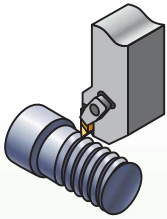




## Turning • Threading

Threading Application Guide.....	F2–F3
TopThread.....	F4–F37
Laydown Threading.....	F38–F78
Technical Information .....	F79–F101

**TopThread  
External Threading**



**Square Shank Toolholder Sizes:**

- Metric — 10–32mm

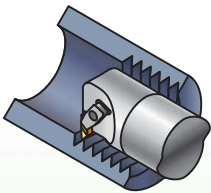
**Cresting (Full Profile):**

- UN TPI of 32–7
- ISO 1,5–3,0mm pitch

**60° Partial Profile — Flat Top**

- (NTF and NTK):**  
UN 44–4,5 TPI  
ISO 0,6–5,5mm pitch

**TopThread  
Internal Threading**



**Boring Bar Diameters:**

- Metric — 10–50mm
- Minimum bore — 11,5mm
- Steel

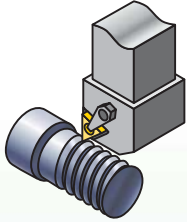
**Cresting (Full Profile):**

- UN 16–8 TPI
- ISO 1,5–3,0mm pitch

**60° Partial Profile — Flat Top**

- (NT-1L, NTF, and NTK):**  
UN 24–4,5 TPI  
ISO 1,0–5,5mm pitch

**Laydown  
External Threading**



**Square Shank Toolholder Sizes:**

- Metric — 8–40mm

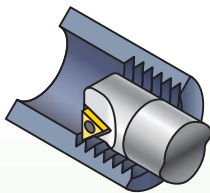
**Cresting (Full Profile):**

- UN 48–8 TPI
- ISO 0,5–5,0mm pitch

**60° Partial Profile:**

- UN 48–4 TPI
- ISO 0,5–6,0mm pitch

**Laydown  
Internal Threading**



**Boring Bar Diameters:**

- Metric — 12–50mm
- Minimum bore — (13mm)
- Steel and carbide

**Cresting (Full Profile)**

- and Partial Profile:**
- UN 48–8 TPI
  - ISO 0,5–5,0mm pitch

**60° Partial Profile:**

- UN 48–4 TPI
- ISO 0,5–6,0mm pitch

**55° Partial Profile:**

- UN 48–5 TPI
- ISO 0,5–5,0mm pitch

WIDIA™ TopThread™

TopThread



High heat and high edge line load concentrated to a small nose radius, combined with high feed rates, places high demands on carbide threading inserts. The WIDIA TopThread system is the best solution for these problems.

The WIDIA TopThread system is the superior choice for high-demand applications like machining Acme, Buttress, and API threads.

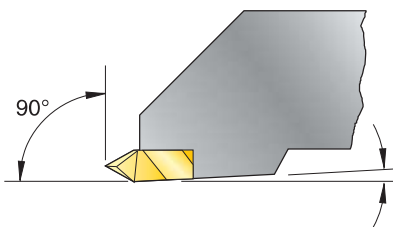
## TopThread Insert Technology

TopThread insert technology brings superior chip control to your threading operations. Unlike competitors' designs, the WIDIA recessed chip groove, when used according to our recommendations, will control the chip in most applications, bringing you better tool life and lower cutting pressures.

- Reduced inconsistencies and better workpiece finish.
- Superior chip control reduces the danger to operators.
- Increased productivity in all of your threading operations.
- Excellent choice for special thread forms and toolholder designs.

TopThread™ inserts are available in TN6010™ and TN6025™ grades to withstand the demands placed on the cutting edge of the threading insert.

The versatility of the TopThread steel enables you to use both threading and grooving inserts in the same toolholder.



*NOTE: Holders are designed to locate inserts inclined to 3° to provide back clearance down open side.*

## The Simple Solution

With the WIDIA™ TopThread solution, there is no need to worry about costly setup mistakes. TopThread insert selection is easy, quick, and enables accurate indexing to keep your machine spindle turning.

- Rigid design for increased insert stability during threading applications.
- Good quality threads, improved tool life, and improved surface finishes.
- Locking forces in three directions for superior resistance to tangential force.
- Unique 3° insert relief angle for back clearance.
- Available in partial profile inserts for 60° thread forms.

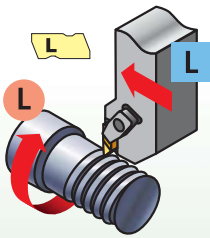
**Step 1 • Select Threading Method and Hand of Tooling**

**Required Information:**

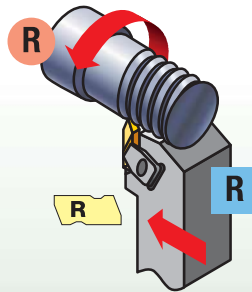
- External/internal operation.
- Spindle rotation/hand of thread.
- Feed direction.



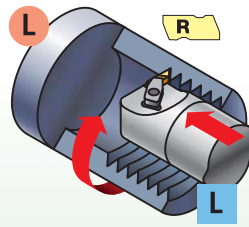
**Feed direction toward the chuck • RECOMMENDED**



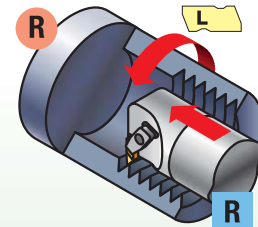
external left-hand thread



external right-hand thread

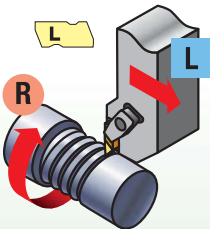


internal left-hand thread

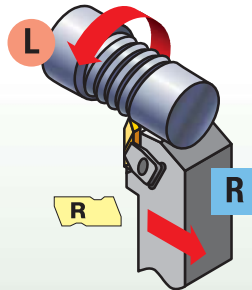


internal right-hand thread

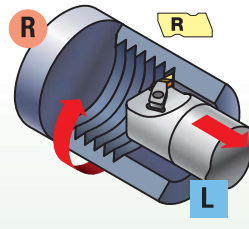
**Feed direction away from the chuck**



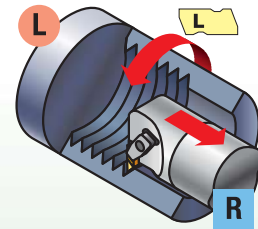
external right-hand thread



external left-hand thread



internal right-hand thread



internal left-hand thread

**Step 2 • Select Holder from Catalogue Page**

The insert size must match the gage insert size of your toolholder selection:

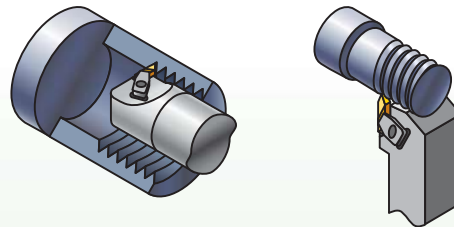
**Required Information:**

- External/internal operation.
- Minimum bore diameter (for internal operations).
- Hand of tool.
- Insert size (gage insert).

catalogue number	gage insert
NSR-163D	N.3R
NSR-164D	N.4R

*NOTE: TopThread toolholders and boring bars are listed with a gage insert to indicate the size and hand required. They are compatible with both grooving and threading inserts of the same size.*

Select the appropriate holder for the insert size and hand:




*NOTE: Optimise your threading operation by using the proper infeed method and the recommended infeed values.*

*See the Technical section on pages F79–F101 of this catalogue. For internal threading, minimum bore varies depending on thread type. See page F92 for details.*






**Step 3 • Choose Insert for Application**

- See threading insert overview on page F8.
- Select cresting inserts for fully controlled thread form including diameter control. Cresting inserts eliminate the need for deburring.
- Non-cresting partial profile inserts can cut a variety of thread pitches.
- Note insert size for toolholder selection.

	insert size	catalogue number	TN6025	TN6010
	2	<b>NT-2RK</b>	•	•
	3	<b>NT-3RK</b>	•	•
	4	<b>NT-4RK</b>	•	•

**Step 4 • Select Grade and Speed**

Recommendations for Grade and Speed Selection — m/min

workpiece material	steel	stainless steel	cast iron	non-ferrous metals	high-temp alloys
insert style	chip control or neutral 	chip control or positive 	neutral 	positive 	positive 
optimum cutting conditions	<b>TN6010</b> 160–750	<b>TN6010</b> 160–600	<b>TN6010</b> 230–700	–	<b>TN6010</b> 65–400
first choice	<b>TN6025</b> 130–650	<b>TN6025</b> 130–450	<b>TN6025</b> 200–475	<b>TN6025</b> 160–1150	<b>TN6025</b> 35–330

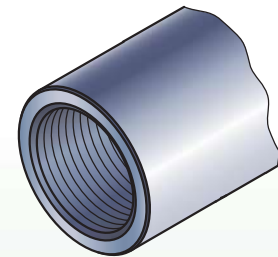
**Examples:**

- Chip Control:** NT-K or NT-CK (partial profile only)
- Neutral:** NT, NT-C, NTF, NTC, NJ, NJF, NDC-V, NA, NDC, NTB-A/B
- Positive:** NTP, NTK, NJP, NJK

**TopThread Threading Example:**

**application:** 8 TPI Acme internal right-hand thread  
**material:** alloy steel  
**workpiece diameter:** 114,3mm  
good cutting conditions  
feed towards the chuck

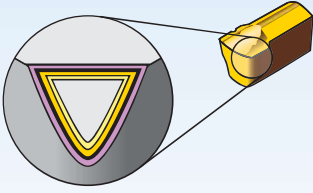
**Recommendation:**  
**insert:** NA3L8  
**grade:** TN6010  
**insert size:** 3  
**boring bar:** A40NER3  
**gage insert:** N.3L  
**speed:** 150 m/min  
**infeed passes\*:** 12 passes



\* Infeed recommendations provided in technical data section on pages F88–F91.



chip control — K		style			thread profile	standard	tolerance class	cresting	application	page(s)
		neutral	positive							
NT-K		NT			Partial Profile 60°	—	—	N	General use for 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches.	F13–F15
NT-CK					Partial Profile 60° — coarse pitch	—	—	N	Coarse pitch 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches.	F15
		NTF			Partial Profile 60° — fine pitch	—	—	N	Fine pitch 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches — able to thread close to shoulders.	F16
		NTC			American UN	ANSI B1.1:74	2A/2B	Y	Widely used inch-based 60° V-form for all industries.	F17
					UNJ	SAEA588791	3A/3B	N	Controlled root radius on external threads for military and aerospace industries.	F18
					UNJ — fine pitch	SAEA588790	3A/3B	N	Controlled root radius on external threads for military and aerospace industries — able to thread close to shoulders.	F18
		NDC-V			NPT	ANSI/ACME B1.201:1983	Standard NPT	Y	National Pipe Thread standard forms for pipe fittings.	F18
		NDC-V-M			NPT — multi-tooth	ANSI/ACME B1.201:1983	Standard NPT	Y	High-productivity multi-tooth threading inserts for NPT threads.	F19
		NWC-E			Whitworth, BSW, BSP	BS 84:1956, ISO 228/1:1982, DIN 259	Medium Class A	Y	Widely used 55° form for gas and water connections.	F19
		NDC-RD			API Round	API STD. 5B:1979	Standard API RD	Y	60° V-form with large radius for casing, tubing, and line pipe in the oil and gas industry, including 8 and 10 round forms.	F20
		NA			Acme	ANSI B1.5:1988	3G	N	29° truncated thread form for motion applications in a wide variety of industries.	F21
		NAS			Stub Acme	ANSI B1.8:1988	2G	N	Shallow depth 29° truncated thread form for motion applications in a wide variety of industries.	F22
		NTB-B			American Buttress — 45° clearance flank leading (Pull)	ANSI B1.9:1973	Class 2	N	Sawtooth form for axial load bearing applications in a variety of industries — use the “B” style when the 45° clearance flank is the leading flank.	F22



**Coatings provide high-speed capability and are engineered for finishing to light roughing.**

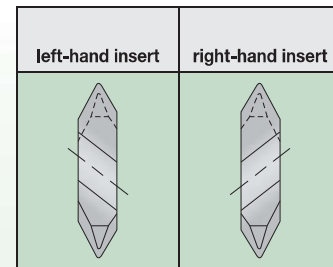
- Reduce cycle times — high speed capability.
- Longer tool life — new multilayer coating provides better wear resistance.

<b>P</b>	Steel
<b>M</b>	Stainless Steel
<b>K</b>	Cast Iron
<b>N</b>	Non-Ferrous
<b>S</b>	High-Temp Alloys
<b>H</b>	Hardened Materials

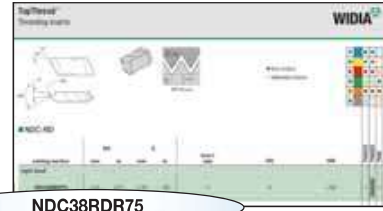
		wear resistance ← → toughness																				
		05	10	15	20	25	30	35	40	45												
<b>Grade</b>	<b>Coating</b>	<b>Grade Description</b>										<b>P</b>										
	<b>TN6010</b>	An advanced PVD TiAlN coating over a very deformation-resistant unalloyed carbide substrate. TN6010 is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys under stable conditions. It also performs well in machining hardened and short chipping materials.										<b>M</b>										
	<b>HC-P10</b>											<b>K</b>										
												<b>N</b>										
												<b>S</b>										
												<b>H</b>										
												<b>P</b>										
												<b>M</b>										
												<b>K</b>										
												<b>N</b>										
												<b>S</b>										
												<b>K</b>										
												<b>N</b>										
												<b>S</b>										

- All TopThread inserts are precision-ground to provide accurate edge location and secure locking of the insert in the toolholder pocket.
- TopThread inserts can be used in either toolholders or boring bars.
- All non-cresting-type threading inserts can be used for either external or internal applications. All cresting-type inserts are designated specifically for external or internal use.

- Right-hand TopThread toolholders use right-hand inserts. Left-hand TopThread toolholders use left-hand inserts.
- Right-hand TopThread boring bars use left-hand inserts. Left-hand TopThread boring bars use right-hand inserts.
- See this page for carbide grade selection and more technical information.



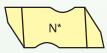
# TopThread Insert Identification System



NDC38RDR75

- N**  
Type of Insert
- D**  
Insert
- C**  
Additional Information
- 3**  
Insert Size
- 8RD**  
Industry Thread Identification
- R**  
Hand of Insert
- 75**  
Definition of Insert
- Additional Information

**N** – TopThread™

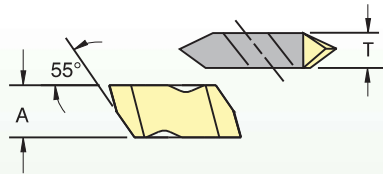


- B** – Buttress  
**F** – Fine pitch  
**S** – Stub Acme  
**C** – Cresting  
**P** – Positive rake  
**K** – Fine pitch, positive

Indicates API or drilling industry form designation (e.g., 10RD, 8RD, .038) or controlled root radius threading inserts indicate the root radius in 0,025 increments (NJ, NJF, NJP, NJK) or M indicates metric ISO thread

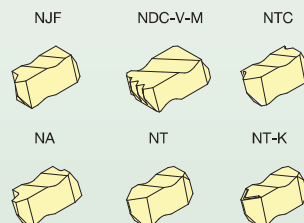
- R** – Right Hand  
**L** – Left Hand

- A** – Acme  
**D** – API or NPT  
**J** – UNJ thread  
**T** – 60° V thread  
**W** – 55° V Whitworth



TopThread insert dimensions

insert size	A mm	T mm
1	2,54	2,54
2	5,56	3,81
3	8,74	4,95
4	11,51	6,48
5	17,48	9,65
6	11,51	9,73
8	7,93	11,13



- Threads per inch or pitch (for metric)
- “A” or “B” type Buttress insert
- Taper per foot – API threads

- I** – Internal thread  
**E** – External thread (used only if internal and external thread forms are different)  
**M** – Multiple tooth  
**K** – Standard chip control  
**C** – Coarse pitch  
**D** – Dryseal

Material Group		Cutting Speed — vc m/min								
		TN6010			TN6025			THM		
		min	Start	max	min	Start	max	min	Start	max
P	0/1	140	175	210	130	140	150	90	95	100
	2	115	145	175	110	145	175	75	100	125
	3	115	145	175	110	145	175	75	100	125
	4	75	100	120	75	95	115	55	65	80
	5	105	140	170	100	125	145	70	85	100
	6	45	60	75	40	55	65	30	40	45
M	1	90	115	140	60	75	90	60	75	90
	2	55	70	90	40	50	55	50	60	75
	3	60	80	95	40	50	60	40	50	55
K	1	120	150	180	60	80	90	70	90	100
	2	120	150	180	60	75	85	50	65	80
	3	110	140	170	60	75	90	60	70	80
N	1	600	750	900	600	750	900	600	750	900
	2	535	685	835	535	685	835	500	650	800
	3	230	300	370	230	300	370	600	750	900
	4	135	180	225	135	180	225	500	650	800
	5	70	90	110	70	90	110	230	300	370
	6	445	565	690	445	565	690	150	200	250
	7	550	700	850	550	700	850	150	200	250
S	1	35	40	50	25	35	40	25	35	45
	2	20	20	30	15	20	20	20	30	35
	3	60	70	80	40	60	70	15	25	30
	4	30	35	45	20	30	35	10	15	20
H	1	15	30	60	-	-	-	-	-	-
	2	15	30	60	-	-	-	-	-	-
	3	15	30	60	-	-	-	-	-	-
	4	15	30	60	-	-	-	-	-	-

# The best solution for demanding threading applications



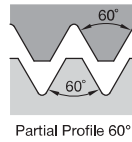
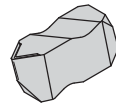
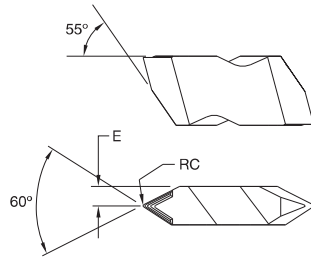
EXTREME **CHALLENGES.**  
EXTREME **RESULTS.**

The WIDIA™ TopThread system is the best solution for demanding threading applications. With unmatched tooling technology, you can trust WIDIA TopThread tools for all of your threading and grooving needs.

- Large selection of insert geometries and grades.
- Rigid insert clamping design ensures the best tool life, surface finish, and workpiece quality.
- Ensures accurate, high-quality threads. Excellent for internal threading operations.

To learn more, contact your local Authorised Distributor or visit [widia.com](http://widia.com).

**WIDIA** 

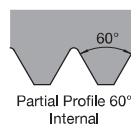
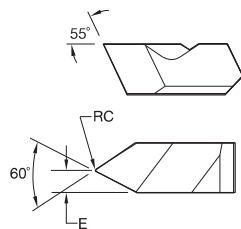


● first choice  
○ alternate choice

P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ **NT-K**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NT2RK	0,10	1,91	2	0,70-3,0	1,25-3,5	8-36	7-20	3607651	3607837	I
NT3RK	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607643	3607824	I
NT4RK	0,17	3,25	4	1,25-6,25	2,0-6,25	4-20	4-12	3607846	3607837	I
<b>left hand</b>										
NT2LK	0,10	1,91	2	0,70-3,0	1,25-3,5	8-36	7-20	3607674	3607833	I
NT3LK	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607645	3607828	I

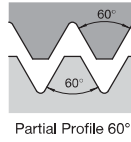
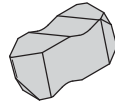
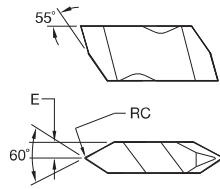


■ **NT-1L**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>left hand</b>										
NT1L	0,08	1,09	1	—	1,0-2,0	—	12-24	3636551	3636555	I



Threading



● first choice  
○ alternate choice

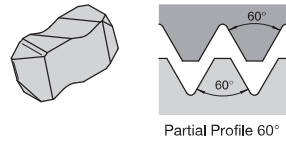
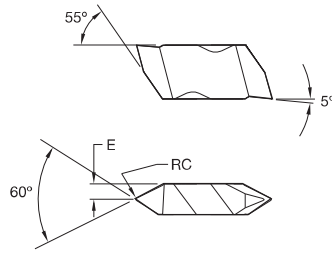
P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ NT



Threading

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NT2R	0,10	1,90	2	0,70-3,0	1,25-3,5	8-36	7-20	3607647	3607843	I
NT3R	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607530	3607825	I
NT4R	0,17	3,25	4	1,25-6,25	2,0-6,25	4-20	4-12	3607676	3607834	I
<b>left hand</b>										
NT2L	0,10	1,90	2	0,70-3,0	1,25-3,5	8-36	7-20	3607675	3607835	I
NT3L	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607532	3607826	I
NT4L	0,17	3,25	4	1,25-6,25	2,0-6,25	4-20	4-12	3607849	3607849	I

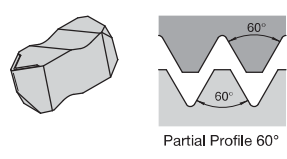
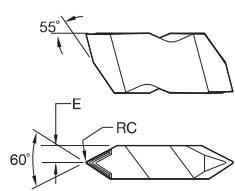


● first choice  
○ alternate choice

P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

**■ NTP**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NTP2R	0,10	1,91	2	0,70-3,0	1,25-3,5	8-36	7-20	3607677	3607841	I
NTP3R	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607644	3607823	I
NTP4R	0,17	3,25	4	1,25-6,25	2,0-6,25	4-20	4-12	3607839	3607841	I
<b>left hand</b>										
NTP2L	0,10	1,91	2	0,70-3,0	1,25-3,5	8-36	7-20	3607678	3607840	I
NTP3L	0,17	2,49	3	1,25-4,0	2,0-5,0	6-20	5-12	3607650	3607831	I

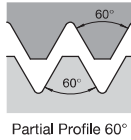
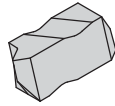
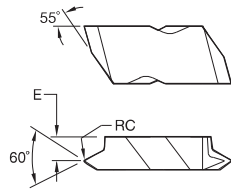


**■ NT-CK**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NT3RCK	0,34	2,46	3	2,5-4,0	4,0	6-11	6	3607649	3607838	I





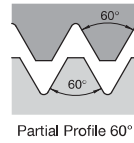
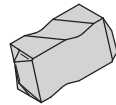
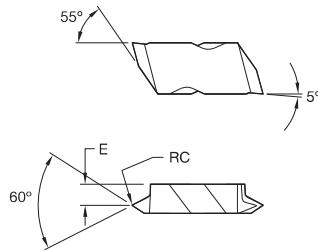


● first choice  
○ alternate choice

P	●	●	○
M	●	●	○
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ NTF

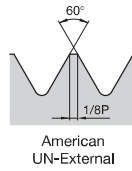
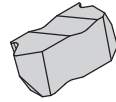
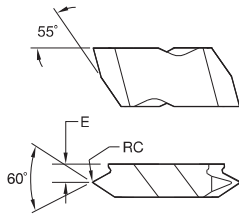
catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NTF2R	0,08	2,79	2	0,60-1,75	1,0-2,0	14-44	12-24	3607673	3607852	I
NTF3R	0,08	3,58	3	0,60-2,5	1,0-2,5	10-44	9-24	3607531	3607830	I
<b>left hand</b>										
NTF3L	0,08	3,58	3	0,60-2,5	1,0-2,5	10-44	9-24	3607852	3607832	I



■ NTK

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NTK2R	0,08	2,79	2	0,60-1,75	1,0-2,0	14-44	12-24	3607646	3607836	I
NTK3R	0,08	3,58	3	0,60-2,50	1,0-2,5	10-44	9-24	3607528	3607827	I
<b>left hand</b>										
NTK3L	0,08	3,58	3	0,60-2,50	1,0-2,5	10-44	9-24	3607853		I

Threading

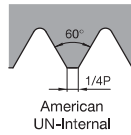
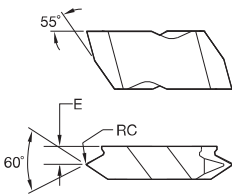


● first choice  
○ alternate choice

P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ **NTC-E**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>right hand</b>										
NTC3R16E	0,19	3,76	3	—	—	16	—	3636553	3636557	I
NTC3R14E	0,22	3,76	3	—	—	14	—	3636554	—	I
NTC3R12E	0,25	3,76	3	—	—	12	—	3636549	3636562	I

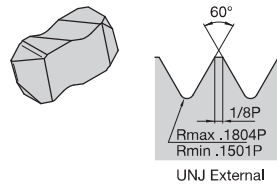
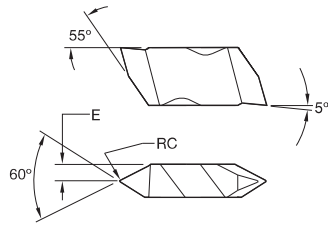


■ **NTC-I**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
<b>left hand</b>										
NTC3L12I	0,10	3,76	3	—	—	—	12	—	3636556	I



Threading



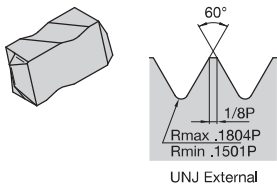
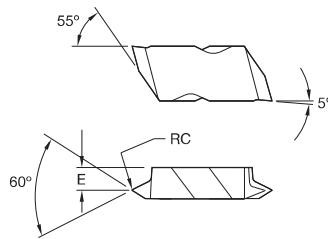
● first choice  
○ alternate choice

P	●	●	
M	●	●	○
K	●	●	○
N	○	○	●
S	●	●	●
H	○		

■ **NJP**

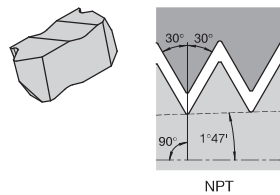
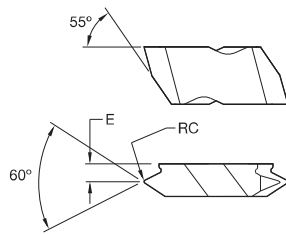
catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
right hand										
NJP3014R12	0,33	2,49	3	—	—	12	—	—	3607850	—

Threading



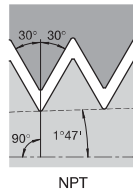
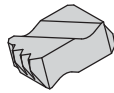
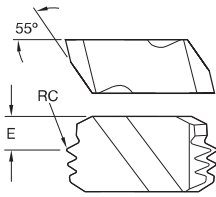
■ **NJK**

catalogue number	RC	E	insert size	external thread pitch mm	internal thread pitch mm	external TPI	internal TPI	TN6010	TN6025	THM
right hand										
NJK3008R20	0,20	3,58	3	—	—	20	—	3607648	—	—



■ **NDC-V**

catalogue number	RC	E	insert size	TPI	TPF	TN6010	TN6025	THM
right hand								
NDC3115VR75	0,10	3,66	3	11,5	.750	3636550	—	—

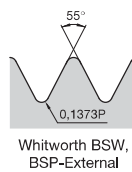
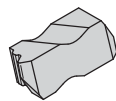
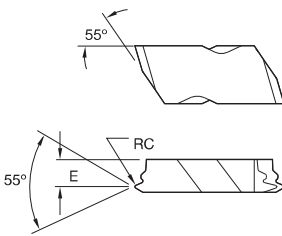


● first choice  
○ alternate choice

P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ **NDC-V-M**

catalogue number	RC	E	insert size	TPI	TPF	TN6010	TN6025	THM
<b>right hand</b>								
NDC8115VR75M	0,10	2,59	8	11,5	.750	3636552	—	—
NDC88VR75M	0,13	2,41	8	8	.750	3636548	—	—



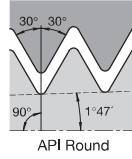
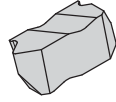
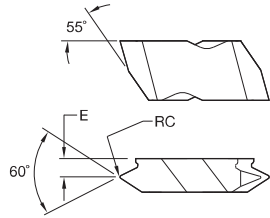
Whitworth BSW,  
BSP-External

■ **NWC-E**

catalogue number	RC	E	insert size	TPI	TPF	TN6010	TN6025	THM
<b>right hand</b>								
NWC3R14E	0,24	3,43	3	14	—	—	3811638	—
NWC3R11E	0,30	3,43	3	11	—	—	3811639	—



Threading



● first choice  
○ alternate choice

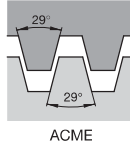
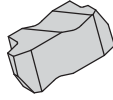
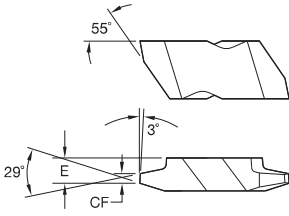
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M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

■ NDC-RD



Threading

catalogue number	RC	E	insert size	TPI	TPF	TN6010	TN6025	THM
<b>right hand</b>								
NDC38RDR75	0,43	3,18	3	8	.750	■	3636558	■
<b>left hand</b>								
NDC310RDL75	0,36	3,18	3	10	.750	■	3636565	■
NDC38RDL75	0,43	3,18	3	8	.750	■	3636559	■



● first choice  
○ alternate choice

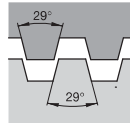
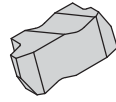
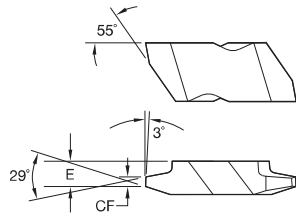
P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ NA

catalogue number	CF	E	insert size	TPI	TN6010	TN6025	THM
<b>right hand</b>							
NA3R8	1,04	3,79	3	8	—	3607854	—
NA3R6	1,44	3,79	3	6	—	3607851	—
NA3R4	2,22	3,38	3	4	—	3607848	—
NA4R4	2,22	5,13	4	4	—	3636566	—
NA6R3	3,01	7,19	6	3	—	3636564	—
NA6R2	4,58	7,19	6	2	—	3636567	—
<b>left hand</b>							
NA3L8	1,04	3,79	3	8	—	3607855	—
NA3L6	1,44	3,79	3	6	—	3607847	—
NA3L4	2,22	3,38	3	4	—	3607842	—
NA4L4	2,22	5,13	4	4	—	3636560	—
NA6L3	3,01	7,19	6	3	—	3636561	—
NA6L2	4,58	7,19	6	2	—	3636568	—



Threading



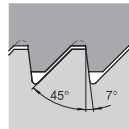
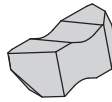
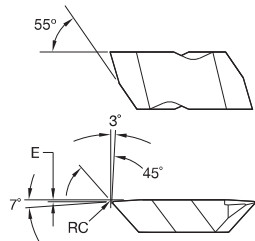
Stub ACME

● first choice  
○ alternate choice

P	●	●	●
M	●	●	●
K	●	●	○
N	○	○	●
S	●	●	●
H	○	○	○

■ **NAS**

catalogue number	CF	E	insert size	TPI	TN6010	TN6025	THM
<b>right hand</b>							
NAS3R8	1,21	3,79	3	8	●	●	●
<b>left hand</b>							
NAS3L12	0,83	3,79	3	12	●	●	●
NAS3L8	1,21	3,79	3	8	●	●	●
NAS3L6	1,66	3,79	3	6	●	●	●



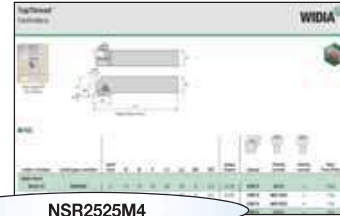
American Buttress-Pull

■ **NTB-B**




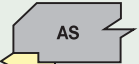

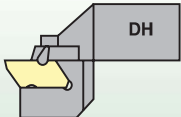
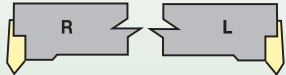
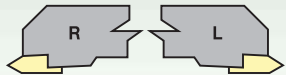
catalogue number	RC	E	insert size	TPI	TPF	TN6010	TN6025	THM
<b>left hand</b>								
NTB3LB	0,17	0,31	3	8-16	—	●	●	●

Threading

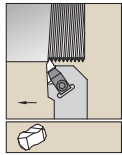
**TopThread  
Holder Identification System**



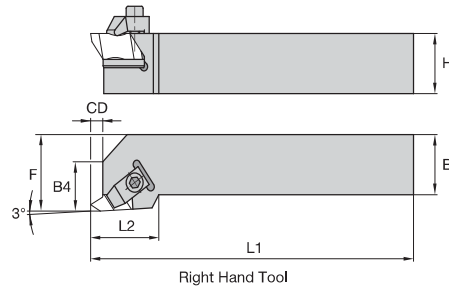
NSR2525M4

<b>N</b>	<b>S</b>	<b>R</b>		<b>2525</b>	<b>M</b>	<b>4</b>																																																															
Insert Holding Method	Insert Mounting Location	Hand of Tool	Drop Head	Shank Size	Tool Length	Insert Size	Qualified Holder																																																														
<p><b>N</b> – TopThread™</p> 	<p>End mount</p>  <p>Side mount, offset</p>  <p>Side mount, no offset</p> 			<p>Shank height and width in mm and holder</p>	<table border="1"> <thead> <tr> <th>L1</th> <th>ISO</th> </tr> </thead> <tbody> <tr><td>32</td><td>A</td></tr> <tr><td>40</td><td>B</td></tr> <tr><td>50</td><td>C</td></tr> <tr><td>60</td><td>D</td></tr> <tr><td>70</td><td>E</td></tr> <tr><td>80</td><td>F</td></tr> <tr><td>90</td><td>G</td></tr> <tr><td>100</td><td>H</td></tr> <tr><td>110</td><td>J</td></tr> <tr><td>125</td><td>K</td></tr> <tr><td>140</td><td>L</td></tr> <tr><td>150</td><td>M</td></tr> <tr><td>160</td><td>N</td></tr> <tr><td>170</td><td>P</td></tr> <tr><td>180</td><td>Q</td></tr> <tr><td>200</td><td>R</td></tr> <tr><td>250</td><td>S</td></tr> <tr><td>300</td><td>T</td></tr> <tr><td>350</td><td>U</td></tr> <tr><td>400</td><td>V</td></tr> <tr><td>450</td><td>W</td></tr> <tr><td>500</td><td>Y</td></tr> <tr><td>special length</td><td>x</td></tr> </tbody> </table>	L1	ISO	32	A	40	B	50	C	60	D	70	E	80	F	90	G	100	H	110	J	125	K	140	L	150	M	160	N	170	P	180	Q	200	R	250	S	300	T	350	U	400	V	450	W	500	Y	special length	x	 <table border="1"> <thead> <tr> <th>insert size</th> <th>W1</th> </tr> </thead> <tbody> <tr><td>2</td><td>3,81</td></tr> <tr><td>3</td><td>4,95</td></tr> <tr><td>4</td><td>6,98</td></tr> <tr><td>5</td><td>9,65</td></tr> <tr><td>6</td><td>9,73</td></tr> <tr><td>8</td><td>11,13</td></tr> </tbody> </table>	insert size	W1	2	3,81	3	4,95	4	6,98	5	9,65	6	9,73	8	11,13	<p><b>Q</b> – Qualified holder</p>
L1	ISO																																																																				
32	A																																																																				
40	B																																																																				
50	C																																																																				
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125	K																																																																				
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150	M																																																																				
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200	R																																																																				
250	S																																																																				
300	T																																																																				
350	U																																																																				
400	V																																																																				
450	W																																																																				
500	Y																																																																				
special length	x																																																																				
insert size	W1																																																																				
2	3,81																																																																				
3	4,95																																																																				
4	6,98																																																																				
5	9,65																																																																				
6	9,73																																																																				
8	11,13																																																																				
																																																																					
		<p>End mount</p>  <p>Side mount</p> 																																																																			





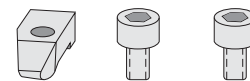
See page F8  
for inserts.



■ NS



Threading

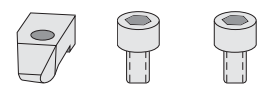


order number	catalogue number	seat size	H	B	F	L1	L2	B4	CD	gage insert	clamp	clamp screw	clamp screw	hex/ Torx Plus
right hand														
3632147	NSR062	2	10	10	14	64	19	9	3,5	N.2R	CM74	S310	—	7/64
3641682	NSR1010E2	2	10	10	14	70	19	9	3,5	N.2R	CM74	MS1200	—	T10
3641660	NSR1212F2	2	12	12	16	80	19	9	3,5	N.2R	CM74	MS1200	—	T10
3639035	NSR082V	2	13	13	19	89	19	9	3,5	N.2R	CM74	S310	—	7/64
3639044	NSR102B	2	16	16	22	114	19	9	3,5	N.2R	CM74	S310	—	7/64
3636542	NSR1616H2	2	16	16	20	100	19	9	3,5	N.2R	CM74	MS1200	—	T10
3639026	NSR122B	2	19	19	25	114	19	9	3,5	N.2R	CM74	S310	—	7/64
3638589	NSR2020K2	2	20	20	25	125	19	9	3,5	N.2R	CM74	MS1200	—	T10
3638590	NSR2525M2	2	25	25	32	150	19	9	3,5	N.2R	CM74	MS1200	—	T10
3639025	NSR162C	2	25	25	32	127	19	9	3,5	N.2R	CM74	S310	—	7/64
3639027	NSR123A	3	19	19	25	102	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3639023	NSR123B	3	19	19	25	114	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3638588	NSR2020K3	3	20	20	25	125	32	13	5,3	N.3R	CM72LP	—	MS2111	25 IP
3636536	NSR2525M3	3	25	25	32	150	32	13	5,3	N.3R	CM72LP	—	MS2111	25 IP
3638592	NSR163C	3	25	25	32	127	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3638591	NSR163D	3	25	25	32	152	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3637496	NSR853D	3	32	25	32	152	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3639028	NSR203D	3	32	32	38	152	32	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3641664	NSR3225P3	3	32	25	32	170	32	13	5,3	N.3R	CM72LP	—	MS2111	25 IP
3641666	NSR3232P3	3	32	32	40	170	32	13	5,3	N.3R	CM72LP	—	MS2111	25 IP
3637506	NSR243D	3	38	38	51	152	35	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3637535	NSR243E	3	38	38	51	178	35	13	5,3	N.3R	CM72LP	—	S2112	25 IP
3636540	NSR2525M4	4	25	25	32	150	35	14	7,5	N.4R	CM72LP	—	MS2111	25 IP
3641675	NSR3225P4	4	32	25	32	170	35	14	7,5	N.4R	CM72LP	—	MS2111	25 IP
3641669	NSR3232P4	4	32	32	40	170	35	14	7,5	N.4R	CM72LP	—	MS2111	25 IP
3637509	NSR205D	5	32	32	38	152	51	15	10,5	N.5R	CM80	S352	—	1/4
3637540	NSR245D	5	38	38	51	152	51	16	10,5	N.5R	CM80	S352	—	1/4

NOTE: F dimension measured over sharp point of insert.

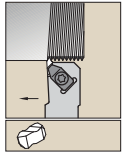
(continued)

(NS – continued)

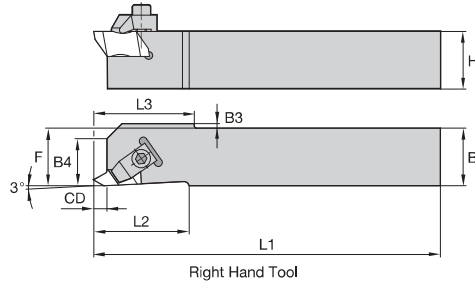
order number	catalogue number	seat size	H	B	F	L1	L2	B4	CD	gage insert				hex/ Torx Plus
											clamp	clamp screw	clamp screw	
<b>left hand</b>														
3632161	NSL062	2	10	10	14	64	19	9	3,5	N,2L	CM75	S310	—	7/64
3641683	NSL1010E2	2	10	10	14	70	19	9	3,5	N,2L	CM75	MS1200	—	T10
3641681	NSL1212F2	2	12	12	16	80	19	9	3,5	N,2L	CM75	MS1200	—	T10
3637485	NSL082V	2	13	13	19	89	19	9	3,5	N,2L	CM75	S310	—	7/64
3637510	NSL102B	2	16	16	22	114	19	9	3,5	N,2L	CM75	S310	—	7/64
3636545	NSL1616H2	2	16	16	20	100	19	9	3,5	N,2L	CM75	MS1200	—	T10
3632145	NSL122B	2	19	19	25	114	19	9	3,5	N,2L	CM75	S310	—	7/64
3639045	NSL2020K2	2	20	20	25	125	19	9	3,5	N,2L	CM75	MS1200	—	T10
3639047	NSL2525M2	2	25	25	32	150	19	9	3,5	N,2L	CM75	MS1200	—	T10
3632138	NSL162C	2	25	25	32	127	19	9	3,5	N,2L	CM75	S310	—	7/64
3632152	NSL123A	3	19	19	25	102	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3639032	NSL123B	3	19	19	25	114	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3639046	NSL2020K3	3	20	20	32	125	32	13	5,3	N,3L	CM73LP	—	MS2111	25 IP
3636539	NSL2525M3	3	25	25	32	150	32	13	5,3	N,3L	CM73LP	—	MS2111	25 IP
3639029	NSL163C	3	25	25	32	127	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3639024	NSL163D	3	25	25	32	152	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3637508	NSL853D	3	32	25	32	152	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3639037	NSL203D	3	32	32	38	152	32	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3641670	NSL3225P3	3	32	25	32	170	32	13	5,3	N,3L	CM73LP	—	MS2111	25 IP
3641671	NSL3232P3	3	32	32	40	170	32	13	5,3	N,3L	CM73LP	—	MS2111	25 IP
3637515	NSL243D	3	38	38	51	152	35	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3637548	NSL243E	3	38	38	51	178	35	13	5,3	N,3L	CM73LP	—	S2112	25 IP
3636544	NSL2525M4	4	25	25	32	150	35	14	7,5	N,4L	CM73LP	—	MS2111	25 IP
3641678	NSL3225P4	4	32	25	32	170	35	14	7,5	N,4L	CM73LP	—	MS2111	25 IP
3641679	NSL3232P4	4	32	32	40	170	35	14	7,5	N,4L	CM73LP	—	MS2111	25 IP
3637536	NSL205D	5	32	32	38	152	51	15	10,5	N,5L	CM81	S352	—	1/4
3641688	NSL3232P5	5	32	32	40	170	51	16	10,5	N,5L	CM81	MS352	—	6 mm

Threading

NOTE: F dimension measured over sharp point of insert.



See page F8  
for inserts.



■ NAS

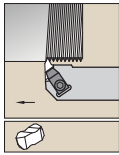


Threading

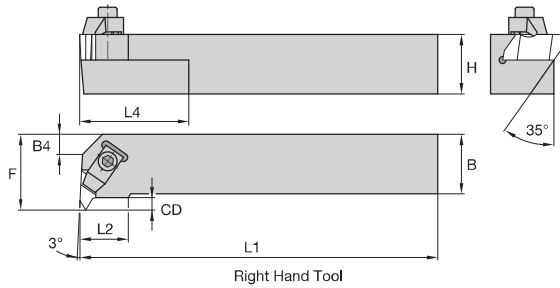


order number	catalogue number	seat size	H	B	F	L1	L2	B4	CD	B3	L3	gage insert	clamp	clamp screw	clamp screw	hex/ Torx Plus
<b>right hand</b>																
3641667	NASR1010M2Q	2	10	10	10	150	19	9	3,5	2,03	19	N.2R	CM182	MS1200	—	T10
3641662	NASR1212M2Q	2	12	12	12	150	19	9	3,5	—	—	N.2R	CM182	MS1200	—	T10
3639048	NASR1616K3Q	3	16	16	16	125	32	12	5,3	—	—	N.3R	CM184LP	—	MS2111	25 IP
<b>left hand</b>																
3641691	NASL1010M2Q	2	10	10	10	150	19	9	3,5	2,03	19	N.2L	CM183	MS1200	—	T10
3641686	NASL1212M2Q	2	12	12	12	150	19	9	3,5	—	—	N.2L	CM183	MS1200	—	T10
3641687	NASL1616K3Q	3	16	16	16	125	32	12	5,3	—	—	N.3L	CM185LP	—	MS2111	25 IP

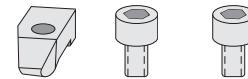
NOTE: F dimension measured over sharp point of insert.



See page F8 for inserts.



■ NE

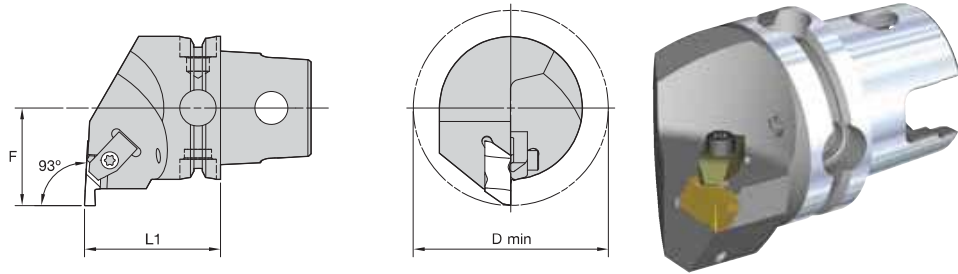


order number	catalogue number	seat size	H	B	F	L1	L2	B4	CD	gage insert	clamp	clamp screw	clamp screw	hex/Torx Plus
<b>right hand</b>														
3641674	NER1616H2	2	16	16	20	100	15	—	3,5	N.2L	CM75	MS1200	—	T10
3641658	NER2020K2	2	20	20	25	125	15	6	3,5	N.2L	CM75	MS1200	—	T10
3641665	NER2525M2	2	25	25	32	150	15	12	3,5	N.2L	CM75	MS1200	—	T10
3636541	NER2525M3	3	25	25	32	150	22	—	5,3	N.3L	CM73LP	—	MS2111	25 IP
3641680	NER3225P3	3	32	25	32	170	22	—	3,8	N.3L	CM73LP	—	MS2111	25 IP
3641672	NER2525M4	4	25	25	35	150	24	—	7,5	N.4L	CM73LP	—	MS2111	25 IP
3641689	NER3225P4	4	32	25	35	170	24	—	7,5	N.4L	CM73LP	—	MS2111	25 IP
3641693	NER3232P4	4	32	32	40	170	24	—	6,4	N.4L	CM73LP	—	MS2111	25 IP
3641692	NER3232P5	5	32	32	50	170	35	—	10,5	N.5L	CM81	MS352	—	6 mm
<b>left hand</b>														
3641684	NEL1616H2	2	16	16	20	100	15	—	3,5	N.2R	CM74	MS1200	—	T10
3641677	NEL2020K2	2	20	20	25	125	15	6	3,5	N.2R	CM74	MS1200	—	T10
3641676	NEL2525M2	2	25	25	32	150	15	12	3,5	N.2R	CM74	MS1200	—	T10
3636543	NEL2525M3	3	25	25	32	150	22	—	5,3	N.3R	CM72LP	—	MS2111	25 IP
3641685	NEL3225P3	3	32	25	32	170	22	—	3,8	N.3R	CM72LP	—	MS2111	25 IP
3641668	NEL2525M4	4	25	25	35	150	24	—	7,5	N.4R	CM72LP	—	MS2111	25 IP
3641694	NEL3225P4	4	32	25	35	170	24	—	7,5	N.4R	CM72LP	—	MS2111	25 IP
3641696	NEL3232P4	4	32	32	40	170	24	—	6,4	N.4R	CM72LP	—	MS2111	25 IP
3641695	NEL3232P5	5	32	32	50	170	35	—	10,5	N.5R	CM80	MS352	—	6 mm

NOTE: F dimension measured over sharp point of insert.



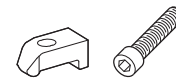
Threading



■ NE 93°



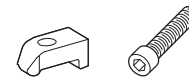
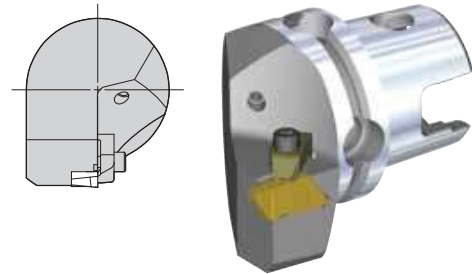
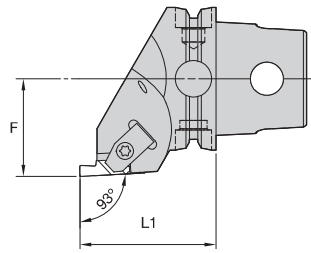
Threading



order number	catalogue number	L1		F		D min		gage insert	clamp	clamp screw	kg	lbs
		mm	in	mm	in	mm	in					
<b>right hand</b>												
3902285	KM40TSNER2	40	1.575	27	1.063	54	2.126	NG2L	CM75	MS1488	0,30	.66
3902286	KM40TSNER3	40	1.575	27	1.063	54	2.126	NG3L	CM73	MS1489	0,30	.67
3902287	KM40TSNER4	40	1.575	27	1.063	54	2.126	NG4L	CM73	MS1489	0,30	.65
<b>left hand</b>												
3902132	KM40TSNEL2	40	1.575	27	1.063	54	2.126	NG2R	CM74	MS1488	0,30	.66
3902283	KM40TSNEL3	40	1.575	27	1.063	54	2.126	NG3R	CM-72	MS1489	0,30	.67
3902284	KM40TSNEL4	40	1.575	27	1.063	54	2.126	NG4R	CM-72	MS1489	0,30	.65



■ NS 93°

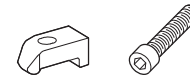
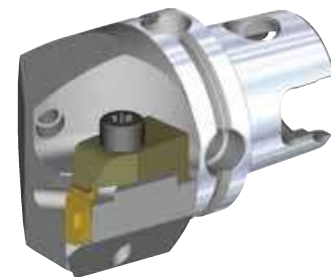
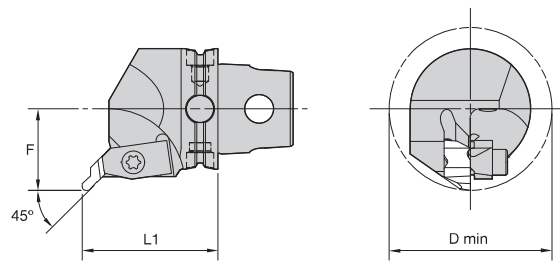


order number	catalogue number	L1		F		gage insert	clamp	clamp screw	kg	lbs
		mm	in	mm	in					
<b>right hand</b>										
3902293	KM40TSNSR2	40	1.575	27	1.063	NG2R	CM74	MS1488	0,32	.70
3902294	KM40TSNSR3	47	1.850	27	1.063	NG3R	CM-72	MS1489	0,32	.71
3902295	KM40TSNSR4	47	1.850	27	1.063	NG4R	CM-72	MS1489	0,30	.66
<b>left hand</b>										
3902290	KM40TSNSL2	40	1.575	27	1.063	NG2L	CM75	MS1488	0,32	.70
3902291	KM40TSNSL3	47	1.850	27	1.063	NG3L	CM73	MS1489	0,33	.72
3902292	KM40TSNSL4	47	1.850	27	1.063	NG4L	CM73	MS1489	0,30	.66

Threading

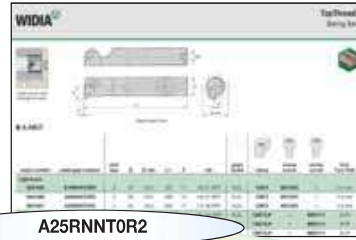


■ NR 45°

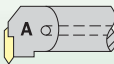



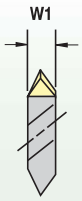
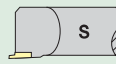

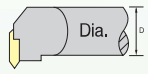
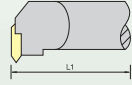


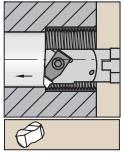
order number	catalogue number	L1		F		D min		gage insert	clamp	clamp screw	kg	lbs
		mm	in	mm	in	mm	in					
<b>right hand</b>												
3902289	KM40TSNRR3045M	45	1.772	27	1.063	54	2.126	NU3L	CM73	MS1489	0,34	.75
<b>left hand</b>												
3902288	KM40TSNRL3045M	45	1.772	27	1.063	54	2.126	NU3R	CM-72	MS1489	0,33	.74

# TopThread Boring Bar Identification System

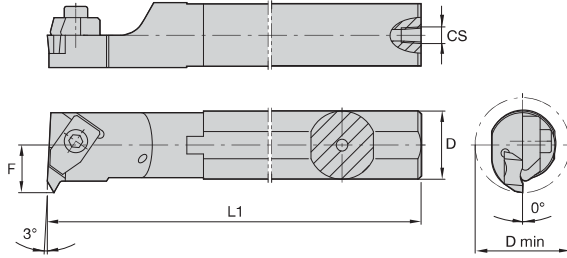


A25RNNT0R2

A	25	R	N	N	T	0	R	2														
Bar Type	Bar Diameter	Bar Length	Insert Holding Method	Insert Shape	Insert Location	Rake Angle 0 = 0°	Hand of Tool	Insert Size														
Steel with coolant 			N – TopThread* 		End mount 		Right hand 															
			*Proprietary standard only.		Side mount 		Left hand 	<table border="1"> <thead> <tr> <th>insert size</th> <th>W1</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>3,81</td> </tr> <tr> <td>3</td> <td>4,95</td> </tr> <tr> <td>4</td> <td>6,98</td> </tr> <tr> <td>5</td> <td>9,65</td> </tr> <tr> <td>6</td> <td>9,73</td> </tr> <tr> <td>8</td> <td>11,13</td> </tr> </tbody> </table>	insert size	W1	2	3,81	3	4,95	4	6,98	5	9,65	6	9,73	8	11,13
insert size	W1																					
2	3,81																					
3	4,95																					
4	6,98																					
5	9,65																					
6	9,73																					
8	11,13																					
<p>Bar in millimetres</p>  <p>Bars</p> <ul style="list-style-type: none"> <li><b>K</b> = 125,0mm</li> <li><b>M</b> = 150,0mm</li> <li><b>Q</b> = 180,0mm</li> <li><b>R</b> = 200,0mm</li> <li><b>S</b> = 250,0mm</li> <li><b>T</b> = 300,0mm</li> <li><b>U</b> = 350,0mm</li> </ul> 																						



Steel shank with through coolant. See page F8 for inserts.



Right Hand Tool



■ **A-NNT**

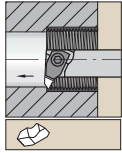
order number	catalogue number	seat size	D	D min	L1	F	CS	gage insert	clamp	clamp screw	clamp screw	hex/Torx Plus
<b>right hand</b>												
3641643	A16MNNTOR2	2	16	22,0	150	11	1/8-27 NPT	N,2L	CM75	MS1200	—	2.5 mm
3641645	A20QNNTOR2	2	20	26,0	180	13	1/8-27 NPT	N,2L	CM75	MS1200	—	2.5 mm
3641651	A25RNNTOR2	2	25	34,0	200	17	1/4-18 NPT	N,2L	CM75	MS1200	—	2.5 mm
3641622	A25RNNTOR3	3	25	34,0	200	17	1/8 - 27 NPT	N,3L	CM73LP	—	MS2111	25 IP
3641646	A32SNNTOR3	3	32	44,0	250	22	1/4-18 NPT	N,3L	CM73LP	—	MS2111	25 IP
3641653	A40TNNTOR3	3	40	54,0	300	27	1/4-18 NPT	N,3L	CM73LP	—	MS2111	25 IP
3641654	A40TNNTOR4	4	40	54,0	300	27	1/4-18 NPT	N,4L	CM73LP	—	MS2111	25 IP
3641661	A50UNNTOR4	4	50	70,0	350	35	1/4-18 NPT	N,4L	CM73LP	—	MS2111	25 IP
3641644	A12MNNTOR2	2	12	18,5	150	11	1/16-27 NPT	NG2L	CM147	MS1200	—	2.5 mm
<b>left hand</b>												
3641649	A16MNNTOL2	2	16	22,0	150	11	1/8-27 NPT	N,2R	CM74	MS1200	—	2.5 mm
3641652	A20QNNTOL2	2	20	26,0	180	13	1/8-27 NPT	N,2R	CM74	MS1200	—	2.5 mm
3641657	A25RNNTOL2	2	25	34,0	200	17	1/4-18 NPT	N,2R	CM74	MS1200	—	2.5 mm
3641650	A25RNNTOL3	3	25	34,0	200	17	1/4-18 NPT	N,3R	CM72LP	—	MS2111	25 IP
3641656	A32SNNTOL3	3	32	44,0	250	22	1/4-18 NPT	N,3R	CM72LP	—	MS2111	25 IP
3641659	A40TNNTOL3	3	40	54,0	300	27	1/4-18 NPT	N,3R	CM72LP	—	MS2111	25 IP
3641663	A40TNNTOL4	4	40	54,0	300	27	1/4-18 NPT	N,4R	CM72LP	—	MS2111	25 IP
3641690	A50UNNTOL4	4	50	70,0	350	35	1/4-18 NPT	N,4R	CM72LP	—	MS2111	25 IP
3641655	A12MNNTOL2	2	12	18,5	150	11	1/16-27 NPT	NG2R	CM146	MS1200	—	2.5 mm

NOTE: F dimension measured over sharp point of insert.

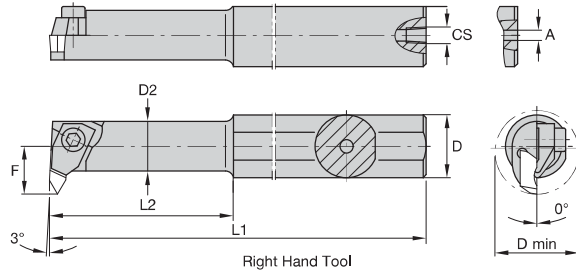


Threading





Necked steel shank with through coolant. See page F8 for inserts.



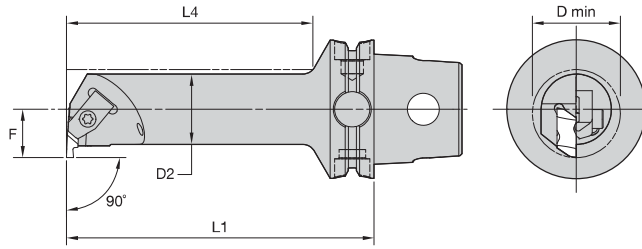
■ **A-NNT-1**



Threading

order number	catalogue number	seat size	D	D min	D2	L1	L2	F	A	CS	gage insert	clamp	clamp screw	hex/ Torx Plus
<b>right hand</b>														
3641647	A12MNNTOR1	1	12	11,5	8,7	150	31	7	4,0	1/16-27 NPT	N.1L	CM109	MS1034	1.5 mm
3641648	A10KNNTOR1	1	10	11,5	10,0	125	—	7	3,2	—	NG1L	CM109	MS1034	1.5 mm

NOTE: F dimension measured over sharp point of insert.



■ NE 90° • Steel

order number	catalogue number	D2		D min		F		L4		L1		gage insert	kg	lbs
		mm	in	mm	in	mm	in	mm	in	mm	in			
<b>right hand</b>														
3955481	KM40TSS12ENER2	12	.472	19	.73	11	.433	42	1.655	70	2.756	NG2L	0,27	.58
3955483	KM40TSS16FNER2	16	.630	20	.79	11	.433	56	2.209	80	3.150	NG2L	0,28	.62
3955485	KM40TSS20GNER2	20	.787	25	.98	13	.512	70	2.757	90	3.543	NG2L	0,35	.76
3955487	KM40TSS25ENER2	25	.984	32	1.26	17	.669	55	2.169	70	2.756	NG2L	0,34	.75
3955491	KM40TSS25ENER3	25	.984	34	1.34	17	.669	55	2.169	70	2.756	NG3L	0,35	.77
3955489	KM40TSS25HNER2	25	.984	32	1.26	17	.669	75	2.954	100	3.937	NG2L	0,49	1.08
3955493	KM40TSS25HNER3	25	.984	34	1.34	17	.669	75	2.954	100	3.937	NG3L	0,49	1.09
3955497	KM40TSS32GNER3	32	1.260	40	1.57	22	.866	76	2.993	90	3.543	NG3L	0,55	1.21
3955495	KM40TSS32JNER3	32	1.260	40	1.57	22	.866	96	3.780	110	4.331	NG3L	0,67	1.48
<b>left hand</b>														
3955480	KM40TSS12ENEL2	12	.472	19	.73	11	.433	42	1.655	70	2.756	NG2R	0,27	.59
3955482	KM40TSS16FNEL2	16	.630	20	.79	11	.433	56	2.209	80	3.150	NG2R	0,28	.62
3955484	KM40TSS20GNEL2	20	.787	25	.98	13	.512	70	2.757	90	3.543	NG2R	0,35	.76
3955486	KM40TSS25ENEL2	25	.984	32	1.26	17	.669	55	2.169	70	2.756	NG2R	0,34	.75
3955490	KM40TSS25ENEL3	25	.984	34	1.34	17	.669	55	2.169	70	2.756	NG3R	0,35	.77
3955488	KM40TSS25HNEL2	25	.984	32	1.26	17	.669	75	2.954	100	3.937	NG2R	0,49	1.08
3955492	KM40TSS25HNEL3	25	.984	34	1.34	17	.669	75	2.954	100	3.937	NG3R	0,49	1.09
3955496	KM40TSS32GNEL3	32	1.260	40	1.57	22	.866	76	2.993	90	3.543	NG3R	0,55	1.21
3955494	KM40TSS32JNEL3	32	1.260	40	1.57	22	.866	96	3.780	110	4.331	NG3R	0,67	1.48

(continued)



Threading

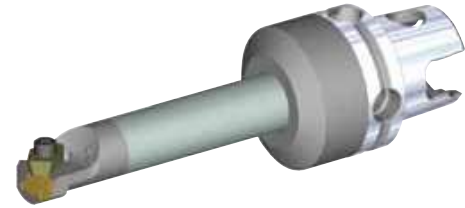
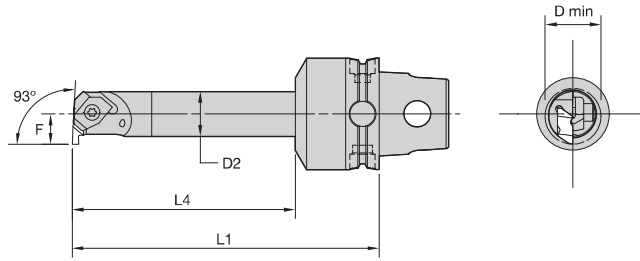
(NE 90° • Steel – continued)

■ Spare Parts



Threading

catalogue number	clamp	clamp screw
<b>right hand</b>		
KM40TSS12ENER2	CM147	MS1488
KM40TSS16FNER2	CM147	MS1488
KM40TSS20GNER2	CM75	MS1488
KM40TSS25ENER2	CM75	MS1488
KM40TSS25ENER3	CM73	MS1489
KM40TSS25HNER2	CM75	MS1488
KM40TSS25HNER3	CM73	MS1489
KM40TSS32GNER3	CM73	MS1489
KM40TSS32JNER3	CM73	MS1489
<b>left hand</b>		
KM40TSS12ENEL2	CM146	MS1488
KM40TSS16FNEL2	CM146	MS1488
KM40TSS20GNEL2	CM74	MS1488
KM40TSS25ENEL2	CM74	MS1488
KM40TSS25ENEL3	CM-72	MS1489
KM40TSS25HNEL2	CM74	MS1488
KM40TSS25HNEL3	CM-72	MS1489
KM40TSS32GNEL3	CM-72	MS1489
KM40TSS32JNEL3	CM-72	MS1489



■ NE 90° • Carbide

order number	catalogue number	D2		D min		F		L4		L1		gage insert	kg	lbs
		mm	in	mm	in	mm	in	mm	in	mm	in			
<b>right hand</b>														
3951836	KM40TSE16JNER2	16	.630	20	.79	11	.433	80	3.15	110	4.331	NG2L	0,41	.90
<b>left hand</b>														
3951835	KM40TSE16JNEL2	16	.630	20	.79	11	.433	80	3.15	110	4.331	NG2R	0,41	.90



Threading

■ Spare Parts

catalogue number	clamp	clamp screw
<b>right hand</b>		
KM40TSE16JNER2	CM146	MS1488
<b>left hand</b>		
KM40TSE16JNEL2	CM147	MS1488



The WIDIA™ high-performance carbide grades, coupled with our rigid TopThread clamping design, offer the metalworking industry optimum threading productivity.

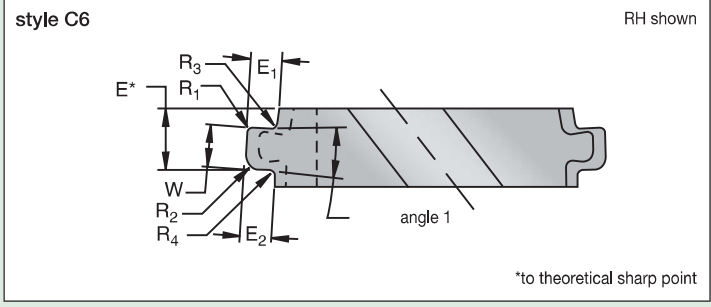
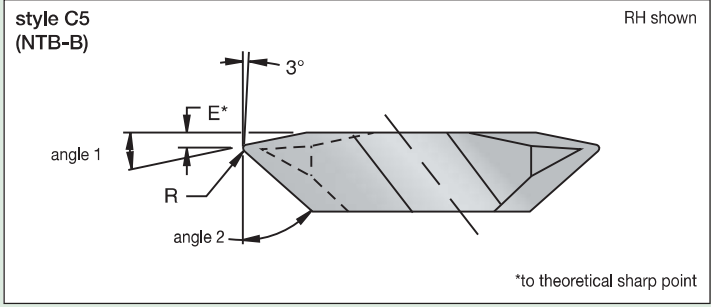
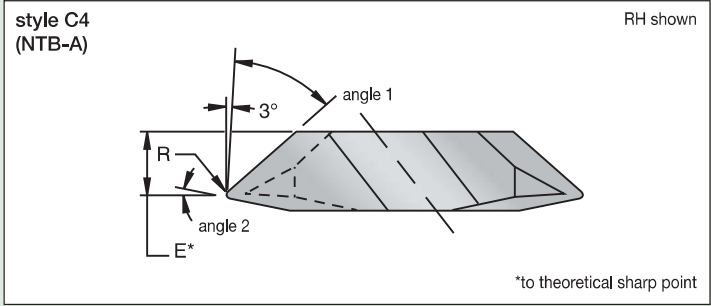
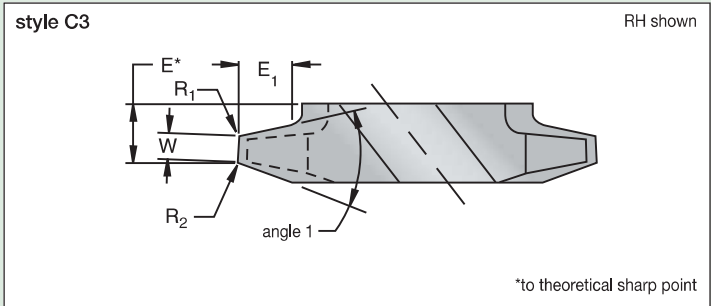
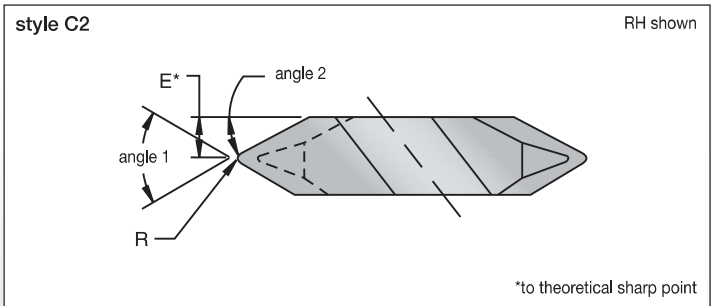
When the large inventory of WIDIA standard products does not completely satisfy your productivity requirements, consider having TopThread inserts custom ground to meet your unique application needs.

The large variety of TopThread blank sizes allows maximum flexibility in threading endform design, especially for extra wide or oil field applications.

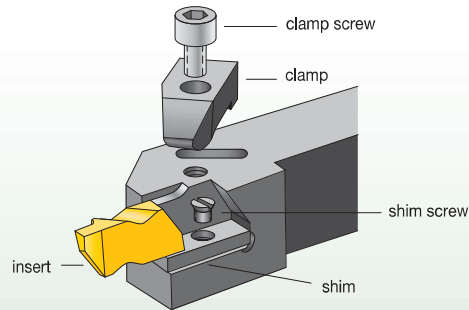
Common examples of special forms are shown here. Please contact your local WIDIA representative for recommendations on satisfying your special threading needs.












**Features and Benefits:**

- Quotes are handled quickly and efficiently using state-of-the-art CAD design software and electronic database software.
- Our Carbide Custom Solutions Design Team is your link to one of the industry's largest electronic databases. They can solve your most challenging design problems.
- Where necessary or required, concept drawings are available to facilitate your engineering development.
- A large number of high-performance carbide grades are available to optimise your productivity. The option of producing standard insert styles in non-standard carbide grades allows you to optimise tool life performance.



NOTE: Right-hand inserts shown; left-hand inserts are also available.

**TopThread and TopGroove  
 Toolholders and Boring Bars**


insert size and style	 clamp	 clamp screw	 shim	 shim screw
NG-1L 	CM-109	S-304	-	-
NG-2R	CM-182	S-310	-	-
NG-2L	CM-183	S-310	-	-
NG-2R 	CM-74	S-310	-	-
NG-2L	CM-75	S-310	-	-
NG-3R	CM-184	S-412	-	-
NG-3L	CM-185	S-412	-	-
NG-3R	CM-72	S-412	-	-
NG-3L 	CM-73	S-412	-	-
NG-3R*	CM-78	S-412	-	-
NG-3L*	CM-70	S-412	-	-
NG-4R	CM-72	S-412	SM-420	SL-344
NG-4L 	CM-73	S-412	SM-420	SL-344
NG-5R	CM-80	S-352	-	-
NG-5L 	CM-81	S-352	-	-
NG-6R	CM-120	S-412	SM-416	S-111
NG-6L 	CM-121	S-412	SM-416	S-111
NG-8R	CM-144	S-422	SM-419	S-112
NG-8L	CM-145	S-422	SM-419	S-112
NG-8R** 	CM-144	S-422	SM-427	S-111
NG-8L**	CM-145	S-422	SM-427	S-111
TopGroove relief grooving				
NU-3125R	CM-72	S-412	-	-
NU-3125L	CM-73	S-412	-	-
NU-3125R**	CM-72	S-618	-	-
NU-3125L**	CM-73	S-618	-	-

\*25mm diameter boring head.  
 \*\*Boring head.

## WIDIA™ Laydown Threading

For increased reliability and productivity, look no further than the WIDIA Laydown Threading System for all of your I.D. and O.D. threading applications. The Laydown Threading System maximises tool life and thread quality.

# Laydown



This specially engineered system meets all modern production standards. With an extensive range of inserts and toolholders available, the Laydown Threading platform is ideal for all of your threading requirements.

### Laydown Insert Technology

Laydown insert technology, with its wide range of available tools and inserts, guarantees increased tool life, minimised built-up edges, and precise cuts of most common materials.

- TN6025™ premium PVD TiAlN-coated grade outperforms conventional PVD grades.
- Enables superior chip control and reduced cutting forces.
- Partial and full profile insert options available for all common thread forms.

### The Laydown Threading Solution

With the WIDIA™ Laydown Threading System, you experience reliable countersunk screw locking for unhindered chip flow and precise insert positioning accuracy.

- Industry-leading thread quality.
- Four insert sizes available to cover a wide range of thread-making operations.
- Ideal for high-helix/multi-start threads and single-point threading in small-diameter bores.
- Maximised tool life and low-profile design for unhindered chip flow and superior performance.

Reliable TopClamp™ locking guarantees precise insert positioning accuracy.

Choose from both steel and carbide boring bars to satisfy all machining application needs.

Get more parts per insert with the economy of the Laydown Threading insert's three cutting edges.





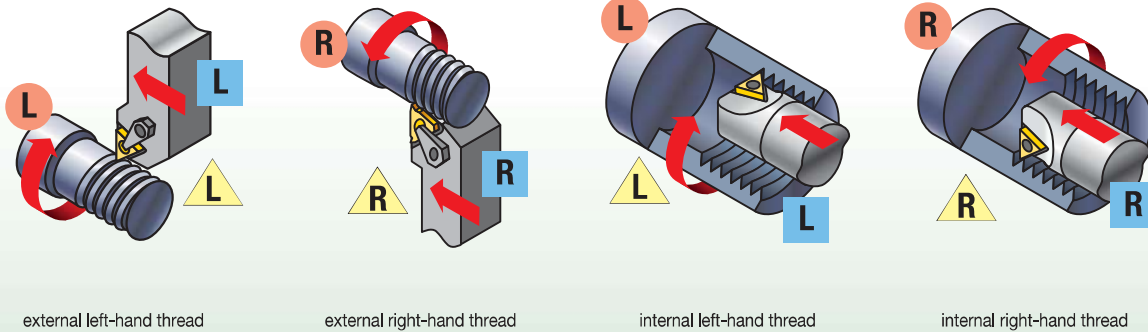
Step 1 • Select Threading Method and Hand of Tooling

Required Information:

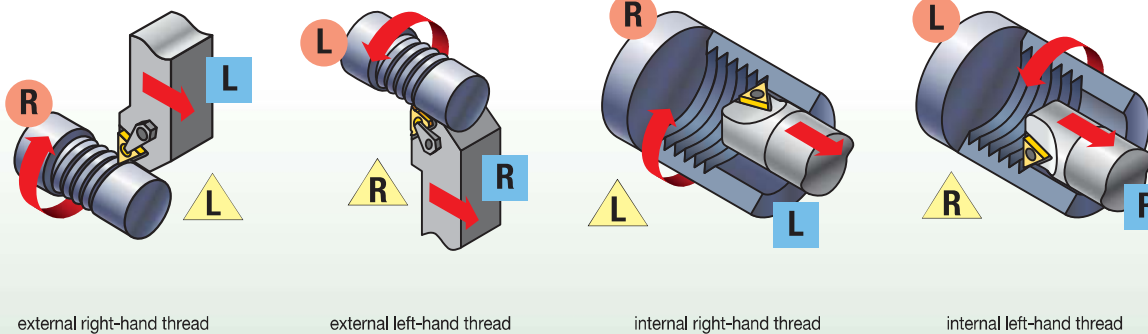
- External/internal operation.
- Spindle rotation/hand of thread.
- Feed direction.



Feed direction toward the chuck • standard helix • RECOMMENDED



Feed direction away from the chuck • reverse helix\*



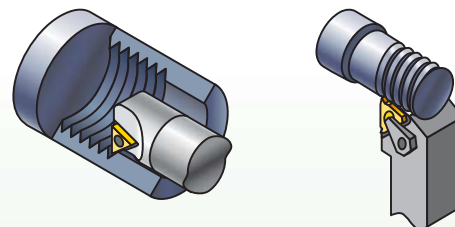
\*Negative shim required

Step 2 • Select Holder from Catalogue Page

Required Information:

- External/internal operation.
- Minimum bore diameter (for internal operations).
- Hand of tool.
- Insert size (gage insert).

Select the appropriate holder for the insert size and hand:

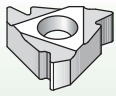


The insert size must match the gage insert size of your toolholder selection:

catalogue number	gage insert	minimum bore diameter	shim
S0812LSER2	2IRA60	16,5mm	—
S2020LSER3	3IR...	36,8mm	SM-YI3

**Step 3 • Choose Insert for Application**

- Select cresting inserts for fully controlled thread form including diameter.
- Cresting inserts eliminate the need for deburring and are optimised for the best tool life at that pitch.
- Non-cresting partial profile inserts offer the flexibility to cut a variety of thread pitches with one insert.
- Note insert size for toolholder selection.

	insert size	catalogue number	TN6025
	11	2IRA60	•
	16	3IRAG60	•

See *threading insert overview* on page F42.

**Step 4 • Select Appropriate Shim**

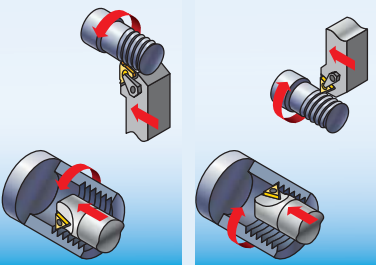
**Required Information:**

- Thread form (TPI or pitch),
- Pitch diameter,
- Helix method (hand of tool, feed direction, hand of thread),
- Number of starts.

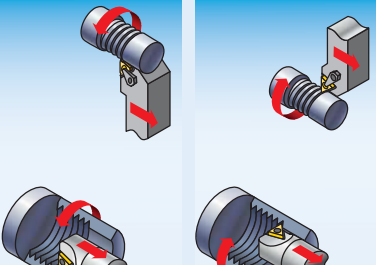
Select the proper shim: SMYE... for external RH or internal LH  
SMYL... for internal RH or external LH

RH thread/RH tooling      LH thread/LH tooling

**feed direction toward the chuck • standard helix • RECOMMENDED**



**feed direction away from the chuck • reverse helix**



LH thread/RH tooling      RH thread/LH tooling


**Laydown Threading Shim Selection Table • Inch**

insert size	hand/tool		shim		shim		shim	
	external	internal	external	internal	external	internal	external	internal
11	1.04	1.04	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
16	1.04	1.04	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

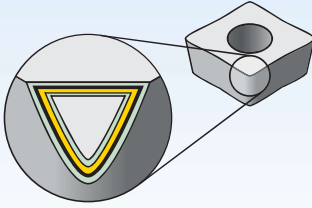
If recommended shim is different from shim supplied with toolholder, order shim separately.  
NOTE: Optimise your threading operation by using the proper infeed angle and the recommended infeed values. See the Technical Section on pages F83–F105.  
Also see detailed shim selection information on pages F104–F105.

**Step 5 • Select Grade and Speed**

Recommendations for Grade and Speed Selection — m/min

workpiece material	steel	stainless steel	cast iron	non-ferrous metals	high-temp alloys
insert style	 precision ground				
first choice	TN6025	TN6025	TN6025	TN6025	TN6025
	40–200 (130–650)	40–135 (130–450)	60–145 (200–475)	50–360 (160–1150)	10–100 (35–330)


style		thread profile	standard	tolerance class	cresting	application	page(s)
	flat top						
	60	Partial profile 60°	—	—	N	General use for 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches.	F46—F47
	ISO	Metric ISO	ISO R262, DIN 13	6g/6H	Y	Widely used metric 60° V-form for all industries.	F48—F53
	UN	American UN	ANSI B1.1:74	2A/2B	Y	Widely used inch-based 60° V-form for all industries.	F54—F57
	NPT	NPT	ANSI/ASME B1.20.1S1983	Standard NPT	N	National Pipe Thread standard 60° thread form for pipe fittings.	F58—F59
	55	Partial profile 55°	—	—	N	General use for 55° thread forms such as Whitworth, BSW, and BSP where non-cresting inserts are desired to cut a variety of pitches.	F60—F61
	W	Whitworth, BSW, BSF, BSP	BS 84:1956, ISO 228/1:1982, DIN 259	Medium Class A	Y	Widely used 55° form for gas and water connections.	F62—F63
	API-RD	API round	API STD. 5B:1979	Standard API RD	Y	60° V-form with large radius for casing, tubing, and line pipe in the oil and gas industry, including 8 and 10 round forms.	F64
	PG	PG	DIN 404B0		Y	80° steel conduit thread.	F65
	RD	Round	DIN 405	7e/7H	Y	Round thread form for tube fittings in the chemical and food industries.	F65—F66
	TR	Trapez	DIN 103	7e/7H	N	30° truncated metric thread form for motion applications.	F67—F68



**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

- Reduce cycle times — high speed capability.
- Longer tool life — new multilayer coating provides better wear resistance.

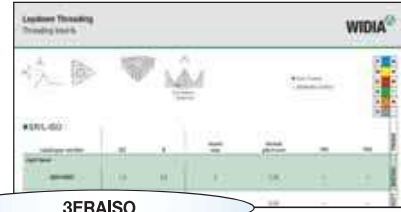
<b>P</b>	Steel
<b>M</b>	Stainless Steel
<b>K</b>	Cast Iron
<b>N</b>	Non-Ferrous
<b>S</b>	High-Temp Alloys
<b>H</b>	Hardened Materials

Coating		Grade Description	wear resistance ← → toughness														
			05	10	15	20	25	30	35	40	45						
Grade	 <b>TN6025</b>  <b>HC-P25</b>	PVD-TiAlN Nano-multilayer coated carbide. General-purpose machining for steels, stainless steels, cast irons, non-ferrous materials, and difficult-to-machine materials. Recommended at low to medium cutting speeds when higher toughness is required.	<b>P</b>														
			<b>M</b>														
			<b>K</b>														
			<b>N</b>														
			<b>S</b>														

**Laydown Threading Thread Form Guide**

- All Laydown Threading inserts are precision ground to provide accurate thread forms and indexing.
- Both cresting and non-cresting partial profile inserts are specifically designed for either external or internal threading operations.
- Cresting inserts provide a fully controlled thread form, including diameter for a given pitch. The need for deburring is eliminated and the inserts are optimised for the best tool life at that pitch.
- Non-cresting partial profile inserts offer the flexibility to cut a variety of thread pitches with one insert.
- Right-hand Laydown Threading toolholders use right-hand inserts. Left-hand Laydown Threading toolholders use left-hand inserts.
- Right-hand Laydown Threading boring bars use right-hand inserts. Left-hand Laydown Threading boring bars use left-hand inserts.

# Laydown Threading Insert Identification System



3ERAISO

<b>3</b>	<b>E</b>	<b>R</b>	<b>A</b>	<b>ISO</b>	
Insert Size	Insert Type	Hand of Insert	Thread Pitch	Thread Profile	Number of Teeth
	<p><b>E</b> – External thread</p> <p><b>I</b> – Internal thread</p>	<p><b>R</b> – Right-hand thread</p> <p><b>L</b> – Left-hand thread</p>			<p>Single tooth profile – No symbol</p> <p>Multi-tooth profile – Number of teeth (cutting edge and symbol)</p> <p>Multi-tooth profile with two teeth – 2M</p>
				<p><b>55</b> Partial Profile 55°</p> <p><b>60</b> Partial Profile 60°</p> <p><b>ISO</b> ISO Metric 60°</p> <p><b>TR</b> ISO Metric 60°</p> <p><b>UN</b> ISO Inch/American UN 60°</p> <p><b>W</b> Whitworth 55°</p> <p><b>NPT</b> American National Pipe Thread 60°</p> <p><b>RD</b> Round</p> <p><b>PG</b> Steel Conduit</p> <p><b>APIRD</b> API Round</p>	

symbol	d	L1
2	0.250	11
3	0.375	16
4	0.500	22
5	0.625	27

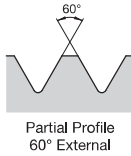
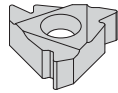
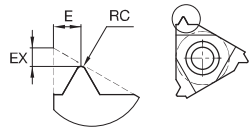
Partial profile inserts

symbol	mm
A	0,5–1,5
AG	0,5–3,0
G	1,7–3,0
N	3,5–5,0
Q	5,5–6,0

Full profile inserts

symbol	mm
Actual TPI	0,5–0,4

		Cutting Speed – vc m/min		
		TN6025		
Material Group		min	Start	max
P	0/1	130	140	150
	2	110	145	175
	3	110	145	175
	4	75	95	115
	5	100	125	145
	6	40	55	65
M	1	60	75	90
	2	40	50	55
	3	40	50	60
K	1	60	80	90
	2	60	75	85
	3	60	75	90
N	1	600	750	900
	2	535	685	835
	3	230	300	370
	4	135	180	225
	5	70	90	110
	6	445	565	690
	7	550	700	850
S	1	25	35	40
	2	15	20	20
	3	40	60	70
	4	20	30	35



- first choice
- alternate choice

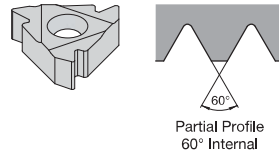
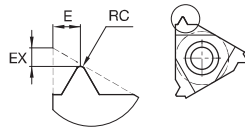
P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-60



Threading

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>								
2ERA60	0,05	0,9	0,8	2	0,50-1,5	48-16	—	2007404
3ERA60	0,05	0,8	0,9	3	0,50-1,5	48-16	—	2018214
3ERAG60	0,08	1,2	1,7	3	0,50-3,0	48-8	—	2018246
3ERG60	0,28	1,2	1,7	3	1,75-3,0	14-8	—	2018222
4ERN60	0,53	1,7	2,5	4	3,5-5,0	7-5	—	2018252
5ERQ60	0,64	2,1	3,1	5	5,5-6,0	4,5-4	—	2018256
<b>left hand</b>								
3ELAG60	0,08	1,2	1,7	3	0,50-3,0	48-8	—	2071904
3ELG60	0,28	1,2	1,7	3	1,75-3,0	14-8	—	2018236



- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

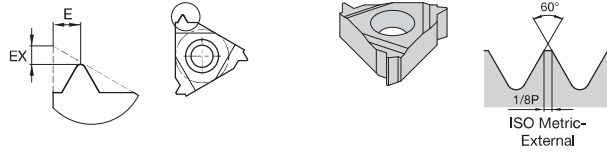
■ IR/L-60

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>								
2IRA60	0,05	0,8	0,9	2	0,50-1,5	48-16	—	2018262
3IRA60	0,05	0,8	0,9	3	0,50-1,5	48-16	—	2018272
3IRAG60	0,05	1,2	1,7	3	0,50-3,0	48-8	—	2018284
3IRG60	0,15	1,2	1,7	3	1,75-3,0	14-8	—	2018278
4IRN60	0,31	1,7	2,5	4	3,5-5,0	7-5	—	2018290
5IRQ60	0,30	1,8	2,7	5	5,5-6,0	4,5-4	—	2018295
<b>left hand</b>								
2ILA60	0,05	0,8	0,9	2	0,50-1,5	48-16	—	2021656
3ILAG60	0,05	1,2	1,7	3	0,50-3,0	48-8	—	2008275
3ILG60	0,15	1,2	1,7	3	1,75-3,0	14-8	—	2007419
4ILN60	0,31	1,7	2,5	4	3,5-5,0	7-5	—	2100489



Threading





● first choice  
○ alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-ISO

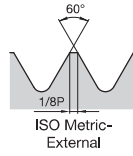
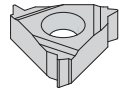
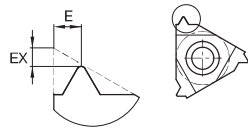


Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
2ER15ISO	1,0	0,8	2	1,50	—	—	2007542
3ER05ISO	0,6	0,4	3	0,50	—	—	2018377
3ER07ISO	0,6	0,6	3	0,70	—	—	2018389
3ER075ISO	0,6	0,6	3	0,75	—	—	2018395
3ER08ISO	0,6	0,6	3	0,80	—	—	2018403
3ER10ISO	0,7	0,7	3	1,00	—	—	2018411
3ER125ISO	0,8	0,9	3	1,25	—	—	2018421
3ER15ISO	0,8	1,0	3	1,50	—	—	2018429
3ER175ISO	0,9	1,2	3	1,75	—	—	2018445
3ER20ISO	1,0	1,3	3	2,00	—	—	2018460
3ER25ISO	1,1	1,5	3	2,50	—	—	2018472
3ER30ISO	1,2	1,6	3	3,00	—	—	2008256
4ER40ISO	1,6	2,3	4	4,00	—	—	2018501
4ER35ISO	1,6	2,3	4	4,50	—	—	2018495
4ER45ISO	1,7	2,4	4	4,50	—	—	2018508

(continued)

(ER/L-ISO – continued)



- first choice
- alternate choice

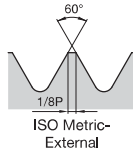
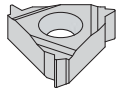
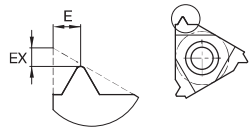
P	●
M	●
K	●
N	○
S	●
H	○

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	
4ER50ISO	1,7	2,5	4	5,00	—	—	TN6025
5ER55ISO	2,7	1,9	5	5,50	—	—	2018517
5ER60ISO	2,9	2,0	5	6,00	—	—	2018522
<b>left hand</b>							2018528
2EL05ISO	0,6	0,4	2	0,50	—	—	3118234
2EL06ISO	0,6	0,6	2	0,60	—	—	3118236
2EL07ISO	0,6	0,6	2	0,70	—	—	3118240
2EL075ISO	0,6	0,6	2	0,75	—	—	3118238
2EL08ISO	0,6	0,6	2	0,80	—	—	3118242
2EL10ISO	0,7	0,7	2	1,00	—	—	3118374
2EL125ISO	0,8	0,9	2	1,25	—	—	3118376
2EL15ISO	0,8	1,0	2	1,50	—	—	3118378
2EL175ISO	0,8	1,1	2	1,75	—	—	3118380
3EL035ISO	0,8	0,4	3	0,35	—	—	3122015
3EL04ISO	0,7	0,4	3	0,40	—	—	3122018
3EL045ISO	0,7	0,4	3	0,45	—	—	3122017



Threading

(ER/L-ISO – continued)



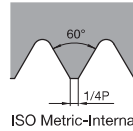
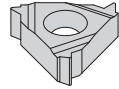
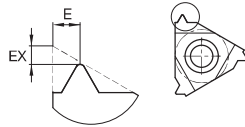
● first choice  
○ alternate choice

P	●
M	●
K	●
N	○
S	●
H	●



Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
3EL06ISO	0,6	0,6	3	0,60	—	—	3122021
3EL10ISO	0,7	0,7	3	1,00	—	—	2008187
3EL15ISO	0,8	1,0	3	1,50	—	—	2018435
3EL175ISO	0,9	1,2	3	1,75	—	—	2018447
3EL20ISO	1,3	1,0	3	2,00	—	—	2018466
3EL30ISO	1,2	1,6	3	3,00	—	—	2018489
4EL40ISO	1,6	2,3	4	4,00	—	—	2101539
4EL50ISO	1,7	2,5	4	5,00	—	—	2101597



● first choice  
○ alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-ISO

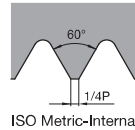
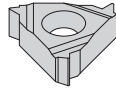
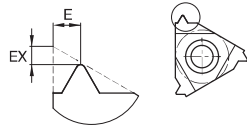
catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
2IR075ISO	0,6	0,3	2	0,75	—	—	2007585
2IR10ISO	0,6	0,7	2	1,00	—	—	2007613
2IR125ISO	0,6	0,7	2	1,25	—	—	2007622
2IR15ISO	0,8	1,0	2	1,50	—	—	2018550
2IR175ISO	0,9	1,1	2	1,75	—	—	2018564
3IR05ISO	0,6	0,6	3	0,50	—	—	2018582
3IR075ISO	0,6	0,6	3	0,75	—	—	2018596
3IR10ISO	0,6	0,7	3	1,00	—	—	2018612
3IR125ISO	0,8	0,9	3	1,25	—	—	2018626
3IR15ISO	0,8	1,0	3	1,50	—	—	2018636
3IR175ISO	0,9	1,2	3	1,75	—	—	2018652
3IR20ISO	1,0	1,3	3	2,00	—	—	2018663
3IR25ISO	1,1	1,5	3	2,50	—	—	2018674
3IR30ISO	1,1	1,5	3	3,00	—	—	2018684
4IR35ISO	1,6	2,3	4	3,50	—	—	2018695



Threading

(continued)

(IR/L-ISO — continued)



ISO Metric-Internal

- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

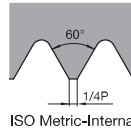
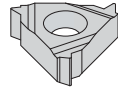
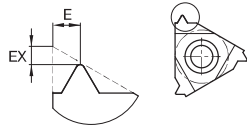


Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
4IR40ISO	1,6	2,3	4	4,00	—	—	2018702
4IR45ISO	1,6	2,4	4	4,50	—	—	2018708
4IR50ISO	1,6	2,3	4	5,00	—	—	2018714
5IR55ISO	1,6	2,3	5	5,50	—	—	2021597
5IR60ISO	1,8	2,5	5	6,00	—	—	2018720
<b>left hand</b>							
2IL035ISO	0,8	0,4	2	0,35	—	—	3118382
2IL04ISO	0,7	0,4	2	0,40	—	—	3118384
2IL05ISO	0,6	0,4	2	0,50	—	—	3118386
2IL06ISO	0,6	0,6	2	0,60	—	—	3118387
2IL07ISO	0,6	0,6	2	0,70	—	—	3118390
2IL075ISO	0,6	0,6	2	0,75	—	—	3118389
2IL08ISO	0,6	0,6	2	0,80	—	—	3118992
2IL125ISO	0,8	0,9	2	1,25	—	—	3123198
2IL15ISO	0,8	1,0	2	1,50	—	—	2018557
2IL20ISO	0,9	1,1	2	2,00	—	—	2071923

(continued)

(IR/L-ISO – continued)



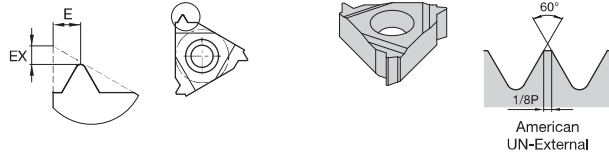
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TH6025
3IL035ISO	0,8	0,3	3	0,35	—	—	3124269
3IL04ISO	0,8	0,4	3	0,40	—	—	3124271
3IL05ISO	0,6	0,4	3	0,50	—	—	3124272
3IL06ISO	0,6	0,6	3	0,60	—	—	3124274
3IL07ISO	0,6	0,6	3	0,70	—	—	3124276
3IL075ISO	0,6	0,6	3	0,75	—	—	2018598
3IL15ISO	0,8	1,0	3	1,50	—	—	2018642
3IL20ISO	1,0	1,3	3	2,00	—	—	2018667
3IL25ISO	1,1	1,5	3	2,50	—	—	2018678
3IL30ISO	1,1	1,5	3	3,00	—	—	2018688
4IL40ISO	1,6	2,3	4	4,00	—	—	2102322
4IL45ISO	1,6	2,4	4	4,50	—	—	2102347
4IL50ISO	1,6	2,3	4	5,00	—	—	2076776
5IL55ISO	1,6	2,3	5	5,50	—	—	2642318
5IL60ISO	1,8	2,5	5	6,00	—	—	2642319



Threading



● first choice  
○ alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-UN

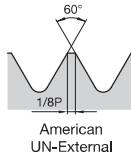
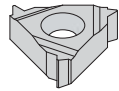
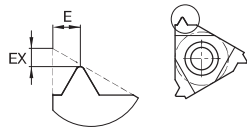


Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
3ER48UN	0,6	0,6	3	—	48	—	2018736
3ER40UN	0,6	0,6	3	—	40	—	2018744
3ER36UN	0,6	0,6	3	—	36	—	2018748
3ER32UN	0,6	0,6	3	—	32	—	2018752
3ER28UN	0,6	0,7	3	—	28	—	2018756
3ER27UN	0,8	0,7	3	—	27	—	2018760
3ER24UN	0,7	0,8	3	—	24	—	2018766
3ER20UN	0,8	0,9	3	—	20	—	2018772
3ER18UN	0,8	1,0	3	—	18	—	2018778
3ER16UN	0,9	1,1	3	—	16	—	2018782
3ER14UN	1,0	1,2	3	—	14	—	2018790

(continued)

(ER/L-UN – continued)



- first choice
- alternate choice

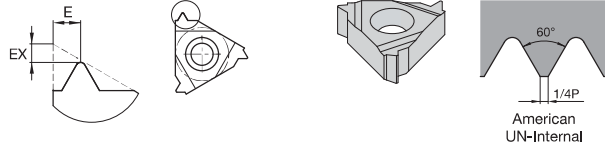
P	●
M	●
K	●
N	○
S	●
H	●

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
3ER13UN	1,3	1,0	3	—	13	—	2018796
3ER12UN	1,1	1,4	3	—	12	—	2018802
3ER11UN	1,1	1,5	3	—	11	—	2018808
3ER10UN	1,1	1,5	3	—	10	—	2018814
3ER8UN	1,2	1,6	3	—	8	—	2018824
<b>left hand</b>							
3EL13UN	1,0	1,3	3	—	13	—	3122039
3EL12UN	1,1	1,4	3	—	12	—	2192607
3EL11UN	1,1	1,5	3	—	11	—	3122032
3EL10UN	1,1	1,5	3	—	10	—	3122028



Threading





● first choice  
○ alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-UN

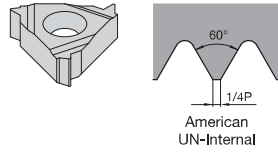
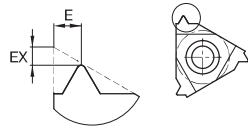


Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
2IR32UN	0,6	0,6	2	—	32	—	2018860
3IR32UN	0,6	0,6	3	—	32	—	2018918
3IR28UN	0,6	0,7	3	—	28	—	2018922
3IR24UN	0,7	0,8	3	—	24	—	2018932
3IR20UN	0,8	0,9	3	—	20	—	2018938
2IR20UN	0,8	0,9	2	—	20	—	2018876
3IR18UN	0,8	1,0	3	—	18	—	2018944
2IR18UN	0,8	1,0	2	—	18	—	2018882
3IR16UN	0,9	1,1	3	—	16	—	2018950
2IR16UN	0,9	1,1	2	—	16	—	2018886
3IR14UN	0,9	1,2	3	—	14	—	2018955

(continued)

(IR/L-UN – continued)



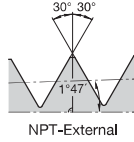
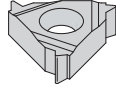
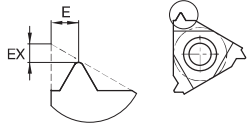
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
3IR12UN	1,1	1,4	3	—	12	—	2018966
3IR10UN	1,1	1,5	3	—	10	—	2018979
3IR8UN	1,1	1,5	3	—	8	—	2018990
<b>left hand</b>							
3IL64UN	0,8	0,4	3	—	64	—	3122416
3IL56UN	0,7	0,4	3	—	56	—	3122414
2IL32UN	0,6	0,6	2	—	32	—	2102653
3IL12UN	1,1	1,4	3	—	12	—	2102749
3IL9UN	1,2	1,7	3	—	9	—	3122446
3IL8UN	1,1	1,5	3	—	8	—	3122444



Threading



● first choice  
○ alternate choice

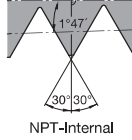
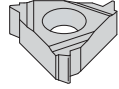
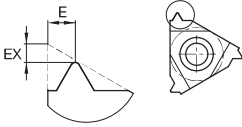
P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-NPT



Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
3ER115NPT	1,1	1,5	3	—	11,5	.7500	2019298
3ER14NPT	0,9	1,2	3	—	14	.7500	2019288
3ER18NPT	0,8	1,0	3	—	18	.7500	2019278
3ER8NPT	1,3	1,8	3	—	8	.7500	2019305



- first choice
- alternate choice

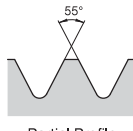
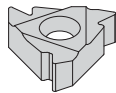
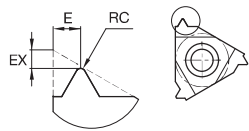
P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-NPT

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
3IR115NPT	1,1	1,5	3	—	11,5	.7500	2019335
3IR14NPT	0,9	1,2	3	—	14	.7500	2019329
3IR18NPT	0,8	1,0	3	—	18	.7500	2019323
3IR8NPT	1,3	1,8	3	—	8	.7500	2019339



Threading



Partial Profile  
55° External

- first choice
- alternate choice

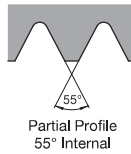
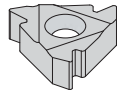
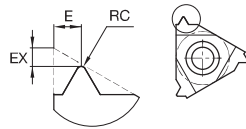
P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-55



Threading

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>								
3ERA55	0,05	0,8	0,9	3	0,50-1,5	48-16	—	2018301
3ERAG55	0,08	1,2	1,7	3	0,50-3,0	48-8	—	2018314
3ERG55	0,20	1,2	1,7	3	1,75-3,0	14-8	—	2018308
4ERN55	0,43	1,7	2,5	4	3,5-5,0	7-5	—	2018320
<b>left hand</b>								
3ELG55	0,20	1,2	1,7	3	1,75-3,0	14-8	—	2008190



● first choice  
○ alternate choice

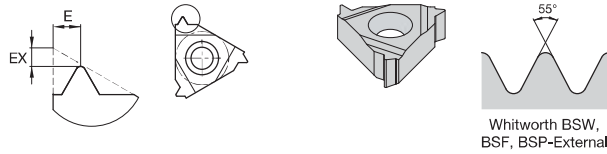
P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-55

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>								
2IRA55	0,05	0,8	0,9	2	0,50-1,5	48-16	—	2018328
3IRA55	0,05	0,8	0,9	3	0,50-1,5	48-16	—	2018334
3IRAG55	0,07	1,2	1,7	3	0,50-3,0	48-8	—	2018346
3IRG55	0,21	1,2	1,7	3	1,75-3,0	14-8	—	2018340
4IRN55	0,43	1,7	2,5	4	3,5-5,0	7-5	—	2018354
<b>left hand</b>								
3ILA55	0,05	0,8	0,9	3	0,50-1,5	48-16	—	3122449
3ILAG55	0,07	1,2	1,7	3	0,50-3,0	48-8	—	2018348



Threading



- first choice
- alternate choice

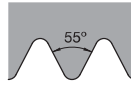
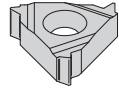
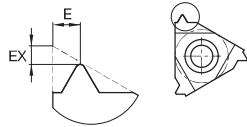
P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-W



Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>							
3ER32W	0,6	0,6	3	—	32	—	2019023
3ER28W	0,6	0,7	3	—	28	—	2019029
3ER19W	0,8	1,0	3	—	19	—	2019055
3ER18W	0,8	1,0	3	—	18	—	2021677
3ER16W	0,9	1,1	3	—	16	—	2019061
3ER14W	1,0	1,2	3	—	14	—	2019071
3ER12W	1,1	1,4	3	—	12	—	2019077
3ER11W	1,1	1,5	3	—	11	—	2019083
3ER10W	1,1	1,5	3	—	10	—	2019089
3ER8W	1,2	1,5	3	—	8	—	2019101
4ER6W	1,6	2,3	4	—	6	—	2021725
<b>left hand</b>							
3EL11W	1,1	1,5	3	—	11	—	2065289
3EL8W	1,2	1,5	3	—	8	—	2103046



Whitworth  
BSW, BSF,  
BSP-Internal

- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

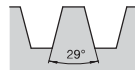
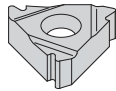
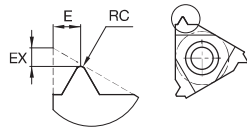
■ IR/L-W

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
2IR19W	0,8	1,0	2	—	19	—	2019121
2IR14W	0,9	1,1	2	—	14	—	2019136
3IR19W	0,8	0,9	3	—	19	—	2019172
3IR16W	0,9	1,1	3	—	16	—	2019178
3IR14W	1,0	1,2	3	—	14	—	2019189
3IR12W	1,1	1,4	3	—	12	—	2019195
3IR11W	1,1	1,5	3	—	11	—	2019205
3IR8W	1,2	1,5	3	—	8	—	2019224
4IR6W	1,6	2,3	4	—	6	—	2019234



Threading





API Round-External

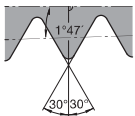
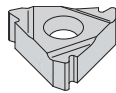
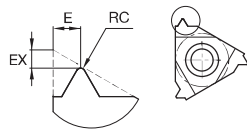
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER-APIRD

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand								
3ER10APIRD	0,34	1,2	1,4	3	—	10	.750	2019608

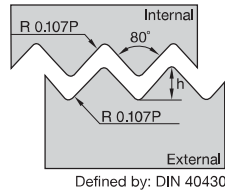
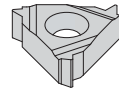
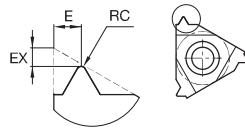
Threading



API Round-Internal

■ IR-APIRD

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand								
3IR10APIRD	0,34	1,2	1,4	3	—	10	.750	2019618
3IR8APIRD	0,40	1,3	1,5	3	—	8	.750	2019622



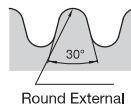
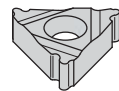
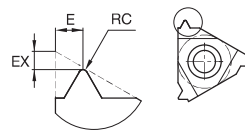
Defined by: DIN 40430

- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ IR-PG

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand								
3IR16PG	0,11	1,1	0,8	3	—	16	—	2019441

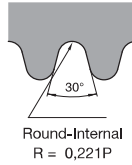
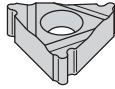
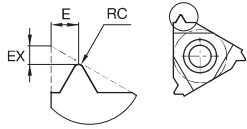


Round External

■ ER/L-RD

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand								
3ER8RD	0,76	1,4	1,3	3	—	8	—	2019347
4ER6RD	1,01	1,5	1,7	4	—	6	—	2019359
left hand								
3EL8RD	0,76	1,4	1,3	3	—	8	—	2071943

Threading



- first choice
- alternate choice

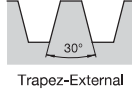
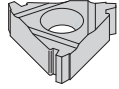
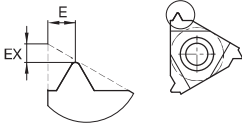
P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-RD



Threading

catalogue number	RC	EX	E	insert size	thread pitch mm	TPI	TPF	
<b>right hand</b>								
3IR10RD	0,70	1,1	1,2	3	—	10	—	TN6025
3IR8RD	0,70	1,4	1,4	3	—	8	—	2019375
4IR6RD	0,93	1,5	1,7	4	—	6	—	2019381
4IR4RD	1,40	2,3	2,2	4	—	4	—	2019394
<b>left hand</b>								
3IL8RD	0,06	1,4	1,4	3	—	8	—	2019400
								3122422



- first choice
- alternate choice

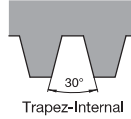
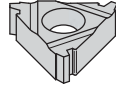
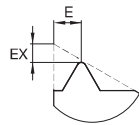
P	●
M	●
K	●
N	○
S	●
H	●

**ER/L-TR**

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
<b>right hand</b>							
3ER2TR	1,1	1,3	3	2,00	—	—	2019453
3ER3TR	1,3	1,5	3	3,00	—	—	2019461
4ER4TR	1,7	1,9	4	4,00	—	—	2019469
4ER5TR	2,1	2,5	4	5,00	—	—	2019479
5ER6TR	2,3	2,7	5	6,00	—	—	2019487
<b>left hand</b>							
3EL3TR	1,3	1,5	3	3,00	—	—	2019463
4EL4TR	1,7	1,9	4	4,00	—	—	2019471



Threading



- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

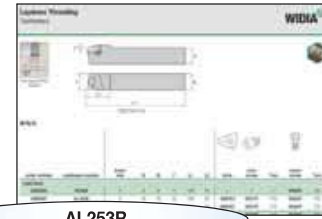
■ IR/L-TR



Threading

catalogue number	EX	E	insert size	thread pitch mm	TPI	TPF	TN6025
right hand							
3IR3TR	1,3	1,5	3	3,00	—	—	2019511
4IR4TR	1,7	1,9	4	4,00	—	—	2019520
4IR5TR	2,1	2,5	4	5,00	—	—	2019528
5IR6TR	2,3	2,7	5	6,00	—	—	2019534

**Laydown Threading  
Toolholder Identification System**



AL253R

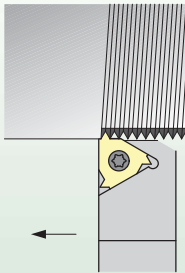
**A**

Toolholder  
Construction

**A** –  
Shim required

**N** –  
Without shim

**L** – External Thread



**L**

Tool Type

**25**

Shank Size

Toolholders

- First two numbers are shank height in mm.

**3**

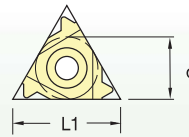
Insert  
Size

**R**

Hand of  
Tool

**RH** –  
Thread symbol R

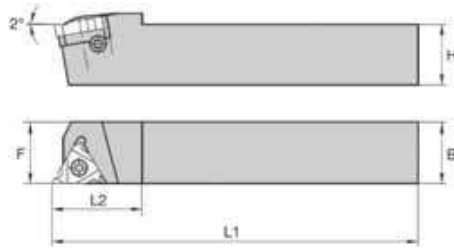
**LH** –  
Thread symbol L



symbol	d	L1
2	6,35	11
3	9,52	16
4	12,7	22
5	15,88	27



See page F42 for inserts.



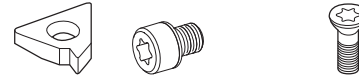
Right Hand Tool



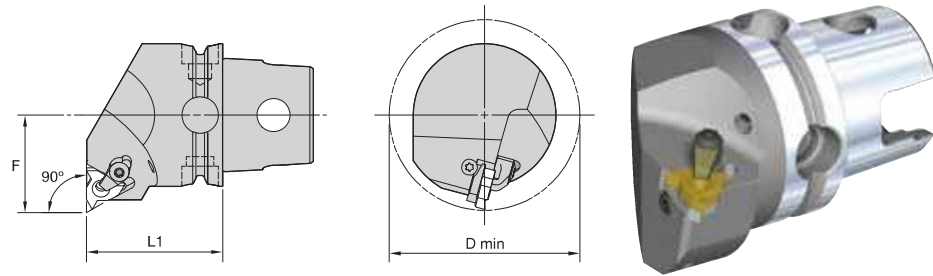
■ N/A



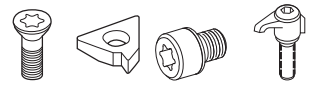
Threading



order number	catalogue number	insert size	H	B	F	L1	L2	shim	shim screw	Torx	insert screw	Torx
<b>right hand</b>												
2022340	NL82R	2	8	8	11	136	18	—	—	—	SSN2T	T8
2009587	AL163R	3	16	16	16	100	25	SMYE3	SSY3T	T10	SSA3T	T10
2009591	AL203R	3	20	20	20	128	30	SMYE3	SSY3T	T10	SSA3T	T10
2009594	AL253R	3	25	25	25	153	30	SMYE3	SSY3T	T10	SSA3T	T10
2009597	AL254R	4	25	25	25	155	36	SMYE4	SSY4T	T20	SSA4T	T20
2009600	AL323R	3	32	32	32	173	30	SMYE3	SSY3T	T10	SSA3T	T10
2009603	AL324R	4	32	32	32	175	36	SMYE4	SSY4T	T20	SSA4T	T20
2022589	AL325R	5	32	32	32	176	40	SMYE5	SSY5T	T25	SSA5T	T25
2016118	AL404R	4	40	40	40	205	36	SMYE4	SSY4T	T20	SSA4T	T20
2016122	AL405R	5	40	40	40	206	40	SMYE5	SSY5T	T25	SSA5T	T25
<b>left hand</b>												
2071294	AL163L	3	16	16	16	100	25	SMYI3	SSY3T	T10	SSA3T	T10
2071295	AL203L	3	20	20	20	125	30	SMYI3	SSY3T	T10	SSA3T	T10
2114772	AL254L	4	25	25	25	150	36	SMYI4	SSY4T	T20	SSA4T	T20



■ LSE-N 90° • Internal Only

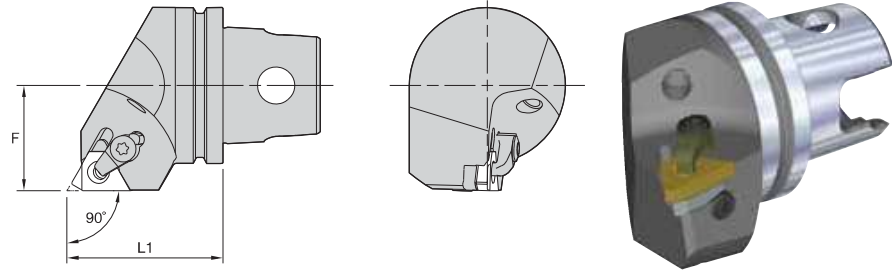
order number	catalogue number	L1		F		D min							kg	lbs
		mm	in	mm	in	mm	in	gage insert	insert screw	shim	shim screw	clamp assembly		
<b>right hand</b>														
3950832	KM40TSLSER16N	40	1.575	27	1.063	54	2.126	LT16NR	SSA3T	SMYI3	SSY3T	CKC3	0,35	.77
3950854	KM40TSLSER22N	40	1.575	27	1.063	54	2.126	LT22NR	SSA4T	SMYI4	SSY4T	CKC4	0,35	.77
3959399	KM40TSLSER27N	45	1.772	27	1.063	54	2.126	LT27NR	SSA5T	SMYI5	SSY5T	CKC5	0,39	.86
<b>left hand</b>														
3950831	KM40TSLSEL16N	40	1.575	27	1.063	54	2.126	LT16NL	SSA3T	SMYE3	SSY3T	CKC3	0,35	.77
3950853	KM40TSLSEL22N	40	1.575	27	1.063	54	2.126	LT22NL	SSA4T	SMYE4	SSY4T	CKC4	0,35	.77
3959398	KM40TSLSEL27N	45	1.772	27	1.063	54	2.126	LT27NL	SSA5T	SMYE5	SSY5T	CKC5	0,39	.86

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.



Threading

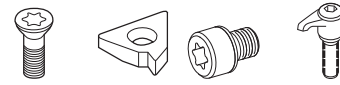




■ LSS 90°



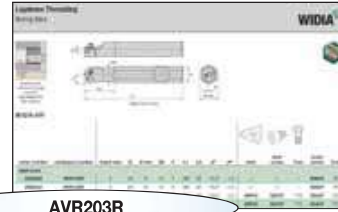
Threading



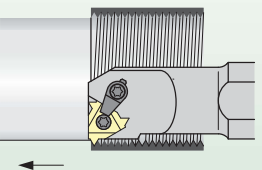
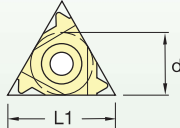
order number	catalogue number	L1		F		gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
		mm	in	mm	in							
<b>right hand</b>												
3950857	KM40TSLSSR16	40	1.575	27	1.063	LT16ER	SSA3T	SMYE3	SSY3T	CKC3	0,31	.68
3950858	KM40TSLSSR22	40	1.575	27	1.063	LT22ER	SSA4T	SMYE4	SSY4T	CKC4	0,30	.66
3959401	KM40TSLSSR27	45	1.772	27	1.063	LT27ER	SSA5T	SMYE5	SSY5T	CKC5	0,37	.82
<b>left hand</b>												
3950855	KM40TSLSSL16	40	1.575	27	1.063	LT16EL	SSA3T	SMYI3	SSY3T	CKC3	0,32	.70
3950856	KM40TSLSSL22	40	1.575	27	1.063	LT22EL	SSA4T	SMYI4	SSY4T	CKC4	0,31	.68
3959400	KM40TSLSSL27	45	1.772	27	1.063	LT27EL	SSA5T	SMYI5	SSY5T	CKC5	0,37	.82

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.

**Laydown Threading**  
**Boring Bar Identification System**

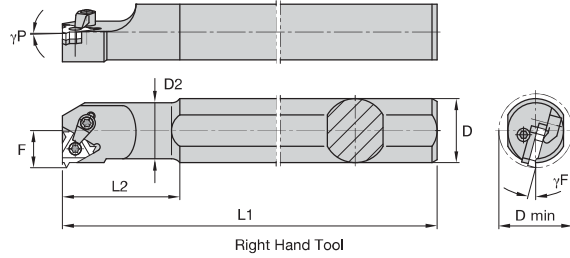


AVR203R

<b>A</b>	<b>VR</b>		<b>20</b>	<b>3</b>	<b>R</b>															
Shim Requirement	Tool Type	Coolant Capability	Shank Head Diameter	Insert Size	Hand of Tool															
<p><b>A</b> – Shim required</p> <p><b>N</b> – No shim required</p> <p><b>O</b> – Miniature holder</p>		<p><b>C</b> – With coolant</p>	<p>10, 12, 13, 16, 20, 25, 32, 40, 50</p> <p>6.2 (Mini adjust)</p> <p>8.0 (Mini adjust)</p>		<p><b>RH</b> – Thread symbol R</p> <p><b>LH</b> – Thread symbol L</p>															
<p><b>VR</b> – Internal round shank</p> 			 <table border="1"> <thead> <tr> <th>symbol</th> <th>d</th> <th>L1</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>6,35</td> <td>11</td> </tr> <tr> <td>3</td> <td>9,52</td> <td>16</td> </tr> <tr> <td>4</td> <td>12,7</td> <td>22</td> </tr> <tr> <td>5</td> <td>15,88</td> <td>27</td> </tr> </tbody> </table>	symbol	d	L1	2	6,35	11	3	9,52	16	4	12,7	22	5	15,88	27		
symbol	d	L1																		
2	6,35	11																		
3	9,52	16																		
4	12,7	22																		
5	15,88	27																		



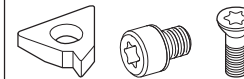
Steel shank without through coolant. See page F42 for inserts.



Right Hand Tool

### ■ N/A-VR

Threading

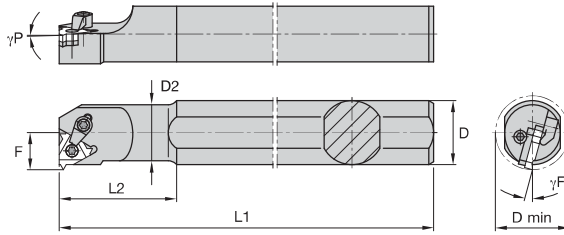


order number	catalogue number	insert size	D	D min	D2	F	L1	L2	$\gamma_F^\circ$	$\gamma_P^\circ$	shim	shim screw	Torx	insert screw	Torx
<b>right hand</b>															
2025828	NVR102R	2	20	13	10	7	180	25	-15,0°	-1,5	—	—	—	SSN2T	T8
2022342	NVR132R	2	20	16	13	9	180	32	-15,0°	-1,5	—	—	—	SSN2T	T8
2012307	NVR163R	3	20	20	16	12	180	40	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2009609	AVR203R	3	20	24	20	13	180	50	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2022343	NVR204R	4	20	27	20	16	180	50	-15,0°	-1,5	SMYI4	SSY4T	T20	SSA4T	T20
2009628	AVR25D3R	3	25	29	25	16	200	45	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2009631	AVR25D4R	4	25	32	25	17	200	45	-15,0°	-1,5	SMYI4	SSY4T	T20	SSA4T	T20
2009612	AVR253R	3	32	29	25	16	250	60	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2009625	AVR254R	4	32	32	25	17	250	60	-15,0°	-1,5	SMYI4	SSY4T	T20	SSA4T	T20
2009640	AVR32D3R	3	32	36	32	20	250	60	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2009634	AVR324R	4	32	39	32	22	250	60	-15,0°	-1,5	SMYI4	SSY4T	T20	SSA4T	T20
2009637	AVR325R	5	32	40	32	22	250	60	-15,0°	-1,5	SMYI5	SSY5T	T25	SSA5T	T25
2009643	AVR403R	3	40	44	40	24	300	60	-15,0°	-1,5	SMYI3	SSY3T	T10	SSA3T	T10
2009646	AVR405R	5	40	48	40	26	300	60	-15,0°	-1,5	SMYI5	SSY5T	T25	SSA5T	T25
2009649	AVR505R	5	50	58	50	31	350	75	-15,0°	-1,5	SMYI5	SSY5T	T25	SSA5T	T25
<b>left hand</b>															
2071317	NVR163L	3	20	20	16	12	180	40	-15,0°	-1,5	SMYE3	SSY3T	—	SSA3T	T10
2071318	AVR203L	3	20	24	20	13	180	40	-15,0°	-1,5	SMYE3	SSY3T	T10	SSA3T	T10
2065134	AVR25D3L	3	25	29	25	16	200	45	-15,0°	-1,5	SMYE3	SSY3T	T10	SSA3T	T10
2065135	AVR25D4L	4	25	32	25	17	200	45	-15,0°	-1,5	SMYE4	SSY4T	T20	SSA4T	T20
2114832	AVR253L	3	32	29	25	16	250	60	-15,0°	-1,5	SMYE3	SSY3T	T10	SSA3T	T10

NOTE: Items listed without a shim are designed for a 1,5° inclination angle.



See page F42 for inserts.



■ OVR

order number	catalogue number	insert size	D	D min	D2	F	L1	L2	$\gamma F^\circ$	$\gamma P^\circ$	screw	Torx driver	Torx
<b>right hand</b>													
2012325	OVR122R	2	12	13	10	7	100	25	-15,0°	-0,5	12147789100	12148001100	T8
2022345	OVR152R	2	15	16	13	9	100	32	-15,0°	-0,5	12147789100	12148001100	T8

NOTE: WIDIA™ miniature holders are for use on automatic machines as used in the optical and precision mechanics industries. The shank dimensions correspond to conventional hardmetal or HSS tools. Holders with round or square shanks are available. An internal RH tool can also be used for external LH threads in the same way an internal LH tool can be used for external RH threads. Please use correct inserts. The inclination angle on this tool is 0,5°. Tools are always clamped with the shank parallel to the part.



Threading