

TETRAMCUT

Tungaloy Report No. 416S2-US

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



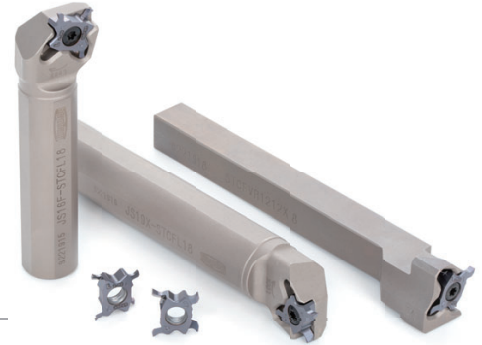
TETRAMCUT



For more information

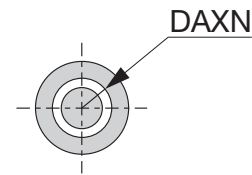
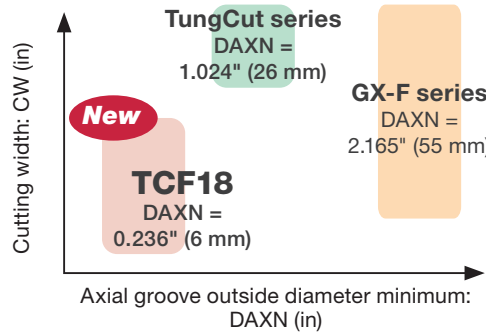
Face grooving for 0.236" (6 mm) minimum groove diameter!

- Sharp cutting edge and insert clamping rigidity provide superior surface finish
- Groove width: 0.020" - 0.098" (0.5 - 2.5 mm)
- Mountable on existing TetraMini-Cut toolholders

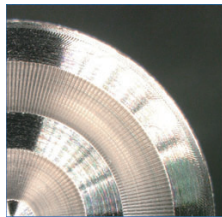


New

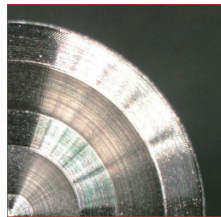
TCF18 type



CUTTING PERFORMANCE



Competitor
Chatter marks

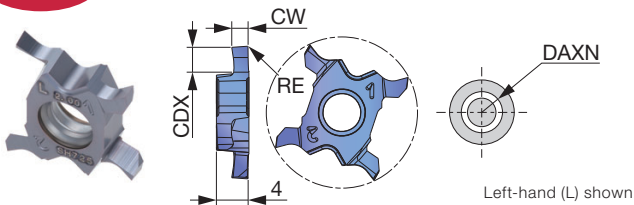


TETRAMCUT
Good surface finish
with no chatter marks

- Insert : TCF18L200F-005 SH725
- Workpiece material : 316SS
- Cutting speed : $V_c = 164$ sfm
- Feed : $f = 0.001$ ipr
- Groove width : $CW = 0.079$ "
- Groove depth : $CDX = 0.118$ "
- Coolant : Wet
- Axial groove outside diameter : 0.236", 0.512"

INSERTS

New TCF18L (Face grooving)



Left-hand (L) shown.

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

★: First choice

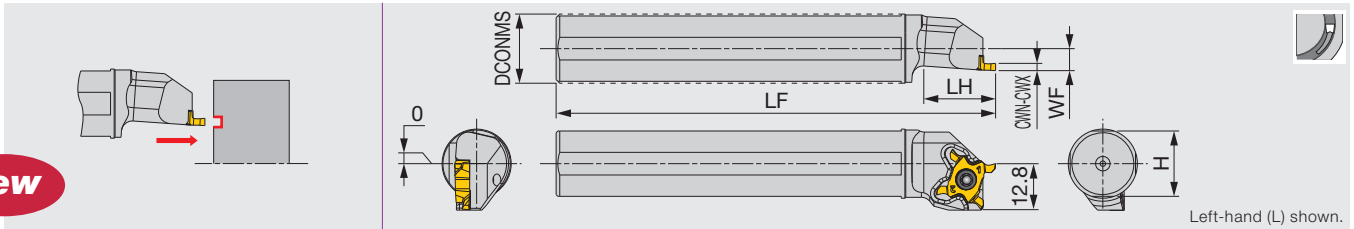
Designation	HAND	CW±0.02 (mm)	CW±0.02 (in)	RE (in)	Coated					CDX (in)	DAXN (in)	
					SH725							
TCF18L050F-005	L	0.5	0.020	0.002	●						0.039	0.236
TCF18L100F-005	L	1	0.039	0.002	●						0.098	0.236
TCF18L150F-005	L	1.5	0.059	0.002	●						0.098	0.236
TCF18L200F-005	L	2	0.079	0.002	●						0.118	0.236
TCF18L250F-005	L	2.5	0.098	0.002	●						0.118	0.236

5 pieces per package
●: New lineup

JS-STCFL18

Face grooving toolholder with round shank

New



Inch	CWN	CWX	DCONMS	LF	LH	H	WF	Insert	Torque
JS19G-STCFL18	0.020	0.098	0.750	3.543	0.787	0.709	0.236	TCF18L...	0.89
JS19X-STCFL18	0.020	0.098	0.750	4.724	0.787	0.709	0.236	TCF18L...	0.89
JS254X-STCFL18	0.020	0.098	1.000	4.724	0.787	0.965	0.236	TCF18L...	0.89

Metric	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

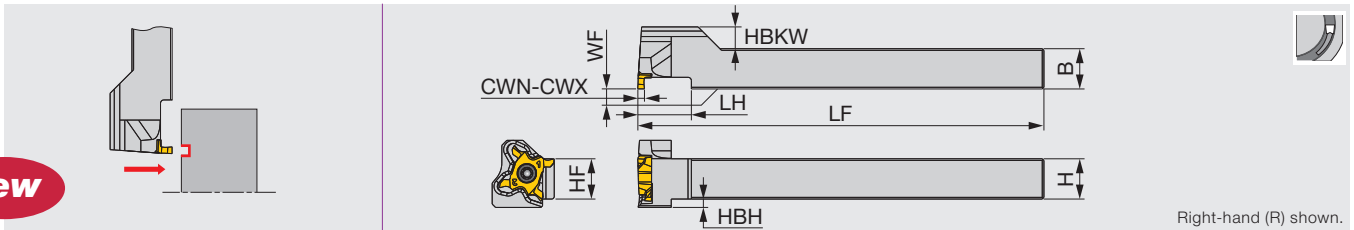
Note: The left hand insert (L) is used for the left hand toolholders (L).

*Torque: Recommended clamping torque: lbs-ft (*N·m)

STCFVR-18

Face grooving toolholder with square shank, for Swiss lathes

New



Inch	CWN	CWX	H	B	LF	LH	HF	WF	HBKW	HBH	Insert	Torque
STCFVR06-18	0.020	0.098	0.375	0.375	4.016	0.472	0.375	0	0.354	0.177	TCF18L...	0.89
STCFVR08-18	0.020	0.098	0.500	0.500	4.764	0.630	0.500	0	0.228	0.098	TCF18L...	0.89
STCFVR10-18	0.020	0.098	0.625	0.625	4.764	0.787	0.625	0	0.106	-	TCF18L...	0.89

Metric	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: lbs-ft (*N·m)

SPARE PARTS

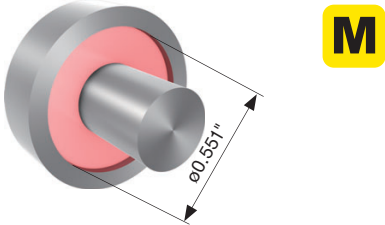
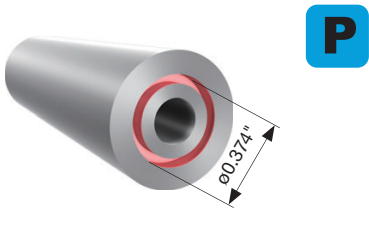
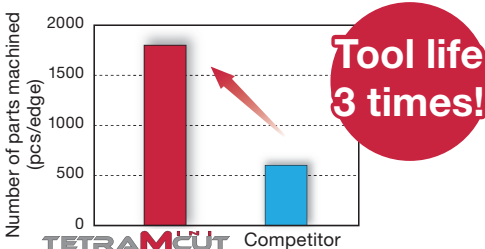
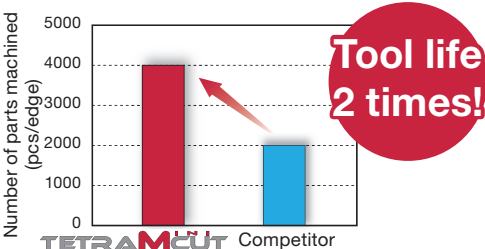
Designation	Clamping screw	Wrench
JS**-STCFL18 / STCFVR**18	CSTC-4L100DR	T-1008/5

STANDARD CUTTING CONDITIONS

TCF18L (Face grooving)

ISO	Workpiece materials	Grades	Cutting speed Vc (sfm)	Feed f (ipr)
P	Low carbon steel 1015, 1020, etc.	SH725	98 - 328	0.0004 - 0.0016
	Carbon steels, Alloy steel 1055, 4140, etc.	SH725	98 - 328	0.0004 - 0.0016
	Prehardened steel NAK80, PX5, etc.	SH725	98 - 328	0.0004 - 0.0016
M	Stainless steel 304SS, 316SS, etc.	SH725	98 - 328	0.0004 - 0.0016
K	Gray cast iron Class25, Class30, etc.	SH725	98 - 328	0.0004 - 0.0016
	Ductile cast iron 60-40-18, 80-55-06, etc.	SH725	98 - 328	0.0004 - 0.0016
S	Titanium alloys Ti-6Al-4V, etc.	SH725	66 - 131	0.0004 - 0.0016
	Superalloys Inconel718, etc.	SH725	33 - 98	0.0004 - 0.0016

■ PRACTICAL EXAMPLES

Workpiece type	Valve parts	Shaft (Car air-conditioner parts)
Toolholder	JS16F-STCFL18	JS19X-STCFL18
Insert	TCF18L200F-005	TCF18L100F-005
Grade	SH725	SH725
	304SS	1020
Workpiece material		
Cutting conditions	Groove width : CW (in)	0.079
	Groove depth : CDX (in)	0.039
	Cutting speed : Vc (sfm)	164
	Feed : f (ipr)	0.0016
	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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