

TETRAMCUT

Tungaloy Report No. 416S2-G

Latest additions of **TCF18 inserts** and **holders** for **small-diameter face grooving** on Swiss lathes

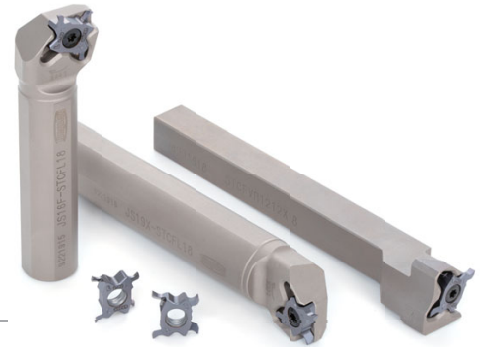




For more information

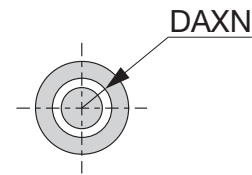
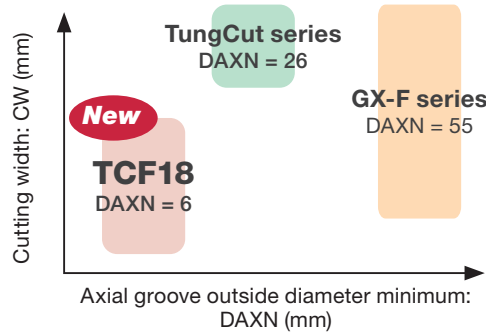
Face grooving for 6 mm minimum groove diameter!

- Sharp cutting edge and insert clamping rigidity provide superior surface finish
- Groove width: 0.5 - 2.5 mm
- Mountable on existing TetraMini-Cut toolholders

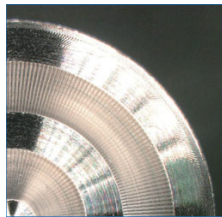


New

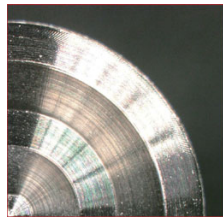
TCF18 type



CUTTING PERFORMANCE



Competitor
Chatter marks

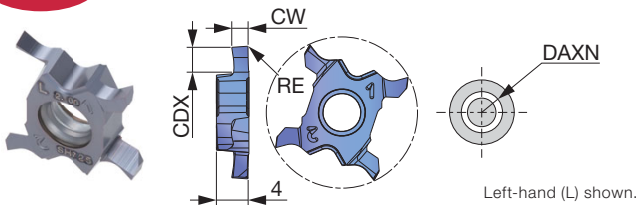


TETRAMCUT
Good surface finish
with no chatter marks

- Insert : TCF18L200F-005 SH725
- Workpiece material : SUS316L
- Cutting speed : $V_c = 50$ m/min
- Feed : $f = 0.03$ mm/rev
- Groove width : CW = 2 mm
- Groove depth : CDX = 3 mm
- Coolant : Wet
- Axial groove outside diameter : 6, 13 mm

INSERTS

New TCF18L (Face grooving)



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

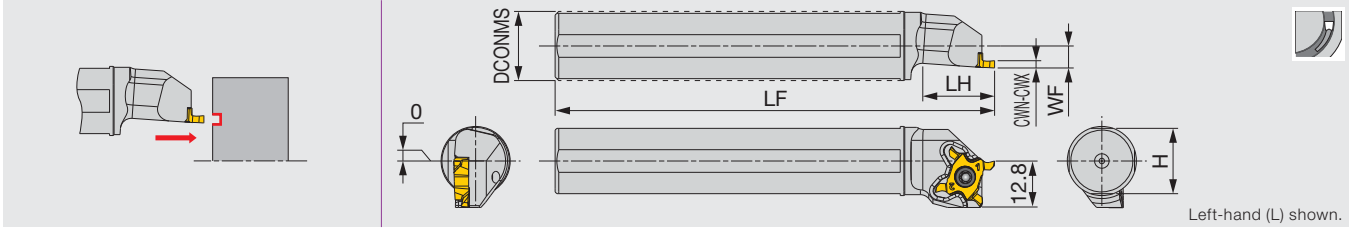
Designation	HAND	CW±0.02	RE	Coated							CDX	DAXN
				SH725								
TCF18L050F-005	L	0.5	0.05	●							1	6
TCF18L100F-005	L	1	0.05	●							2.5	6
TCF18L150F-005	L	1.5	0.05	●							2.5	6
TCF18L200F-005	L	2	0.05	●							3	6
TCF18L250F-005	L	2.5	0.05	●							3	6

5 pieces per package
●: New lineup

New

JS-STCFL18

Face grooving toolholder with round shank



Designation	CWN	CWX	DCONMS	LF	LH	H	WF	Insert	Torque*
JS16F-STCFL18	0.5	2.5	16	85	20	15	6	TCF18L...	1.2
JS19G-STCFL18	0.5	2.5	19.05	90	20	18	6	TCF18L...	1.2
JS19X-STCFL18	0.5	2.5	19.05	120	20	18	6	TCF18L...	1.2
JS20G-STCFL18	0.5	2.5	20	90	20	19	6	TCF18L...	1.2
JS20X-STCFL18	0.5	2.5	20	120	20	19	6	TCF18L...	1.2
JS22X-STCFL18	0.5	2.5	22	120	20	21	6	TCF18L...	1.2
JS25H-STCFL18	0.5	2.5	25	100	20	24	6	TCF18L...	1.2
JS254X-STCFL18	0.5	2.5	25.4	120	20	24.5	6	TCF18L...	1.2

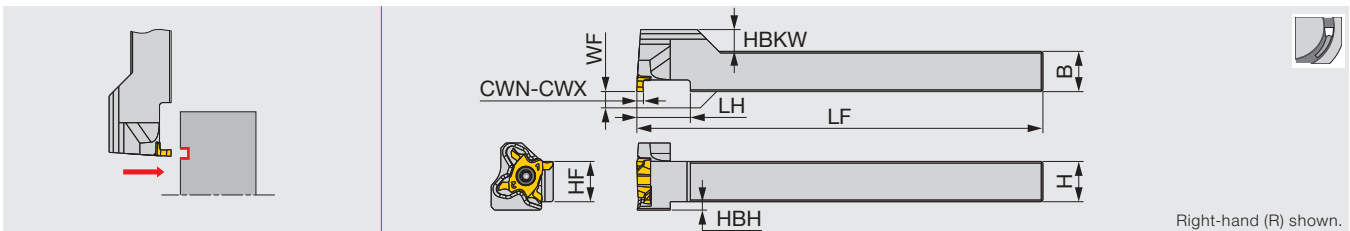
Note: The left hand insert (L) is used for the left hand toolholders (L).

*Torque: Recommended clamping torque: N·m

New

STCFVR-18

Face grooving toolholder with square shank, for Swiss lathes



Designation	CWN	CWX	H	B	LF	LH	HF	WF	HBKW	HBH	Insert	Torque*
STCFVR1010H18	0.5	2.5	10	10	100	12	10	0	8.5	4.5	TCF18L...	1.2
STCFVR1212F18	0.5	2.5	12	12	85	16	12	0	6.5	2.5	TCF18L...	1.2
STCFVR1212X18	0.5	2.5	12	12	120	16	12	0	6.5	2.5	TCF18L...	1.2
STCFVR1616X18	0.5	2.5	16	16	120	20	16	0	2.5	0	TCF18L...	1.2

Note: The left hand insert (L) is used for the right hand toolholders (R).

*Torque: Recommended clamping torque: N·m

SPARE PARTS



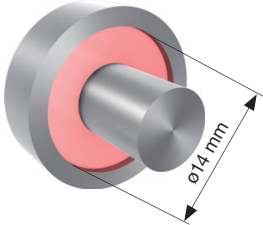
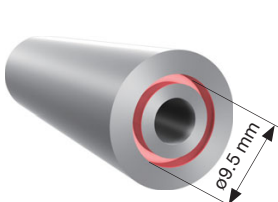
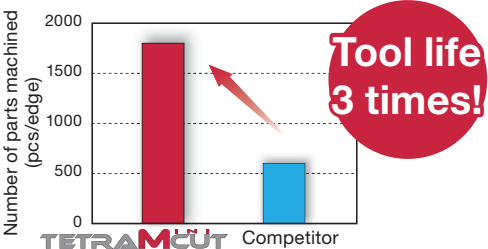
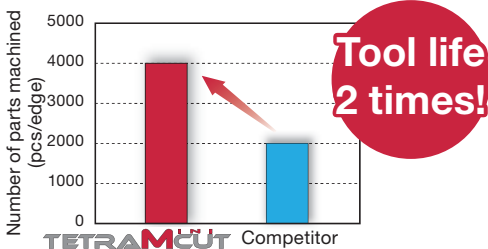
Designation	Clamping screw	Wrench
JS**-STCFL18 / STCFVR**18	CSTC-4L100DR	T-1008/5

STANDARD CUTTING CONDITIONS

TCF18L (Face grooving)

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steel S15C, C15E, C15E4, S20C, C20, etc.	SH725	30 - 100	0.01 - 0.04
	Carbon steels, Alloy steel S55C, C55, SCM440, 42CrMoS4, etc.	SH725	30 - 100	0.01 - 0.04
	Prehardened steel NAK80, PX5, etc.	SH725	30 - 100	0.01 - 0.04
M	Stainless steel SUS304, X5CrNi18-9, X5CrNiMo17-12-2, etc.	SH725	30 - 100	0.01 - 0.04
K	Grey cast iron FC250, GG25, 250, FC300, GG30, 300, etc.	SH725	30 - 100	0.01 - 0.04
	Ductile cast iron FCD400, 400-15, FCD600, GGG60, 600-3, etc.	SH725	30 - 100	0.01 - 0.04
S	Titanium alloys Ti-6Al-4V, etc.	SH725	20 - 40	0.01 - 0.04
	Superalloys Inconel718, etc.	SH725	10 - 30	0.01 - 0.04

■ PRACTICAL EXAMPLES

Workpiece type	Valve parts	Shaft (Car air-conditioner parts)
Toolholder	JS16F-STCFL18	JS19X-STCFL18
Insert	TCF18L200F-005	TCF18L100F-005
Grade	SH725	SH725
Workpiece material	SUS304 / X5CrNi18-9  M	S20C / C20  P
Cutting conditions	Groove width : CW (mm)	2
	Groove depth : CDX (mm)	1
	Cutting speed : Vc (m/min)	50
	Feed : f (mm/rev)	0.04
	Machining	Face grooving
Coolant	Wet	Wet
Results	 <p>Tool life 3 times!</p> <p>TetraMini-Cut eliminated chatter thanks to secure insert clamping and rigid holder, providing 3 times tool life increase.</p>	 <p>Tool life 2 times!</p> <p>TetraMini-Cut provided part quality consistency thanks to secure insert clamping and also provided 2 times tool life increase.</p>



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