

Six kinds of inserts can be used in one holder for various operations

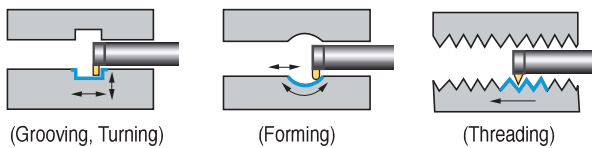
# Fine Tools

- Strong clamping system and specially designed insert are suitable for small diameter machining
- Six kinds of inserts can be clamped in one holder for various operations
- Guaranteed long tool life due to good toughness substrate with new TiAlN
- High accuracy ground insert ensures high precision machining



➤ **Application range** • Internal grooving, Profiling, Threading and Boring at  $\varnothing 8$  mm~ $\varnothing 16$  mm

➤ **Features**



➤ **Code system**

**NFTIH 08 3 12 - S**

Minimum Diameter
Overhang (ℓ/∅D)
Shank Dia.
Shank Type

S: Steel, C: Carbide

➤ **Recommended cutting condition**

Workpiece	Grade	Cutting Condition				
		Min. machining Dia. (∅Dmin)				
			∅8	∅11	∅14	∅16
Carbon steel	◎	vc(m/min)	30~80	30~100	30~100	30~100
		fn(mm/rev)	0.01~0.04	0.01~0.05	0.02~0.05	0.02~0.06
Alloy steel	◎	vc(m/min)	30~80	30~100	30~100	30~100
		fn(mm/rev)	0.01~0.02	0.01~0.04	0.02~0.04	0.02~0.05
Cast iron	○	vc(m/min)	30~80	30~100	30~100	30~100
		fn(mm/rev)	0.01~0.05	0.01~0.05	0.02~0.05	0.02~0.05
Non-ferrous alloy	○	vc(m/min)	70~150	100~150	100~150	100~150
		fn(mm/rev)	0.02~0.06	0.02~0.06	0.02~0.06	0.02~0.06

**Note** - In case of chattering, reduce the cutting speed and feed  
 - To find the optimal cutting conditions, advise to gradually increase from the lowest cutting condition of the above recommendation  
 - In case of the unilateral grooving depth over 1 mm, work to the step feed rate

➤ **Clamping system**

**Screw**

**Insert**

R Type

L Type

Grooving

L Type Forming insert"/>

Forming

L Type Threading insert"/>

Threading

**Holder**

Shank (Cemented carbide or Steel)

Overhang (3D, 4D, 5D)

• Available R/L type insert with one holder

Stable clamping according to the tripod structure



R Type

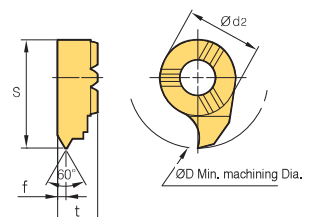
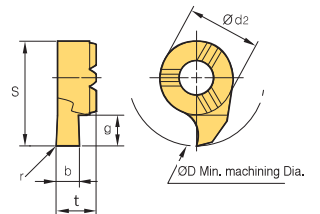
L Type

No-Spin-System design for strong clamping

# C Available Insert for Fine Tools

## Insert

Application	Picture	Designation	Coated		Dimensions (mm)									Configuration
			PC5300		ØD	b	r	S	g	Ød <sub>2</sub>	t	Pitch	f	
			R	L										
Grooving		NFTG 08075R/L	●		8	0.75	-	7.75	1.3	5.9	3.85	-	-	
		08085R/L	●		8	0.85	-	7.75	1.3	5.9	3.85	-	-	
		08095R/L	●		8	0.95	-	7.75	1.3	5.9	3.85	-	-	
		08121R/L	●		8	1.21	-	7.75	1.3	5.9	3.85	-	-	
		08141R/L	●		8	1.41	-	7.75	1.3	5.9	3.85	-	-	
		08152R/L	●		8	1.52	-	7.75	1.3	5.9	3.85	-	-	
		08171R/L	●		8	1.71	-	7.75	1.3	5.9	3.85	-	-	
		08202R/L	●		8	2.02	-	7.75	1.3	5.9	3.85	-	-	
		11075R/L	●		11	0.75	-	10.7	1.8	8.0	4.9	-	-	
		11085R/L	●		11	0.85	-	10.7	1.8	8.0	4.9	-	-	
		11095R/L	●		11	0.95	-	10.7	1.8	8.0	4.9	-	-	
		11121R/L	●		11	1.21	-	10.7	2.6	8.0	4.9	-	-	
		11141R/L	●		11	1.41	-	10.7	2.6	8.0	4.9	-	-	
		11152 R/L	●		11	1.52	-	10.7	2.6	8.0	4.9	-	-	
		11171R/L	●		11	1.71	-	10.7	2.6	8.0	4.9	-	-	
		11202R/L	●		11	2.02	-	10.7	2.6	8.0	4.9	-	-	
		11202R/L-02	●		11	2.02	0.2	10.7	2.6	8.0	4.9	-	-	
		11252R/L	●		11	2.52	-	10.7	2.6	8.0	4.9	-	-	
		11302R/L	●		11	3.02	-	10.7	2.6	8.0	4.9	-	-	
		14075R/L	●		14	0.75	-	13.5	1.8	9.0	5.85	-	-	
		14085R/L	●		14	0.85	-	13.5	1.8	9.0	5.85	-	-	
		14095R/L	●		14	0.95	-	13.5	1.8	9.0	5.85	-	-	
		14121R/L	●		14	1.21	-	13.5	4.3	9.0	5.85	-	-	
		14141R/L	●		14	1.41	-	13.5	4.3	9.0	5.85	-	-	
		14152R/L	●		14	1.52	-	13.5	4.3	9.0	5.85	-	-	
		14171R/L	●		14	1.71	-	13.5	4.3	9.0	5.85	-	-	
		14202R/L	●		14	2.02	-	13.5	4.3	9.0	5.85	-	-	
		14252R/L	●		14	2.52	-	13.5	4.3	9.0	5.85	-	-	
		14302R/L	●		14	3.02	-	13.5	4.3	9.0	5.85	-	-	
		16075R/L	●		16	0.75	-	15.7	1.8	11	5.8	-	-	
		16085R/L	●		16	0.85	-	15.7	1.8	11	5.8	-	-	
		16095R/L	●		16	0.95	-	15.7	1.8	11	5.8	-	-	
		16121R/L	●		16	1.21	-	15.7	4.6	11	5.8	-	-	
		16141R/L	●		16	1.41	-	15.7	4.6	11	5.8	-	-	
		16171R/L	●		16	1.71	-	15.7	4.6	11	5.8	-	-	
		16202R/L	●		16	2.02	-	15.7	4.6	11	5.8	-	-	
16252R/L	●		16	2.52	-	15.7	4.6	11	5.8	-	-			
16302R/L	●		16	3.02	-	15.7	4.6	11	5.8	-	-			
16352R/L	●		16	3.52	-	15.7	4.6	11	5.8	-	-			
16402R/L	●		16	4.02	-	15.7	4.6	11	5.8	-	-			
Threading		NFTT 0805MR/L	●		8	-	-	7.75	-	6	3.85	0.5	1.0	
		0810MR/L	●		8	-	-	7.75	-	6	3.85	1.0	1.0	
		0815MR/L	●		8	-	-	7.75	-	6	3.85	1.5	1.2	
		1110MR/L	●		11	-	-	10.7	-	8	4.9	1.0	1.2	
		1115MR/L	●		11	-	-	10.7	-	8	4.9	1.5	1.2	
		1120MR/L	●		11	-	-	10.7	-	8	4.9	2.0	1.2	
		1125MR/L	●		11	-	-	10.7	-	8	4.9	2.5	1.2	
		1410MR/L	●		14	-	-	13.5	-	9	5.85	1.0	1.2	
		1415MR/L	●		14	-	-	13.5	-	9	5.85	1.5	1.2	
		1420MR/L	●		14	-	-	13.5	-	9	5.85	2.0	1.2	
		1425MR/L	●		14	-	-	13.5	-	9	5.85	2.5	1.2	
		1610MR/L	●		16	-	-	15.7	-	11	5.8	1.0	1.2	
		1615MR/L	●		16	-	-	15.7	-	11	5.8	1.5	1.2	
		1620MR/L	●		16	-	-	15.7	-	11	5.8	2.0	1.2	
		1625MR/L	●		16	-	-	15.7	-	11	5.8	2.5	1.2	
		1630MR/L	●		16	-	-	15.7	-	11	5.8	3.0	1.5	
1635MR/L	●		16	-	-	15.7	-	11	5.8	3.5	1.6			
1640MR/L	●		16	-	-	15.7	-	11	5.8	4.0	1.8			



● : Stock item



## Insert

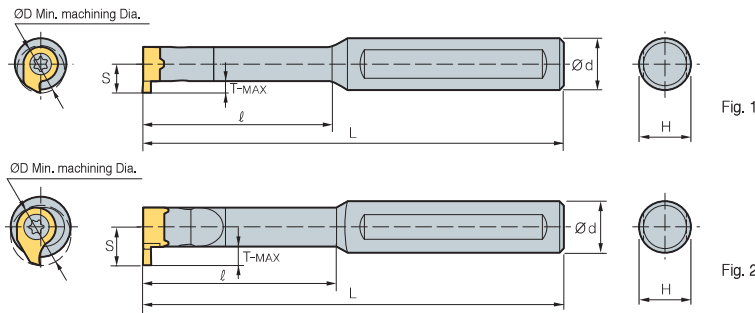
Application	Picture	Designation	Coated		Dimensions (mm)							Configuration
			PC5300		D	b	r	S	g	Ød <sub>2</sub>	t	
			R	L								
Profiling		NFTF 08082R/L	●		8	0.82	0.41	7.75	1.3	5.9	3.85	
		08122R/L	●		8	1.22	0.61	7.75	1.3	5.9	3.85	
		08182R/L	●		8	1.82	0.91	7.75	1.3	5.9	3.85	
		11082R/L	●		11	0.82	0.41	10.7	2.6	8	4.9	
		11122R/L	●		11	1.22	0.61	10.7	2.6	8	4.9	
		11182R/L	●		11	1.82	0.91	10.7	2.6	8	4.9	
		11202R/L	●		11	2.02	1.01	10.7	2.6	8	4.9	
		11302R/L	●		11	3.02	1.51	10.7	2.6	8	4.9	
		14122R/L	●		14	1.22	0.61	13.5	4.3	9	5.85	
		14182R/L	●		14	1.82	0.91	13.5	4.3	9	5.85	
		14202R/L	●		14	2.02	1.01	13.5	4.3	9	5.85	
		14222R/L	●		14	2.22	1.11	13.5	4.3	9	5.85	
		14302R/L	●		14	3.02	1.51	13.5	4.3	9	5.85	
		16182R/L	●		16	1.82	0.91	15.7	4.6	11	5.8	
		16222R/L	●		16	2.22	1.11	15.7	4.6	11	5.8	
		16302R/L	●		16	3.02	1.51	15.7	4.6	11	5.8	
		16402R/L	●		16	4.02	2.01	15.7	4.6	11	5.8	

● : Stock item

## NFTIH



NFTF  
NFTT  
NFTG



• For NFTIH14~.  
• R type insert

(mm)

Designation	ØD	Ød	L	ℓ	T-MAX	H	S	Inserts		Screw	Screw	Fig.
								NFTG: Grooving	NFTT: Threading			
NFTIH 08206C	8	6	65	-	1.0	4	4.8			PTKA02508	TW08P	1
08212C	8	12	70	16	1.0	10	4.8	NFTG08□□□R/L				
08312C	8	12	80	24	1.0	10	4.8	NFTT08□□□R/L				
08312S	8	12	80	24	1.0	10	4.8	NFTF08□□□R/L				
08412C	8	12	90	32	1.0	10	4.8					
NFTIH 11208C	11	8	80	-	2.3	7	6.7			PTKA03510	TW15P	2
11212C	11	12	75	22	2.3	11	6.7	NFTG11□□□R/L				
11312C	11	12	95	33	2.3	11	6.7	NFTT11□□□R/L				
11312S	11	12	95	33	2.3	11	6.7	NFTF11□□□R/L				
11512C	11	12	120	55	2.3	11	6.7					
NFTIH 14012C	14	12	75	20	4.0	11	9.0			PTKA0412	TW15P	2
14016C	14	16	75	20	4.0	15	9.0	NFTG14□□□R/L				
14112C	14	12	100	34	4.0	11	9.0	NFTT14□□□R/L				
14116C	14	16	100	34	4.0	15	9.0	NFTF14□□□R/L				
14212C	14	12	110	45	4.0	11	9.0					
NFTIH 16312C	16	12	130	64	4.0	11	9.0			PTKA0512	TW20P	2
16312S	16	12	130	48	4.3	11	10.2	NFTG16□□□R/L				
16412C	16	12	130	64	4.3	11	10.2	NFTT16□□□R/L				
16512C	16	12	150	80	4.3	11	10.2	NFTF16□□□R/L				
16316C	16	16	130	48	4.3	15	10.2					
16416C	16	16	130	64	4.3	15	10.2					
16516C	16	16	150	80	4.3	15	10.2					

↻ Applicable inserts C66 ~ C67

