

NEW

Member IMC Group
Ingersoll
Cutting Tools

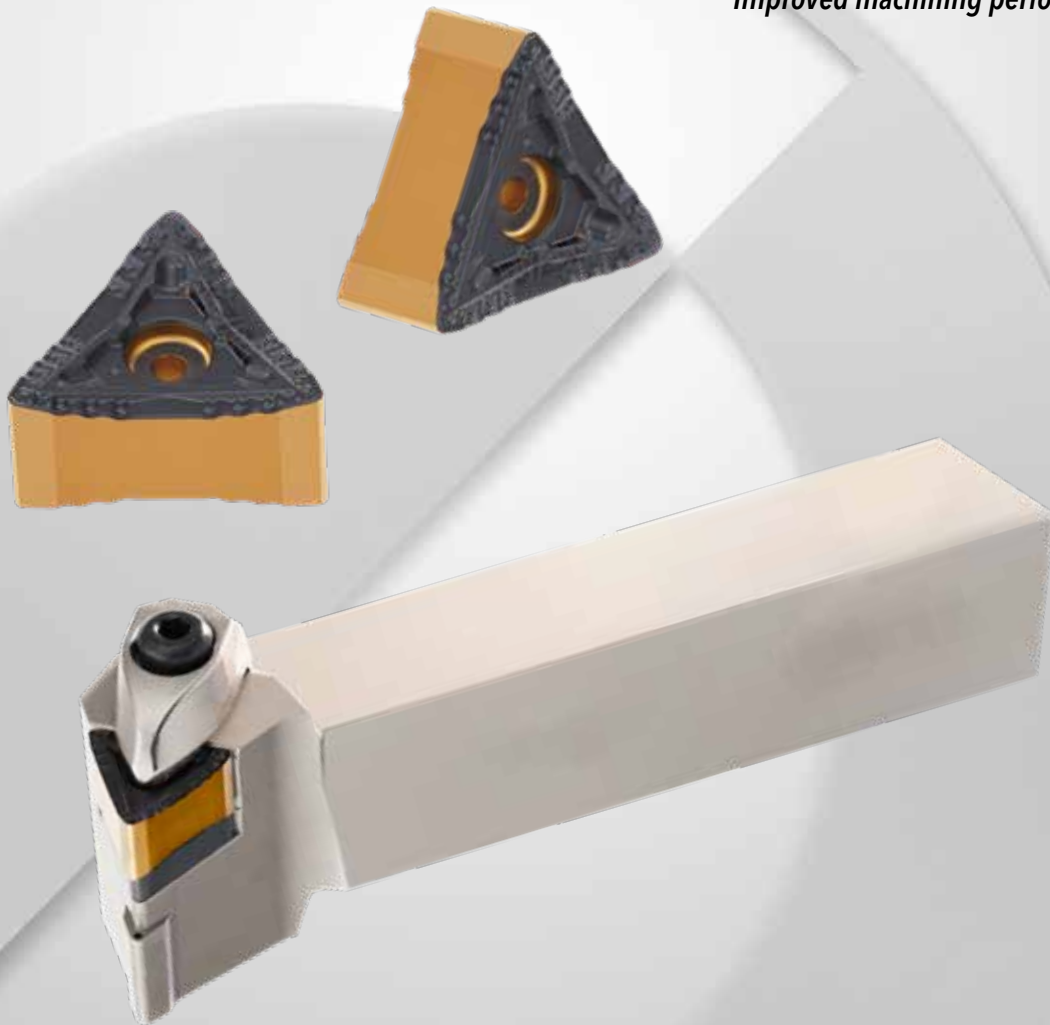
WINSFEED

WINTURN

TNMV INSERTS &
TTQNL HOLDER

**6 CUTTING EDGE INSERTS AND HOLDERS
FOR ALL-DIRECTIONAL TURNING INCLUDING
HIGH FEED BACKWARD TURNING**

- Excellent chip control •*
- Higher productivity •*
- Strong insert clamping force •*
- High-pressure coolant supplying •*
- Improved machining performance •*



Product Overview

Ingersoll has added the 6-corners TNMV inserts with holders to the all-directional turning WinTurn line.

The new WinTurn 6-corners negative TNMV inserts and holders provide high productivity multidirectional turning without replacing the holder.

The outstanding high feed feature is due to the small entering angle which enables higher productivity for both longitudinal turning and facing in the backward direction with one tool.

Using the same T-holder design, this user-friendly holder has a strong clamping force. The insert is available in the **BM** chip breaker type for general purpose machining of steels. The type is compatible with the TTQNR/L(-TB) holders.

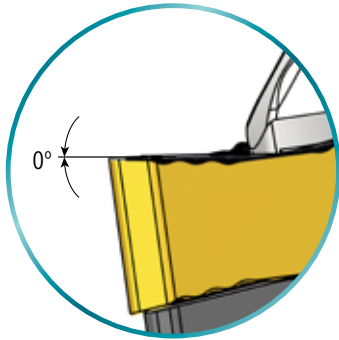
Advantages

- Optimally designed double-sided 6-corners negative inserts
- The same axial and radial rake angle as the low cutting force standard positive insert when mounted to the holders
- Serrated cutting edge enables excellent chip control in variable depth of cut operations
- Multidirectional turning and multiple applications including backward and forward longitudinal turning and facing without exchanging the tool holder:
 - Higher productivity due to reduced down time and reduced holder inventory
- High feed, backward longitudinal and facing solution that maximizes productivity (max. feed rate = 1.2 mm/rev)
- When forward machining with **TNMV** inserts, the maximum depth of cut is 3.5 mm (similar to the CNMG type)
- The same T-holder's simple clamping operation and strong clamping force
- High-pressure coolant supplying **CoolBurst** holders are available as standard holders

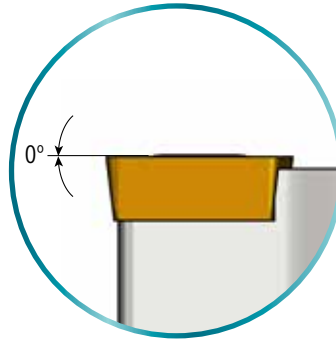


Technical Features

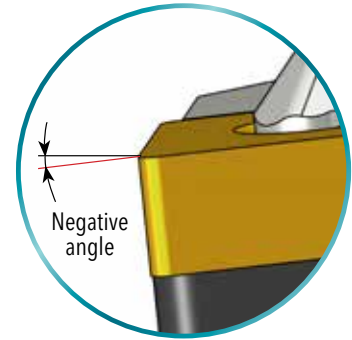
Same cutting edge angle as a standard positive insert when mounted to the holder



Cutting edge angle of a TNMV insert



Cutting edge angle of a standard positive insert

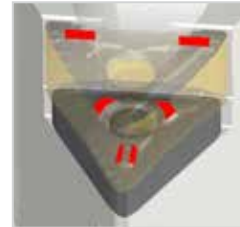
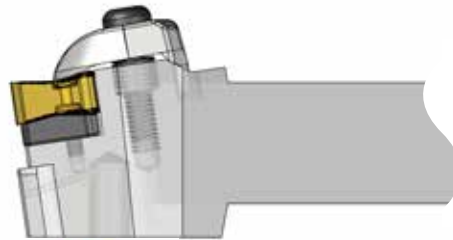


Cutting edge angle of a standard negative insert

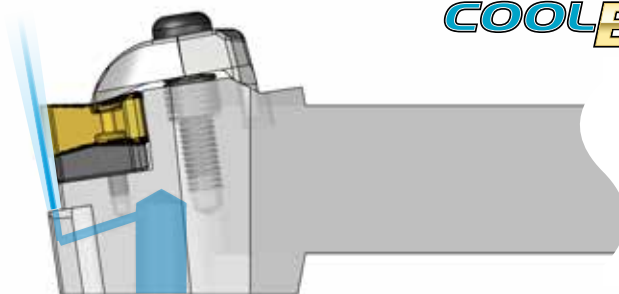
T-Holder clamping and unique assembly design



Strong 2 directional clamping force




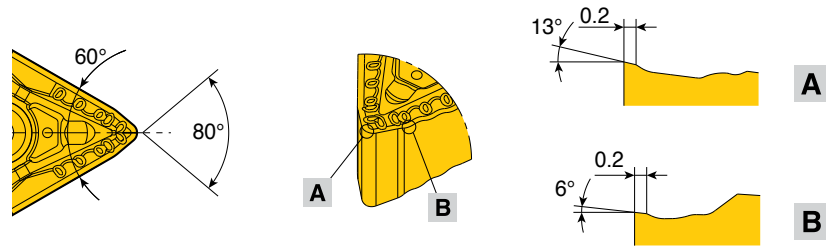
CoolBurst high pressure coolant supply holder



Stable and long tool life

COOLBURST

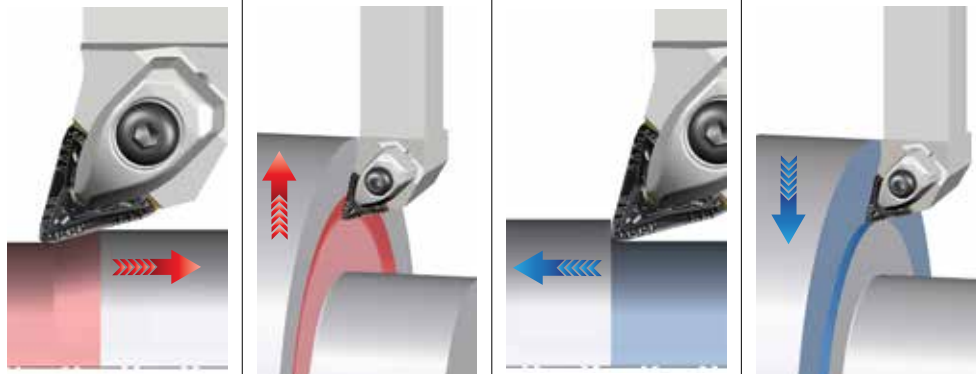
TNMV-BM insert geometry

Chip breaker	Cutting edge geometry
 <p>For general purpose steel machining</p>	

Application range of TNMV-BM insert

Application range of TNMV-BM insert with TQNL/R holder
- Capable of all directional turning

Applications

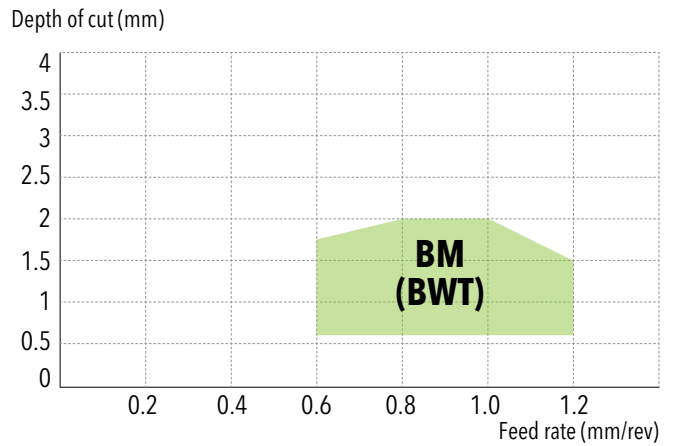
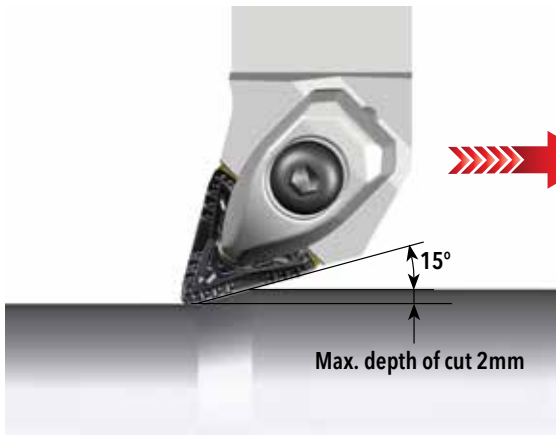


		Backward turning (BWT)	Backward facing (BWF)	Forward turning (FWT)	Forward facing (FWF)
Feed rate f (mm/rev)	Minimum	0.6	0.6	0.2	0.2
	Recommended	1.0	1.0	0.3	0.3
	Maximum	1.2	1.2	0.6	0.6
Depth of cut a_p (mm)	Minimum	0.7	0.7	0.5	0.5
	Recommended	1.5	1.5	2.0	2.0
	Maximum	2.0	2.0	3.5	3.5
K_{ea} (Entering angle)		15°	15°	95°	95°
R_{pa} (Ramping angle)		12°	12°	12°	12°

- Capable of high feed turning in BWT and BWF

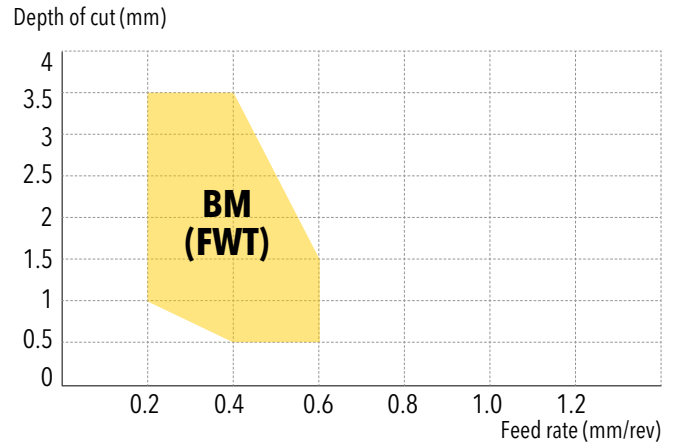
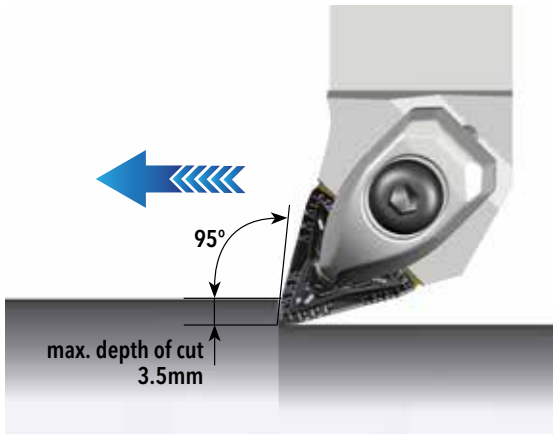
Application & chip control range

TTQNL holder's **high feed backward** turning (BWT) and TNMV-BM's chip control range



- Insert: TNMV 210908 (3.95.62)-BM
- Cutting speed (V): 200m/min
- Material: SCM 440 (HB230~260)

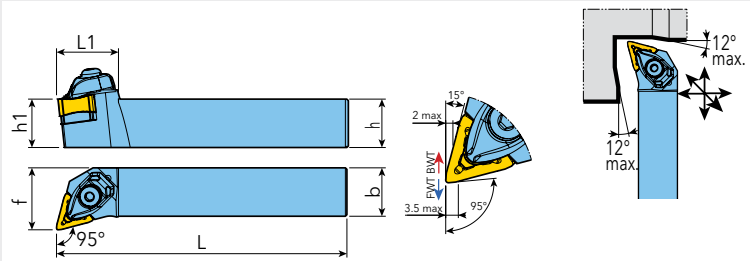
TTQNL holder's **forward** turning (FWT) and TNMV-BM's chip control range
(same depth of cut as CNMG type)



- Insert: TNMV 210908(3.95.62)-BM
- Cutting speed (V): 200m/min
- Material: SCM 440 (HB230~260)

WINTURN TTQNR/L

HOLDER WITH STRONG CLAMPING BY TOP CLAMP
FOR NEGATIVE 60° TNMV INSERTS



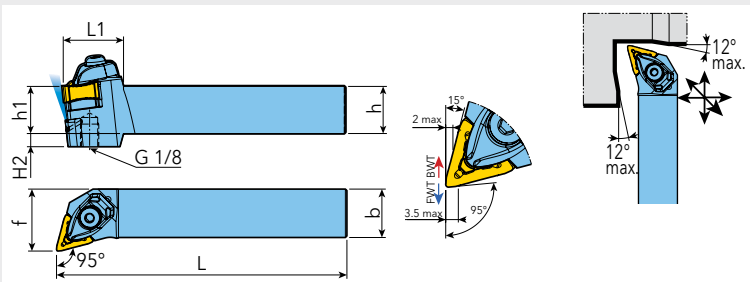
Designation	L	f	κ	h	h1	b	kg
TTQNL 2525 M2109	150	32	95°	25	25	25	0,739
TTQNL 3232 P2109	170	40	95°	32	32	32	1,316
TTQNR 2525 M2109	150	32	95°	25	25	25	0,739
TTQNR 3232 P2109	170	40	95°	32	32	32	1,316

Designation		1	2	3	4	5	6	7
TTQNL 2525 M2109	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNL 3232 P2109	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNR 2525 M2109	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNR 3232 P2109	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10

1 = Clamp 2 = Clamp screw 3 = Spring 4 = Shim 5 = Clamp screw 6 = Wrench 7 = Wrench

WINTURN TTQNR/L-TB

HOLDER WITH STRONG CLAMPING BY TOP CLAMP WITH HIGH PRESSURE COOLANT
FOR NEGATIVE 60° TNMV INSERTS

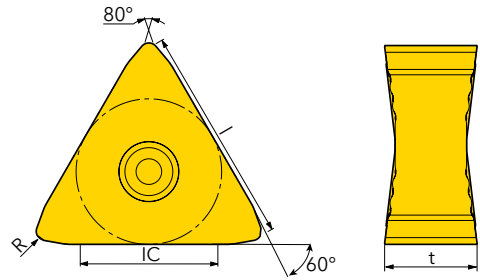


Designation	L	L1	H2	f	κ	h	h1	b	kg	IK
TTQNL 2525 M2109-TB	150	32	7	32	95°	25	25	25	0,764	✓
TTQNL 3232 P2109-TB	170	32	-	40	95°	32	32	32	1,309	✓
TTQNR 2525 M2109-TB	150	32	7	32	95°	25	25	25	0,764	✓
TTQNR 3232 P2109-TB	170	32	-	40	95°	32	32	32	1,309	✓

Designation		1	2	3	4	5	6	7
TTQNL 2525 M2109-TB	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNL 3232 P2109-TB	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNR 2525 M2109-TB	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10
TTQNR 3232 P2109-TB	TNMV 2109_	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	LW 4	T 10

1 = Clamp 2 = Clamp screw 3 = Spring 4 = Shim 5 = Clamp screw 6 = Wrench 7 = Wrench

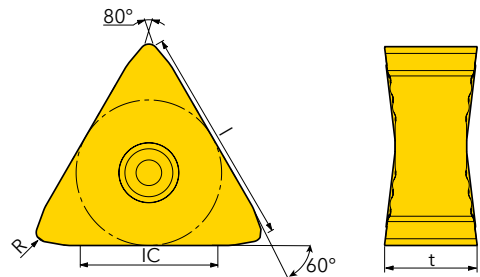
NEGATIVE 80° INSERT



Designation	f (min/max)	ap (min/max)	Z	l	t	R	IC	Qualität	
								TT8115B	TT8125B
TNMV 210908-BM for holder TTQNL/R	0,80 (0,20/1,20)	1,5 (0,5/2,0)	6	21,0	9,52	0,8	12,5	●	●

● = P ● = M ● = K ● = N ● = S ○ = H

NEGATIVE 80° INSERT



Designation	f (min/max)	ap (min/max)	Z	l	t	R	IC	Grade	
								TT9225	TT9080
TNMV 210908-BS for holder TTQNL/R	0,8 (0,2/1,2)	1,0 (0,7/3,5)	6	21,0	9,52	0,8	12,5	●	●

● = P ● = M ● = K ● = N ● = S ○ = H

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