

# NPN

New Product News



## Shallow Face Grooving High Rigidity Insert Line Expanded to 2 mm Width



## KEY POINT

**TaeguTec has expanded the FACE-RUSH line to include 2 mm inserts for shallow face grooving.**

A constant challenge in face grooving operations is the tool's frequent breakage due to the holder's vulnerability and the difficulty of chip evacuation during operation. With the FACE-RUSH's innovative clamping design solution eliminating these issues, TaeguTec now expands the family of inserts to a 2-4 mm width range.

The insert's bottom face includes anti-rotating triangular grooves and a screw clamping design for very robust and stable mounting to the holder. Should the insert's engaged cutting edge fail during machining, the opposite side's cutting edge can be used. The insert's higher thickness means improved stability, preventing abrupt breakage. Therefore, this results in extremely stable machining under harsh cutting conditions.

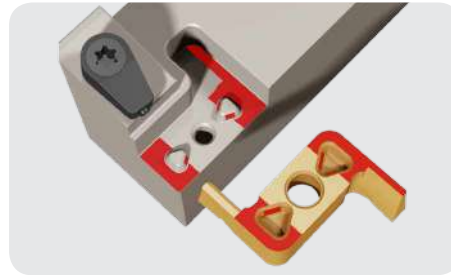
The FACE-RUSH line is optimally suited to a wide variety of applications with stable machining and tool life, greatly improving productivity.

### Features

- Expanded standard insert line: 2-4 mm width inserts
- Minimum machining diameter: D25, double-edged insert apmax: 6 mm
- Robust insert and screw clamping design:
  - Anti-rotating triangular grooves on the insert's bottom enhances stability
  - Opposite cutting edge can be used in the event of corner breakage
- Thicker insert design for higher stiffness
- Wide variety of applications:
  - Face grooving, face turning, external grooving, external turning and threading
- High-pressure COOL-BURST holders ensure good chip evacuation and stable tool life

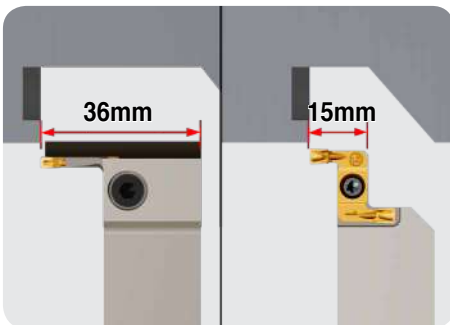


## Insert features



Unique insert's bottom face for strong clamping

## Holder features



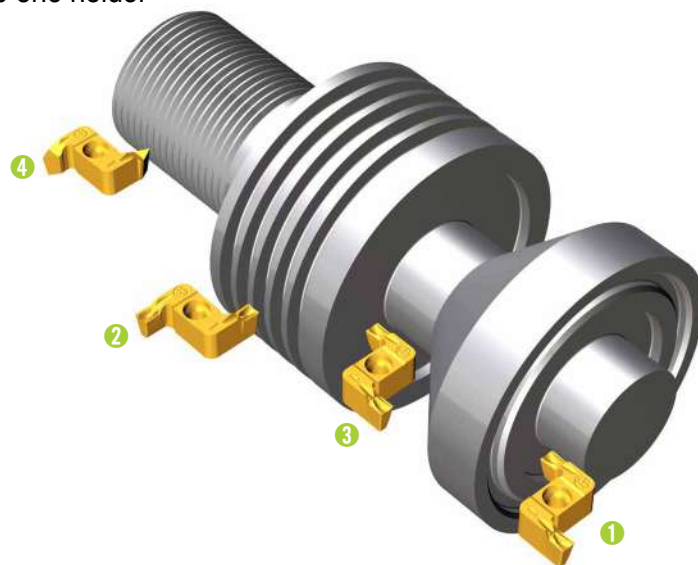
Designed for facing and grooving  
in confined spaces



Various insert widths can be applied  
to one holder

## Various applications

- ① Face grooving and turning
- ② External grooving and turning
- ③ Narrow space grooving
- ④ Threading

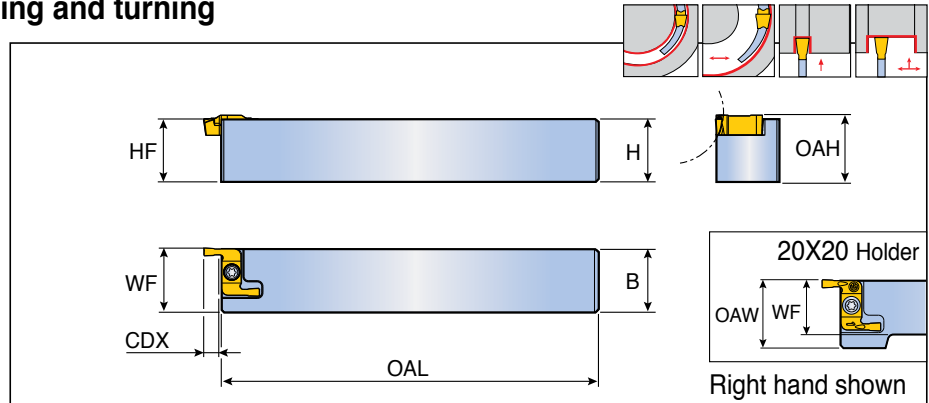
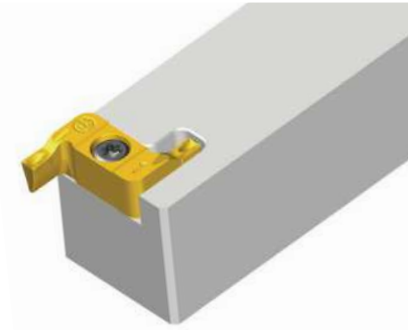




## TXFR/L



Holders for shallow face grooving and turning



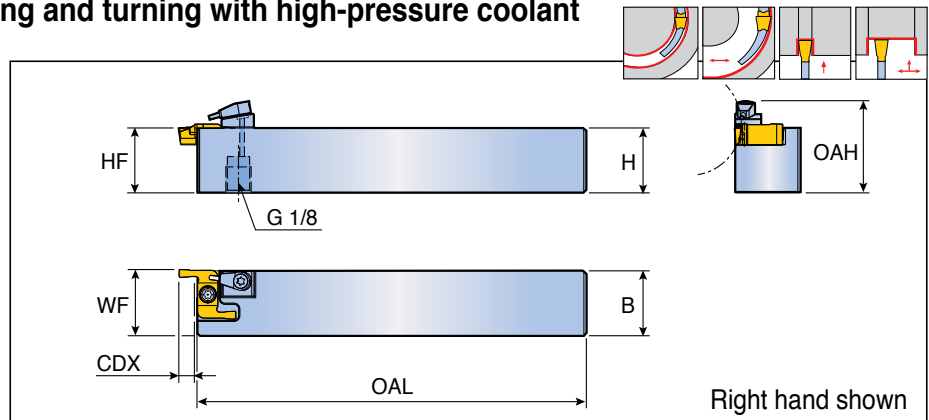
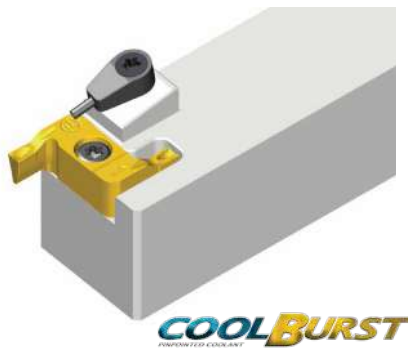
Designation	Dimension (mm)								Insert
	H	HF	B	OAL	OAH	WF	CDX	OAW	
<b>TXFR/L 2020</b>	20	20	20	125	21.5	20.5	6	25.5	TDFX ...R <sup>(1)</sup>
<b>2525</b>	25	25	25	150	26.5	25.5	6	25.5	TDFX ...L <sup>(2)</sup>

• (1) For TXFR (2) For TXFL

## TXFR/L-TB



Holders for shallow face grooving and turning with high-pressure coolant



Designation	Dimension (mm)								Insert
	H	HF	B	OAL	OAH	WF	CDX	OAW	
<b>TXFR 2525-TB</b>	25	25	25	150	35.5	25.5	6	25.5	TDFX ...R
<b>TXFL 2525-TB</b>	25	25	25	150	35.5	25.5	6	25.5	TDFX ...L

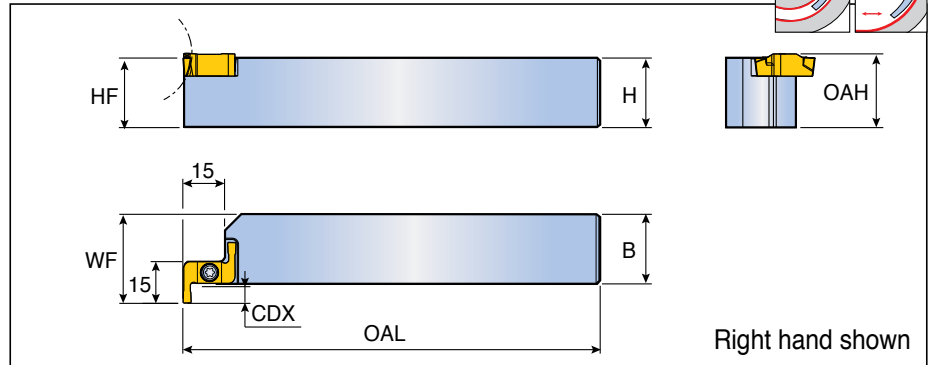
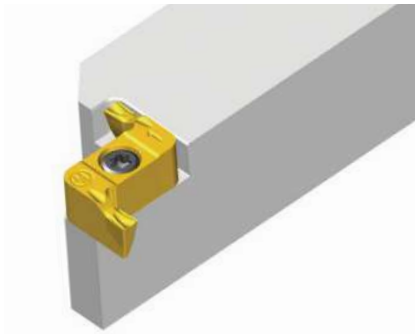
## Spare parts

Designation	Screw	Wrench	Cooling unit	
<b>TXFR</b>	TS 40E113I/HG	L-T15	-	
<b>TXFL</b>	TS 40E113IL/HG	L-T15	-	
<b>TXFR-TB</b>	TS 40E113I/HG	L-T15	S-CU-TB	
<b>TXFL-TB</b>	TS 40E113IL/HG	L-T15	S-CU-TB	

## TXFPR/L



Perpendicular holders for shallow face grooving and turning



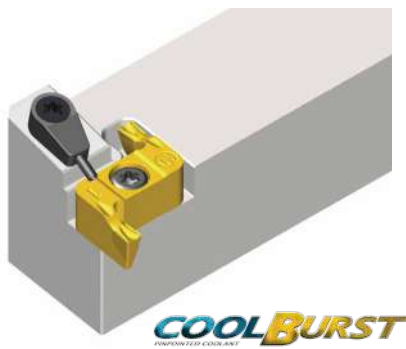
Designation	Dimension (mm)							Insert
	H	HF	B	OAL	OAH	WF	CDX	
<b>TXFPR/L 2020</b>	20	20	20	125	21.5	27	6	TDFX ...R <sup>(1)</sup>
<b>2525</b>	25	25	25	150	26.5	32	6	TDFX ...L <sup>(2)</sup>

• (1) For TXFPR (2) For TXFPL

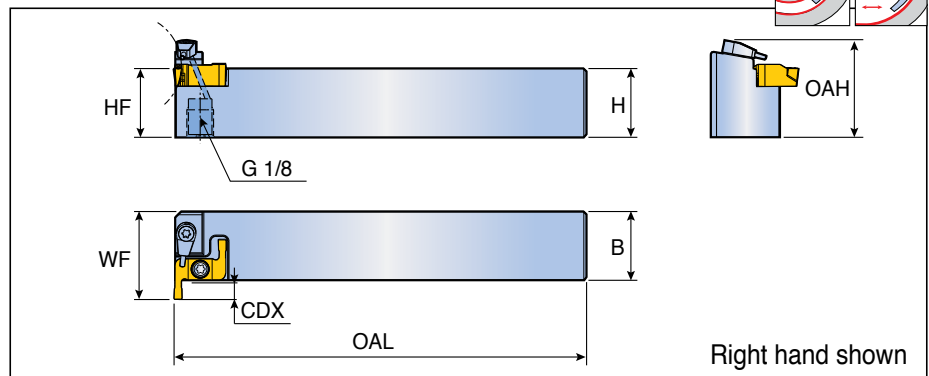
## TXFPR/L-TB



Perpendicular holders for shallow face grooving and turning with high-pressure coolant



**COOLBURST**



Designation	Dimension (mm)							Insert
	H	HF	B	OAL	OAH	WF	CDX	
<b>TXFPR 2525-TB</b>	25	25	25	150	35.5	32	6	TDFX ...R
<b>TXFPL 2525-TB</b>	25	25	25	150	35.5	32	6	TDFX ...L

## Spare parts

Designation	Screw	Wrench	Cooling unit	
<b>TXFPR</b>	TS 40E113I/HG	L-T15	-	
<b>TXFPL</b>	TS 40E113IL/HG	L-T15	-	
<b>TXFPR-TB</b>	TS 40E113I/HG	L-T15	S-CU-TB	
<b>TXFPL-TB</b>	TS 40E113IL/HG	L-T15	S-CU-TB	

## Recommended Cutting Conditions

### Grooving and Turning

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc (m/min)	
						TT9080	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	100-200	
		>=0.25%C Annealed	650	190	2	100-180	
		<0.55%C Quenched and tempered	850	250	3	80-160	
		>=0.55%C Annealed	750	220	4	80-160	
	Low alloy steel and cast steel (less than 5% of alloying elements)	Quenched and tempered	1000	300	5	70-130	
		Annealed	600	200	6	100-160	
		Quenched and tempered	930	275	7	80-160	
			1000	300	8	80-150	
			1200	350	9	80-130	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	90-130	
		Quenched and tempered	1100	325	11	50-80	
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	80-170	
		Martensitic	820	240	13	80-150	
		Austenitic	600	180	14	80-170	
K	Gray cast iron (GG)	Ferritic		160	15	100-230	
		Pearlitic		250	16	90-180	
	Cast iron nodular (GGG)	Ferritic		180	17	150-250	
		Pearlitic		260	18	100-230	
	Malleable cast iron	Ferritic		130	19	90-180	
		Pearlitic		230	20	90-180	
N	Aluminum - wrought alloy	Not cureable		60	21		
		Cured		100	22		
	Aluminum-cast, alloyed	<=12% Si Not cureable		75	23		
		Cured		90	24		
		>12% Si High temp.		130	25		
	Copper alloys	>1% Pb Free cutting		110	26		
		Brass		90	27		
	Non-metallic	Electrolitic copper		100	28		
		Duroplastics, fiber plastics			29		
	S	High temp. alloys	Fe based	Annealed		200	31
Cured					280	32	20-40
Ni or Co based			Annealed		250	33	20-30
			Cured		350	34	15-20
Titanium, Ti alloys		Cast		320	35	15-20	
			Rm 400		36	130-170	
		Alpha+beta alloys cured	Rm 1050		37	40-70	
H	Hardened steel	Hardened		55HRC	38		
		Hardened		60HRC	39		
	Chilled cast iron	Cast		400	40		
	Cast iron nodular	Hardened		55HRC	41		

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

## Recommended Cutting Conditions

### Face grooving and Internal grooving

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc (m/min)	
						TT9080	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	100-150	
		>=0.25%C Annealed	650	190	2	60-100	
		<0.55%C Quenched and tempered	850	250	3	50-100	
		>=0.55%C Annealed	750	220	4	60-110	
		Quenched and tempered	1000	300	5	50-100	
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	60-110	
		Quenched and tempered	930	275	7	70-110	
			1000	300	8	70-110	
			1200	350	9	60-90	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	60-90	
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Pearlitic			230	20	80-150		
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		Cured		100	22		
	Aluminum-cast, alloyed	<=12% Si Not cureable		75	23		
		Cured		90	24		
	Copper alloys	>12% Si High temp.		130	25		
		>1% Pb Free cutting		110	26		
	Non-metallic	Brass		90	27		
		Electrolitic copper		100	28		
S	High temp. alloys	Fe based	Annealed		200	31	20-40
			Cured		280	32	15-30
		Ni or Co based	Annealed		250	33	15-20
			Cured		350	34	15-20
			Cast		320	35	15-20
	Titanium, Ti alloys		Rm 400		36	90-120	
		Alpha+beta alloys cured	Rm 1050		37	20-50	
H	Hardened steel	Hardened		55HRC	38		
		Hardened		60HRC	39		
	Chilled cast iron	Cast		400	40		
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