

NPN

New Product News



T-TURN

New Solid CBN TB7020 Grade Inserts and Holders for Cast Iron Machining



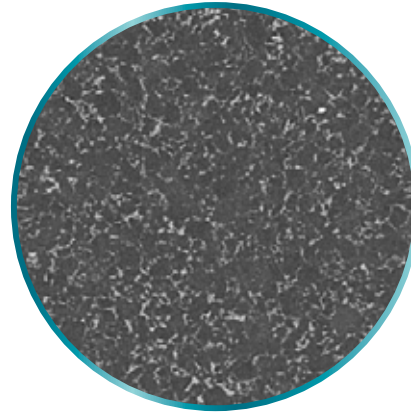
KEY POINT

TaeguTec has launched a new solid CBN grade for cast iron machining: TB7020 grade including flat type and dimple type inserts with associated holders.

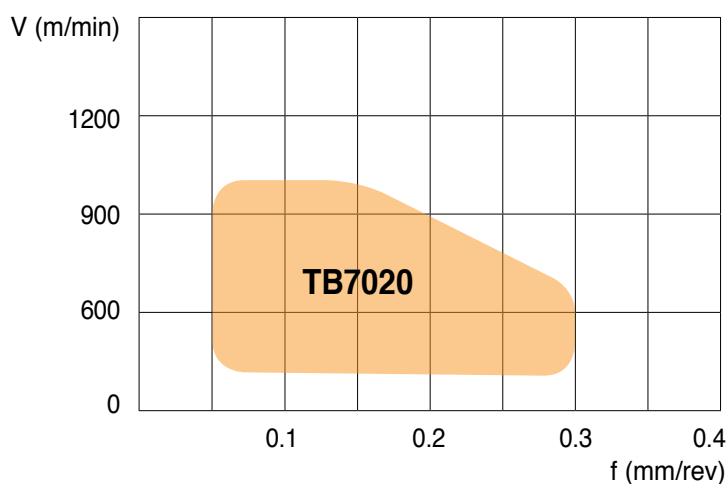
1. Solid CBN TB7020 grade

Features

- Higher content CBN inserts
- For roughing and high-speed finishing of cast iron
- Ideal for high feed and high depth of cut machining
- Obtuse angle corners for improved economy



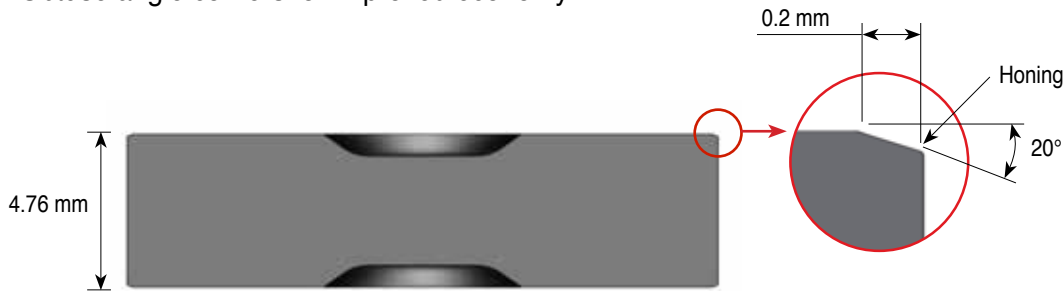
TB7020 grade cutting range (ISO K10-K25)



2. Dimple (DA) type solid inserts and COMBI CLAMP T-holders

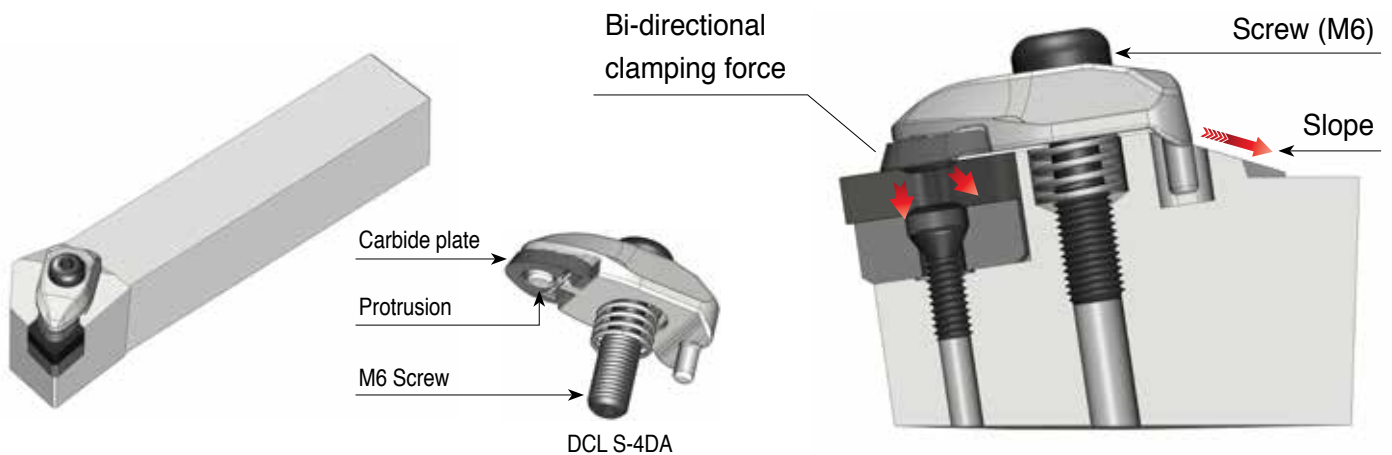
Insert features

- 4.76 mm thickness double-sided dimple type insert
- Shallow dimple design minimizes insert instability
- Ideal for high feed, high depth of cut and harsh machining conditions
- Obtuse angle corners for improved economy



Holder features

- A wide carbide plate for stronger clamping force
- Protruded clamp design for secure clamping of the dimple slope
- M6 screw for improved clamping force
- Carbide plates are replaceable
- ※ Existing CH dimple inserts are not compatible with COMBI CLAMP T-holders.





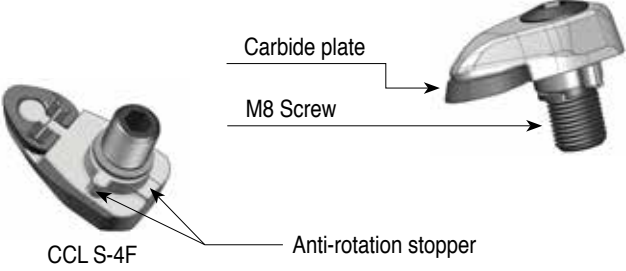
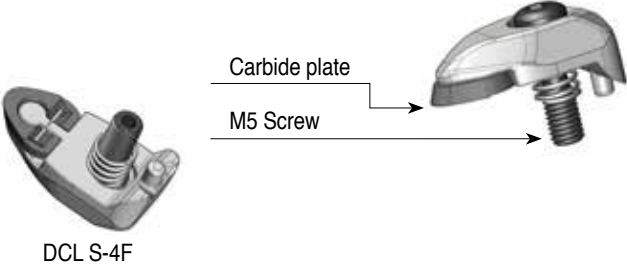
COMBI CLAMP T-holders for DA dimple inserts

Rigid clamping mechanism

3. COMBI CLAMP Top holders for flat inserts

Under general machining conditions, flat-type CBN inserts are clamped to COMBI CLAMP T-holders. However, under unstable machining conditions, stronger clamping force is required, resulting in the need for the new COMBI CLAMP Top holders.

COMBI CLAMP Top holders for flat inserts vs COMBI CLAMP T-holders for flat inserts

<p>New COMBI CLAMP Top holders for flat inserts CCLNR 2525 M1204-F</p>	<p>Current COMBI CLAMP T-holders for flat inserts TCLNR 2525 M1204-F</p>
	
 <p>Carbide plate</p> <p>M8 Screw</p> <p>CCL S-4F</p> <p>Anti-rotation stopper</p>	 <p>Carbide plate</p> <p>M5 Screw</p> <p>DCL S-4F</p>

- The same carbide plate is used

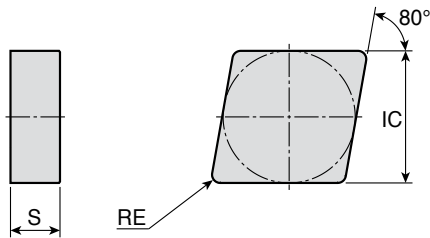
Features

- M8 screw for strong clamping force
- Top clamp holder's design enables stronger clamping force than T-holders
- Clamp rotation is prevented by the stopper
- Better stability on scaled surface and in high feed, interrupted machining conditions
- Carbide plates are replaceable
- CCL S-4F clamp is available for tailor-made tool holders

CNGN-SD CNGX-DA new



Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18	0.8
12	12.7	4.76	1.2-1.6

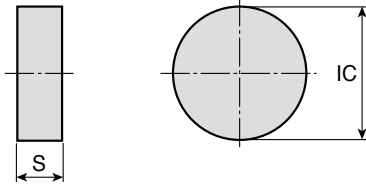
Insert	Designation	ap (mm)	Feed (mm/rev)	CBN
				TB7020
 Solid CBN	CNGN 090308 SD	0.10-3.00	0.05-0.30	●
	120412 SD	0.10-4.00	0.05-0.30	●
	120416 SD	0.10-4.00	0.05-0.30	●
 Dimple type Solid CBN	CNGX 120412 DA	0.10-4.00	0.05-0.30	●
	120416 DA	0.10-4.00	0.05-0.30	●

● : Standard items


RNGN-SD new



Negative round inserts



Size	Dimension (mm)	
	IC	S
09	9.52	3.18
12	12.7	4.76

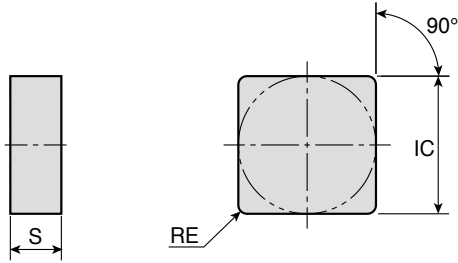
Insert	Designation	ap (mm)	Feed (mm/rev)	CBN
				TB7020
 Solid CBN	RNGN 090300 SD	0.10-2.00	0.05-0.30	●
	120400 SD	0.10-3.00	0.05-0.30	●

● : Standard items

SNGN-SD SNGX-DA new



Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18	1.2
12	12.7	4.76	1.6

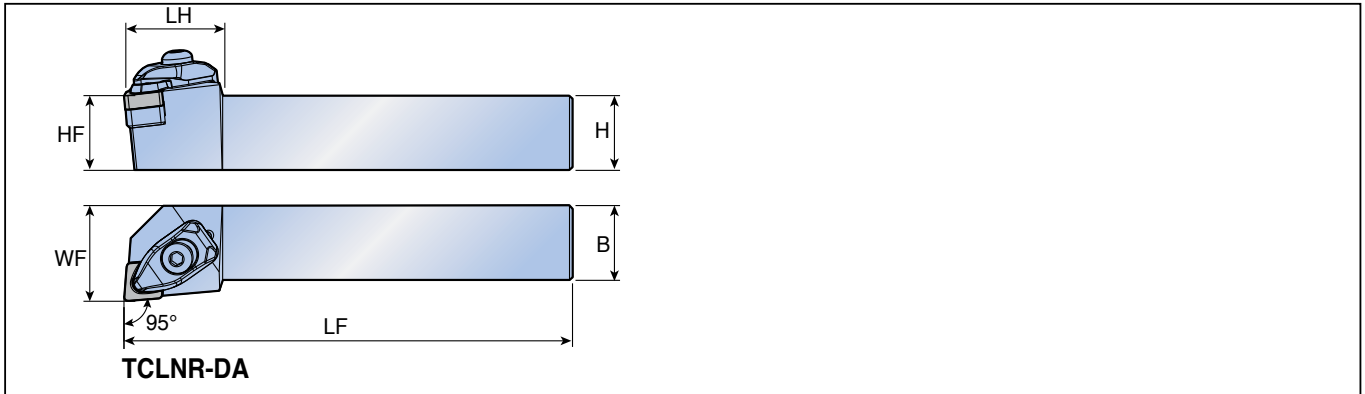
Insert	Designation	ap (mm)	Feed (mm/rev)	CBN
				TB7020
 Solid CBN	SNGN 090312 SD	0.10-3.00	0.05-0.30	●
	120416 SD	0.10-4.00	0.05-0.30	●
 Dimple type Solid CBN	SNGX 120416 DA	0.10-4.00	0.05-0.30	●

●: Standard items

TCLNR/L-DA new



Combi Clamp T-holders for DA dimple inserts



Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95°	TCLNR/L	2525 M1204-DA	25	25	25	150	33	32	CNGX 1204...DA

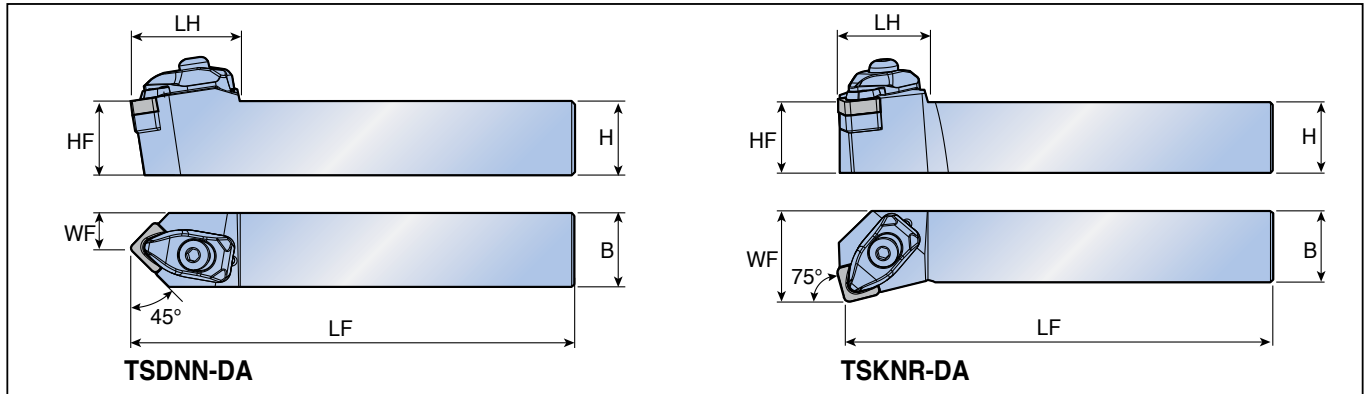
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
TCLNR/L	DCL S-4DA	DLS 5	DSP 5	TSC 44	SO 40050I	L-W 4	T 15

TSDNN-DA TSKNR-DA new



Combi Clamp T-holders for DA dimple inserts



Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
45°	TSDNN	2525 M1204-DA	25	25	25	150	37	12.5	SNGX 1204...DA
75°	TSKNR	2525 M1204-DA	25	25	25	150	29	32	

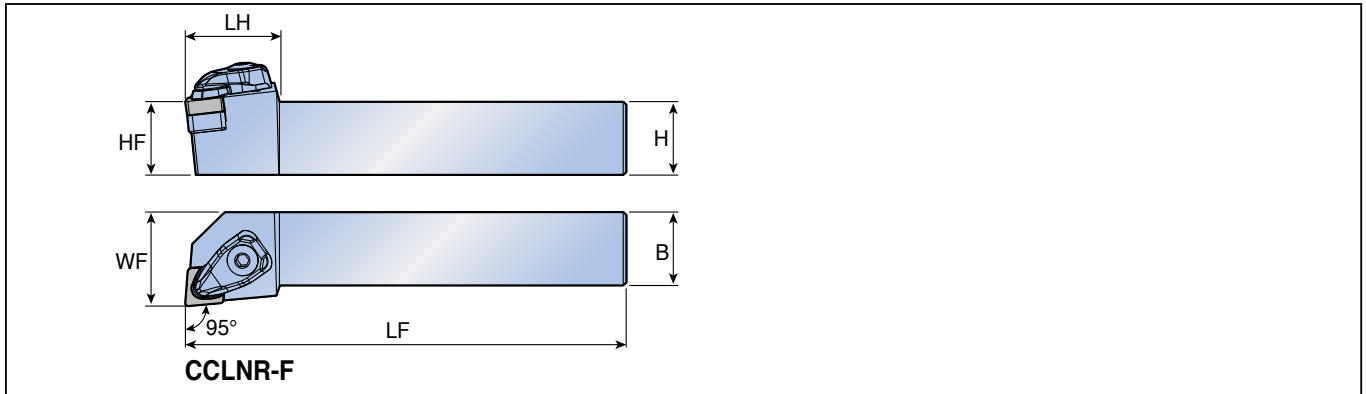
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
	...1204	DCL S-4DA	DLS 5	DSP 5	TSS 44	SO 40050I	L-W 4

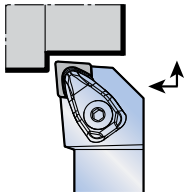
CCLNR/L-F new



Combi Clamp Top holders for flat inserts



Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
95°	CCLNR/L 2525 M1204-F	25	25	25	150	32	32	CNGN 1204...



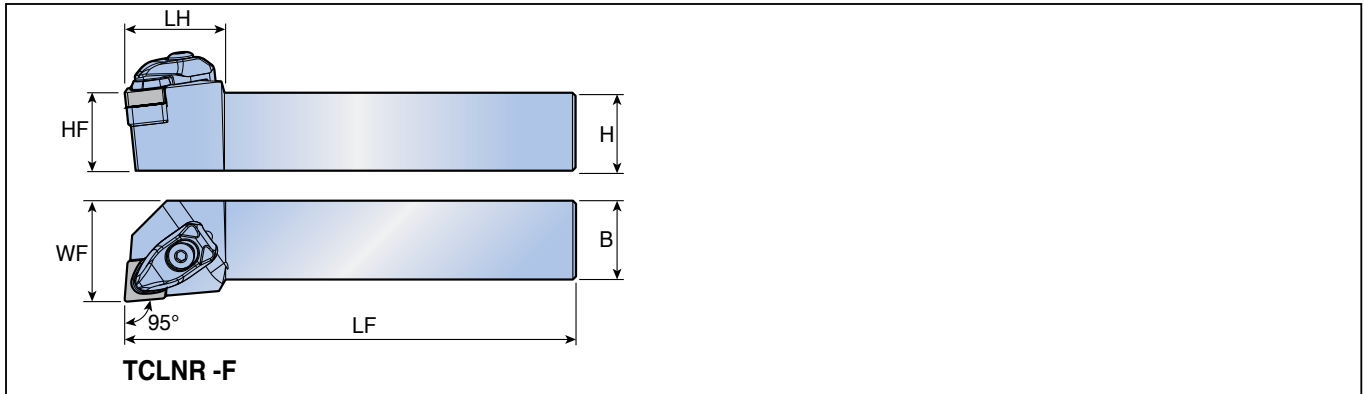
Spare parts

Designation	Clamp set	Shim	Shim screw	Wrench			
CCLNR/L	CCL S-4F	TSC 44	SO 40050I	L-W 4	T 15		

TCLNR/L-F



Combi Clamp T-holders for flat inserts



Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
95°	TCLNR/L 2525 M0903-F	25	25	25	150	25	32	CNGN 0903...
	2020 K1204-F	20	20	20	125	32	25	CNGN 1204...

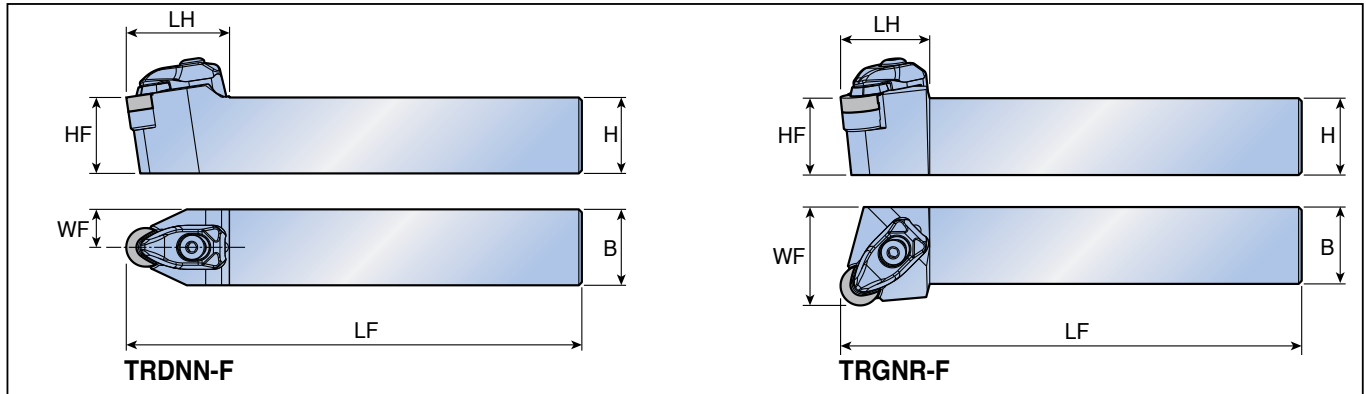
Spare parts

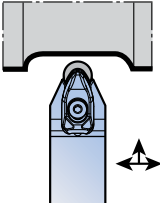
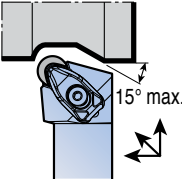
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
...0903	DCL S-3F	DLS 3	DSP 3	LSC 32	SO 40085I	L-W 2.5	T 15	
...1204	DCL S-4F	DLS 4	DSP 4	TSC 44	SO 40050I	L-W 3	T 15	

TRDNN-F TRGNR/L-F

















Combi Clamp T-holders for flat inserts



Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
45° 	TRDNN 2525 M0903-F	25	25	25	150	27	12.5	RNGN 0903...
	2020 K1204-F	20	20	20	125	34	10	RNGN 1204...
	2525 M1204-F	25	25	25	150	34	12.5	
90° 	TRGNR/L 2525 M0903-F	25	25	25	150	29	32	RNGN 0903...
	2020 K1204-F	20	20	20	125	29	25	RNGN 1204...
	2525 M1204-F	25	25	25	150	29	32	

• RN...N 1204/1207 are exchangeable, RN...N 1203 is not exchangeable on same holder

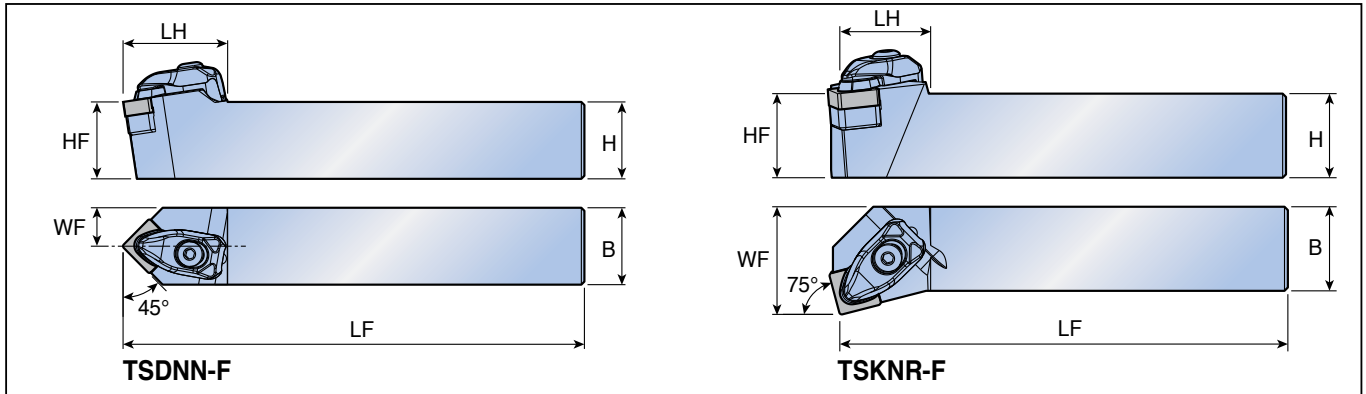
Spare parts

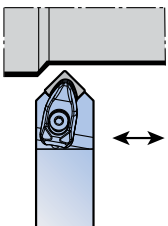
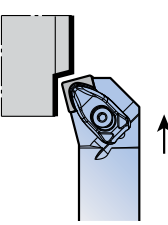
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Wrench	
...0903	 DCL S-3F	 DLS 3	 DSP 3	 LSR 32	-	 SO 40085I	 L-W 2.5	 T 15
...1204	 DCL S-4F	 DLS 4	 DSP 4	-	 TSR 45	 SO 40050I	 L-W 3	 T 15

TSDNN-F TSKNR/L-F

















Combi Clamp T-holders for flat inserts



Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
45° 	TSDNN 2525 M0903-F	25	25	25	150	28	12.5	SNGN 0903...
	2020 K1204-F	20	20	20	125	34	10	SNGN 1204...
	2525 M1204-F	25	25	25	150	34	12.5	
75° 	TSKNR/L 2525 M1204-F	25	25	25	150	27	32	SNGN 1204...
	3232 P1204-F	32	32	32	170	27	40	

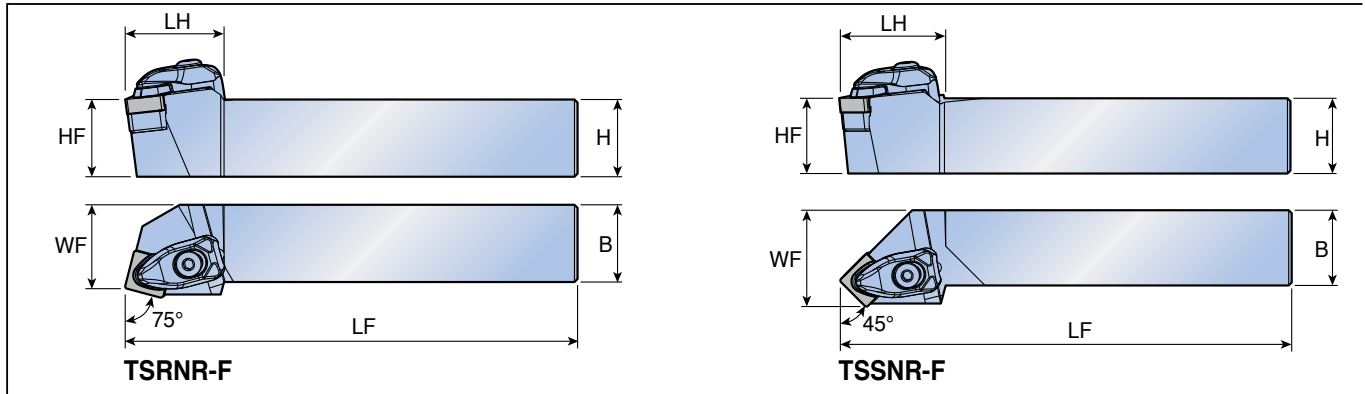
Spare parts

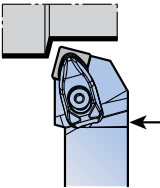
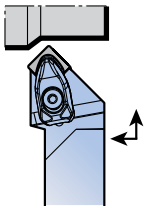
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
...0903	 DCL S-3F	 DLS 3	 DSP 3	 LSS 32	 SO 40085I	 L-W 2.5	 T 15
...1204	 DCL S-4F	 DLS 4	 DSP 4	 TSS 44	 SO 40050I	 L-W 3	 T 15

TSRNR/L-F TSSNR/L-F










Combi Clamp T-holders for flat inserts



Approach angle	Designation	Dimension (mm)						Insert	
		H	HF	B	LF	LH	WF		
75° 	TSRNR/L 2525 M1204-F	25	25	25	150	32	27	SNGN 1204...	
	3232 P1204-F	32	32	32	170	32	35		
45° 	TSSNR/L 2525 M1204-F	25	25	25	150	35	32	SNGN 1204...	
	3232 P1204-F	32	32	32	170	35	40		

Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
...1204	 DCL S-4F	 DLS 4	 DSP 4	 TSS 44	 SO 40050I	 L-W 3	 T 15

Recommended Cutting Conditions

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	Cutting speed Vc(m/min)	
						TB7020	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1		
		≥0.25%C Annealed	650	190	2		
		<0.55%C Quenched and tempered	850	250	3		
		≥0.55%C Annealed	750	220	4		
		Quenched and tempered	1000	300	5		
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6		
		Quenched and tempered		930	275	7	
				1000	300	8	
				1200	350	9	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10		
		Quenched and tempered	1100	325	11		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12		
		Martensitic	820	240	13		
		Austenitic	600	180	14		
K	Gray cast iron (GG)	Ferritic		160	15	300-800	
		Pearlitic		250	16	500-1000	
	Cast iron nodular (GGG)	Ferritic		180	17	100-500	
		Pearlitic		260	18	300-700	
	Malleable cast iron	Ferritic		130	19	50-100	
		Pearlitic		230	20	80-150	
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		
		Electrolytic copper		100	28		
	Non-metallic	Duroplastics, fiber plastics			29		
		Hard rubber			30		
S	High temp. alloys	Fe based	Annealed		200	31	
			Cured		280	32	
		Ni or Co based	Annealed		250	33	
			Cured		350	34	
			Cast		320	35	
	Titanium, Ti alloys		Rm 400		36		
		Alpha+beta alloys cured	Rm 1050		37		
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