, with high pressure coolant capability



Designation	CWN	CWX	H	B	LH	HF	WF (1)	Insert	Torque*
QC12-SVER/L10-CHP	0.5	1	12	12	19.5	12	4.19/7.19	VG*10...	1.3

Torque*: Recommended clamping torque (N-m)

(1) "WF" indicates the distance from the reference position to the center of the cutting edge width. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.

SPARE PARTS



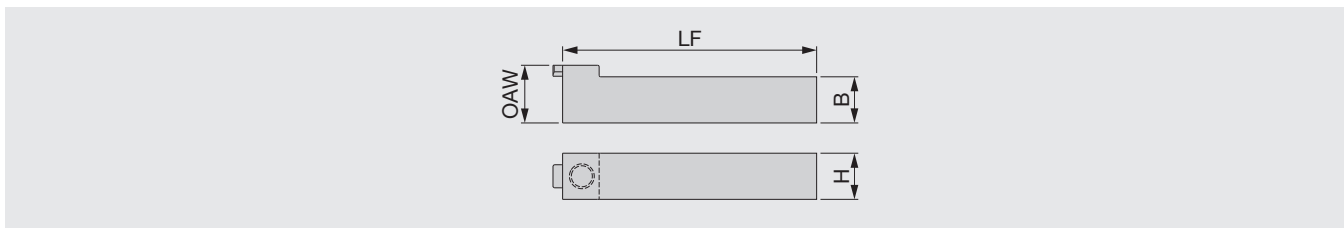
Designation	Clamping screw	Wrench	O-ring
QC12-SVER...	CSTB-2.5L054DL	T-7F	ORSS-0454.5X1.0NBR70
QC12-SVEL...	CSTB-2.5L054DR	T-7F	ORSS-0454.5X1.0NBR70

SHANKS

QC-1212

MODUM^{INI}TURN

Shank for modular heads



Designation	H	B	LF	OAW	Torque*
QC-1212F	12	12	65	15	3
QC-1212X	12	12	100	15	3

QC12 heads only can be mounted on these shanks.

Torque*: Recommended clamping torque (N-m)

SPARE PARTS



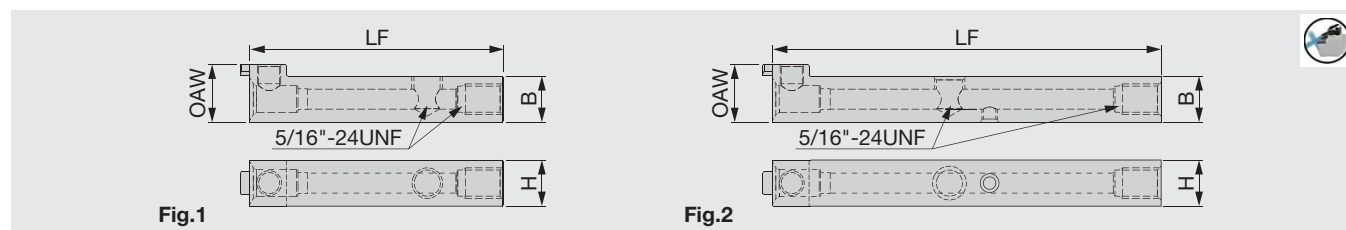
Designation	Clamping screw	Wrench
QC-1212*	SRM6X0.5-26977	P-3

MODUM^{INI}TURN
For more information



QC-1212-CHP

Shank for modular heads, with high pressure coolant capability



Designation	H	B	LF	OAW	Torque*	Fig.
QC-1212F-CHP	12	12	65	15	3	1
QC-1212X-CHP ⁽¹⁾	12	12	100	15	3	2

QC12 heads only can be mounted on these shanks.

Torque*: Recommended clamping torque (N-m)

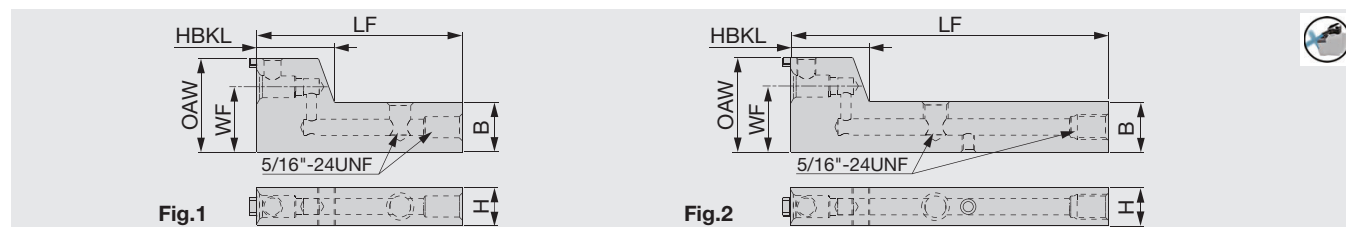
(1) Compatible to the direct internal coolant supply system without the use of external coolant hose.

SPARE PARTS

Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
QC-1212F-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	-	-
QC-1212X-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

QC-1216-F15-CHP

Stepped-head shank for modular heads, with high pressure coolant capability



Designation	H	B	LF	WF	HBKL	OAW	Torque*	Fig.
QC-1216F-F15-CHP	12	16	65	21	25	30	3	1
QC-1216X-F15-CHP ⁽¹⁾	12	16	100	21	25	30	3	2

QC12 heads only can be mounted on these shanks.

Torque*: Recommended clamping torque (N-m)

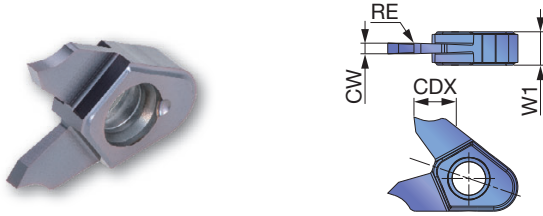
(1) Compatible to the direct internal coolant supply system without the use of external coolant hose.

SPARE PARTS

Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
QC-1216F-F15-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	-	-
QC-1216X-F15-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

INSERTS

VGP08/10 (For grooving / sharp edge)



P	Steel	★							
M	Stainless	★							
K	Cast iron								
N	Non-ferrous	★							
S	Superalloys	★							
H	Hard materials								

★ : First choice

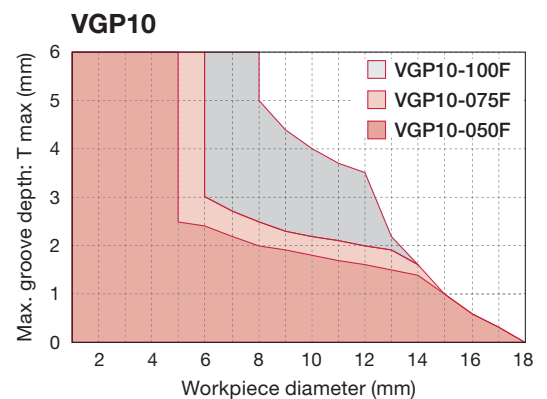
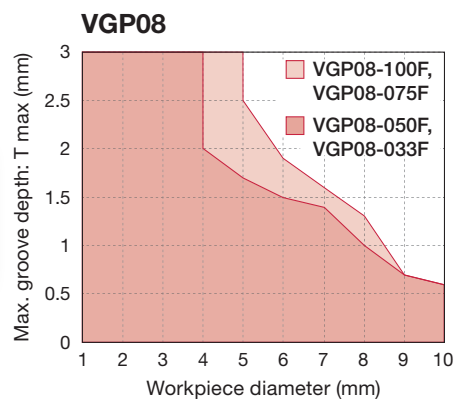
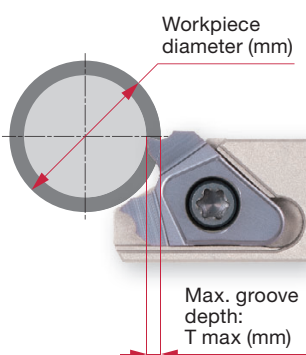
Designation	CW±0.025	RE	Coated						CDX*	CUTDIA	W1
			SH725								
VGP08-033F-000	0.33	0	●						2	4	2.2
VGP08-050F-000	0.5	0	●						2	4	2.2
VGP08-075F-000	0.75	0	●						2.5	5	2.2
VGP08-100F-000	1	0	●						2.5	5	2.2
VGP10-050F-000	0.5	0	●						2.5	5	3.15
VGP10-050F-005	0.5	0.05	●						2.5	5	3.15
VGP10-075F-000	0.75	0	●						3	6	3.15
VGP10-075F-005	0.75	0.05	●						3	6	3.15
VGP10-100F-000	1	0	●						4	8	3.15
VGP10-100F-005	1	0.05	●						4	8	3.15

*Max grooving depth varies depending on workpiece diameters.
See below for details.

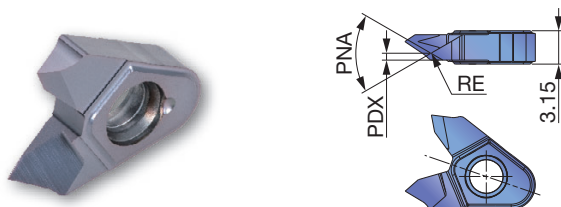
● : Line up

Note: Max grooving depths vs workpiece diameters

To avoid tool interference with the workpiece, max grooving depths (T max) for the insert used may be smaller than the CDX values listed above depending on the workpiece diameter.



VGT10 (For threading / sharp edge)



P	Steel	★						
M	Stainless	★						
K	Cast iron							
N	Non-ferrous	★						
S	Superalloys	★						
H	Hard materials							

★ : First choice

Designation	RE	Coated					Pitch	TPI	PDX	PNA
		SH725								
VGT10F-60A-005	0.05	●					0.4 - 1	64 - 25	0.66	60°
VGT10F-60A-010	0.1	●					1 - 2	25 - 12	0.96	60°
VGT10F-55A-005	0.05	●					0.6 - 1.5	40 - 16	0.85	55°

● : Line up

STANDARD CUTTING CONDITIONS

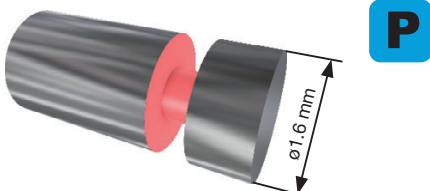
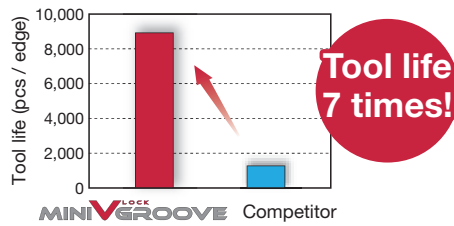
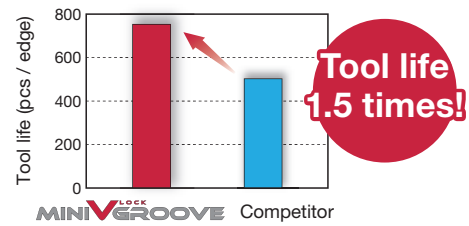
Grooving

ISO	Workpiece materials	Grade	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steels S15C, SS400, etc. C15E4, E275A, etc.	SH725	50 - 150	0.005 - 0.1
	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	50 - 150	0.005 - 0.1
	Free cutting steels SUH22, SUH23, etc.	SH725	50 - 150	0.005 - 0.1
M	Stainless steels SUS304, X5CrNi18-9, etc.	SH725	50 - 100	0.005 - 0.1
N	Aluminium alloys A5056, A6061, etc.	SH725	150 - 200	0.005 - 0.1
	Copper alloy C2600, C280C, etc.	SH725	100 - 200	0.005 - 0.1
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 80	0.005 - 0.1
	Superalloys Inconel718, etc.	SH725	30 - 80	0.005 - 0.1

Threading

ISO	Workpiece materials	Grade	Cutting speed Vc (m/min)	Pitch (mm)	TPI
P	Low carbon steels S15C, SS400, etc. C15E4, E275A, etc.	SH725	50 - 150	0.4 - 2	64 - 12
	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	50 - 150	0.4 - 2	64 - 12
	Free cutting steels SUH22, SUH23, etc.	SH725	50 - 150	0.4 - 2	64 - 12
M	Stainless steels SUS304, X5CrNi18-9, etc.	SH725	50 - 100	0.4 - 2	64 - 12
N	Aluminium alloys A5056, A6061, etc.	SH725	150 - 200	0.4 - 2	64 - 12
	Copper alloy C2600, C280C, etc.	SH725	100 - 200	0.4 - 2	64 - 12
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 80	0.4 - 2	64 - 12
	Superalloys Inconel718, etc.	SH725	30 - 80	0.4 - 2	64 - 12

PRACTICAL EXAMPLES

Workpiece type		Pin	Sensor part
Toolholder		SVER1010H10	SVER0808F08
Insert		VGP10-100F-000	VGP08-050F-000
Grade		SH725	SH725
Workpiece material		SUS304 / X5CrNi18-9	Tool steel
			
Cutting conditions	Cutting speed: Vc (m/min)	60	50
	Feed : f (mm/rev)	0.02	0.01
	Groove width : CW (mm)	1	0.5
	Groove depth : mm	0.2	0.5
	Machining	External grooving	External grooving
	Coolant	Oil	Oil
Results		 MiniV-LOCKGroove provided excellent surface quality thanks to its high edge repeatability and a large rake angle, extending tool life by 7 times.	 MiniV-LOCKGroove provided superior part quality thanks to its light cutting geometry and secure insert clamping, extending tool life by 1.5 times.

Tungaloy Corporation (Head office)

11-1 Yoshima-Kogyodanchi
Iwaki-city, Fukushima 970-1144 Japan
Phone: +81-246-36-8501
Fax: +81-246-36-8542
www.tungaloy.co.jp

Tungaloy America, Inc.

3726 N Ventura Drive
Arlington Heights, IL 60004, U.S.A.
Phone: +1-888-554-8394
Fax: +1-888-554-8392
www.tungaloy.com/us

Tungaloy Canada

432 Elgin St. Unit 3
Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779
Fax: +1-519-758-5791
www.tungaloy.com/ca

Tungaloy de Mexico S.A.

C Los Arellano 113,
Parque Industrial Siglo XXI
Aguascalientes, AGS, Mexico 20290
Phone: +52-449-929-5410
Fax: +52-449-929-5411
www.tungaloy.com/mx

Tungaloy do Brasil Ltda.

Avd. Independência N4158 Residencial Flora
13280-000 Vinhedo, São Paulo, Brasil
Phone: +55-19-38262757
Fax: +55-19-38262757
www.tungaloy.com/br

Tungaloy Germany GmbH

Katzbergstr. 3a
D-40764 Langenfeld, Germany
Phone: +49-2173-90420-0
Fax: +49-2173-90420-19
www.tungaloy.com/de

Tungaloy France S.A.S.

ZA Courtaboeuf - Le Rio
1 rue de la Terre de feu
F-91952 Courtaboeuf Cedex, France
Phone: +33-1-6486-4300
Fax: +33-1-6907-7817
www.tungaloy.com/fr

Tungaloy Italia S.r.l.

Via E. Andolfato 10
I-20126 Milano, Italy
Phone: +39-02-252012-1
Fax: +39-02-252012-65
www.tungaloy.com/it

Tungaloy Czech s.r.o.

Turanka 115
CZ-627 00 Brno, Czech Republic
Phone: +420-532 123 391
Fax: +420-532 123 392
www.tungaloy.com/cz

Tungaloy Ibérica S.L.

C/Miquel Servet, 43B, Nau 7
Pol. Ind. Bufalvent
ES-08243 Manresa (BCN), Spain
Phone: +34 93 113 1360
Fax: +34 93 876 2798
www.tungaloy.com/es

Tungaloy Scandinavia AB

Bultgatan 38
442 40 Kungälv, Sweden
Phone: +46-462119200
Fax: +46-462119207
www.tungaloy.com/se

Tungaloy Rus, LLC

Andropova avenue, h.18/7,
11 floor, office 3, 115432,
Moscow, Russia
Phone: +7-499-683-01-80
Fax: +7-499-683-01-81
www.tungaloy.com/ru

Tungaloy Polska Sp. z o.o.

Ul. Irysowa 1, 55-040 Bielany
Wroclawskie, Poland
Phone: +48 607 907 237
www.tungaloy.com/pl

Tungaloy U.K. Ltd

Gallan Park, Watling Street,
Cannock, WS110XG, UK
Phone: +44 121 4000 231
Fax: +44 121 270 9694
www.tungaloy.com/uk

Tungaloy Hungary Kft

Erzsébet királyné útja 125
H-1142 Budapest, Hungary
Phone: +36 1 781-6846
Fax: +36 1 781-6866
www.tungaloy.com/hu

Tungaloy Turkey

Serifali Mah.bayraktar Bulvari Kule Sk. No:26
34775 Umraniye / Istanbul / Turkey
Phone: +90 216 540 04 67
Fax: +90 216 540 04 87
www.tungaloy.com/tr

Tungaloy Benelux b.v.

Tjalk 70
NL-2411 NZ Bodegraven, Netherlands
Phone: +31 172 630 420
Fax: +31 172 630 429
www.tungaloy.com/nl

Tungaloy Croatia

Ulica bana Josipa Jelačića 87,
10430, Samobor, Croatia
Phone: +385 1 3326 604
Fax: +385 1 3327 683
www.tungaloy.com/hr

Tungaloy Cutting Tool (Shanghai) Co.,Ltd.

Rm No 401 No.88 Zhabei
Jiangchang No.3 Rd
Shanghai 200436, China
Phone: +86-21-3632-1880
Fax: +86-21-3621-1918
www.tungaloy.com/cn

Tungaloy Cutting Tools (Taiwan) Co.,Ltd.

9F. No.293, Zhongyang Rd,
Xinzhuan Dist, New Taipei City,
24251 Taiwan
Phone: +886-2-8521-9986
Fax: +886-2-8521-8935
www.tungaloy.com/tw

Tungaloy Cutting Tools (Thailand) Co.,Ltd.

Interlink tower 4th Fl.
1858/5-7 Bangna-Trad Road
km.5 Bangna, Bangna, Bangkok 10260
Thailand
Phone: +66-2-751-5711
Fax: +66-2-751-5715
www.tungaloy.com/th

Tungaloy Singapore (Pte.), Ltd.

62 Ubi Road 1, #06-11 Oxley BizHub 2
Singapore 408734
Phone: +65-6391-1833
Fax: +65-6299-4557
www.tungaloy.com/sg

Tungaloy Vietnam

LE04.38, Lexington Residence
67 Mai Chi Tho St., Dist. 2,
Ho Chi Minh City, Vietnam
Phone: +84-2837406660
www.tungaloy.com/sg

Tungaloy India Pvt. Ltd.

One International Center,
Unit # 902-A, 9th Floor,
Tower 1, Senapati Bapat Marg,
Elphinstone Road (West),
Mumbai -400013, India
Phone: +91-22-6124-8804
Fax: +91-22-6124-8899
www.tungaloy.com/in

Tungaloy Korea Co., Ltd

#1312, Byucksan Digital Valley 5-ch
Beotkkot-ro 244, Geumcheon-gu
153-788 Seoul, Korea
Phone: +82-2-2621-6161
Fax: +82-2-6393-8952
www.tungaloy.com/kr

Tungaloy Malaysia Sdn Bhd

50 K-2, Kelana Mall, Jalan SS6/14
Kelana Jaya, 47301
Petaling Jaya, Selangor Darul Ehsan
Malaysia
Phone: +603-7805-3222
Fax: +603-7804-8563
www.tungaloy.com/my

Tungaloy Australia Pty Ltd

Unit 68 1470 Ferntree Gully Road
Knoxfield 3180 Victoria, Australia
Phone: +61-3-9755-8147
Fax: +61-3-9755-6070
www.tungaloy.com/au

PT. Tungaloy Indonesia

Kompleks Grand Wisata Block AA-10 No.3-5
Cibitung
Bekasi 17510, Indonesia
Phone: +62-21-8261-5808
Fax: +62-21-8261-5809
www.tungaloy.com/id

**tungaloy.com**

follow us at:

facebook.com/tungaloyjapan

twitter.com/tungaloyjapan

www.youtube.com/tungaloycorporation

Distributed by:



FIND US ON THE CLOUD!
machiningcloud.com



AS9100 Certified
78006
2015.11.04
ISO14001 Certified
EC97J1123
1997.11.26

Produced from Recycled paper

Sep. 2022 (TJ)