

TETRA^{FORCE}CUT

Tungaloy Report No. 416S3-G

GrooveLine

Expansion 3

TetraForce-Cut **TCL38 insert** for
deep grooving and parting processes





For more information

- Unique insert clamping method provides high repeatability and stability for effective deep grooving and parting applications
- Light cutting geometry ensures consistent chip control for reduced chatter
- Efficient multi-edged insert solution for OD grooving and parting applications exceeding 6.4 mm in cutting depth
- Economical 4-edge insert
- Precision coolant delivery ensures effective chip removal during deep grooving

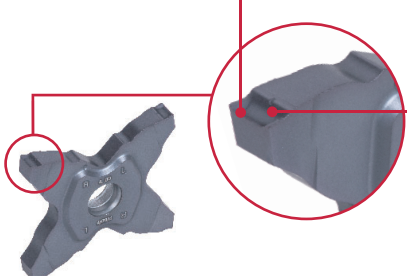


CUTTING PERFORMANCE

Chipbreaker features

Large positive rake angle

Provides sharp cutting edge and low cutting force that eliminate burr formation and chatter



Large dimple on the rake face

Ensures reliable chip removal during a low feed motion

CHP type toolholders for high-pressure coolant

The coolant is supplied to the cutting edge providing good chip control and long tool life



Chip control



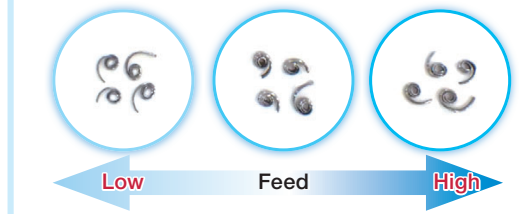
GROOVING AND PARTING

P

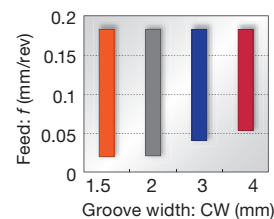
Carbon steel
(S45C / C45)

$V_c = 160$ m/min
CDX = 9 mm

TCL38 (CW = 2 mm)



Standard feed

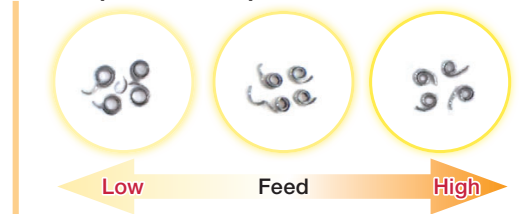


M

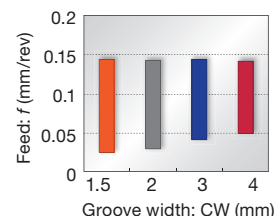
Stainless steel
(SUS304 / X5CrNi18-9)

$V_c = 120$ m/min
CDX = 9 mm

TCL38 (CW = 2 mm)

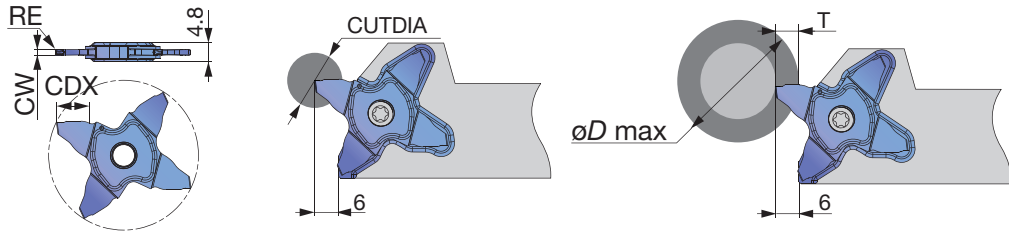


Standard feed



New

TCL38



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

★ : First choice

Designation	CW±0.02	RE	Coated AH7025	CDX	CUTDIA	Relation of groove depth (T) and Max. diameter (øD max)					
						T ≤ 5	T ≤ 6	T ≤ 7	T ≤ 8	T ≤ 9	T ≤ 10
						TCL38-150-020	1.5	0.2	●	9	18
TCL38-200-020	2	0.2	●	9	18	∞	950	315	190	45	-
TCL38-300-020	3	0.2	●	10	20	∞	950	315	190	130	50
TCL38-400-030	4	0.3	●	10	20	∞	950	315	190	130	50

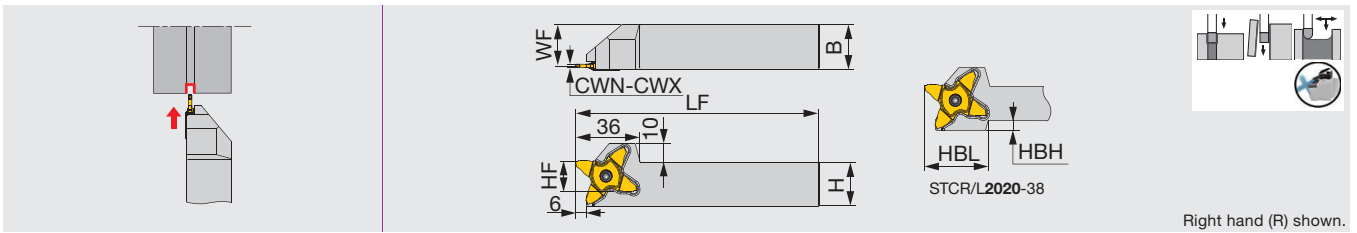
5 pieces per package

● : New

New

STCR/L-38 (-CHP)

External grooving and parting toolholder



Designation	CWN	CWX	H	B	LF	HF	WF	HBH	HBL	Insert	Torque*
STCR/L2020-38	1.5	4	20	20	120	20	18.1	5	36	TCL38...	2.5
STCR/L2525-38	1.5	4	25	25	135	25	23.1	-	-	TCL38...	2.5
STCR/L3232-38	1.5	4	32	32	135	32	30.1	-	-	TCL38...	2.5
STCR/L2525-38-CHP	1.5	4	25	25	135	25	23.1	-	-	TCL38...	2.5

*Torque: Recommended clamping torque (N·m)

SPARE PARTS

Designation	Screw	Wrench
STCR***-38 (-CHP)	SR16-212-01397L	T-2010/5
STCL***-38 (-CHP)	SR16-212-01397	T-2010/5

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed: f (mm/rev)
				Grooving, Parting TCL38
P	Carbon steel (S45C / C45, etc.)	AH7025	80 - 180	0.03 - 0.18
	Alloy steel (SCM435 / 34CrMo4, etc.)	AH7025	50 - 180	0.03 - 0.18
M	Alloy steel (SCM435 / 34CrMo4, etc.)	AH7025	50 - 150	0.03 - 0.14
K	Grey cast iron (FC250 / 250 / GG25, etc.)	AH7025	50 - 180	0.03 - 0.14
	Ductile cast iron (FCD400 / 400-15 / GGG400, etc.)	AH7025	50 - 120	0.03 - 0.14
S	Titanium alloys (Ti-6Al-4V, etc.)	AH7025	30 - 60	0.03 - 0.14
	Superalloys (Inconel718, etc.)	AH7025	20 - 50	0.03 - 0.14

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