



2017 Master Catalog

WIDIA  TM



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 maximizes 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

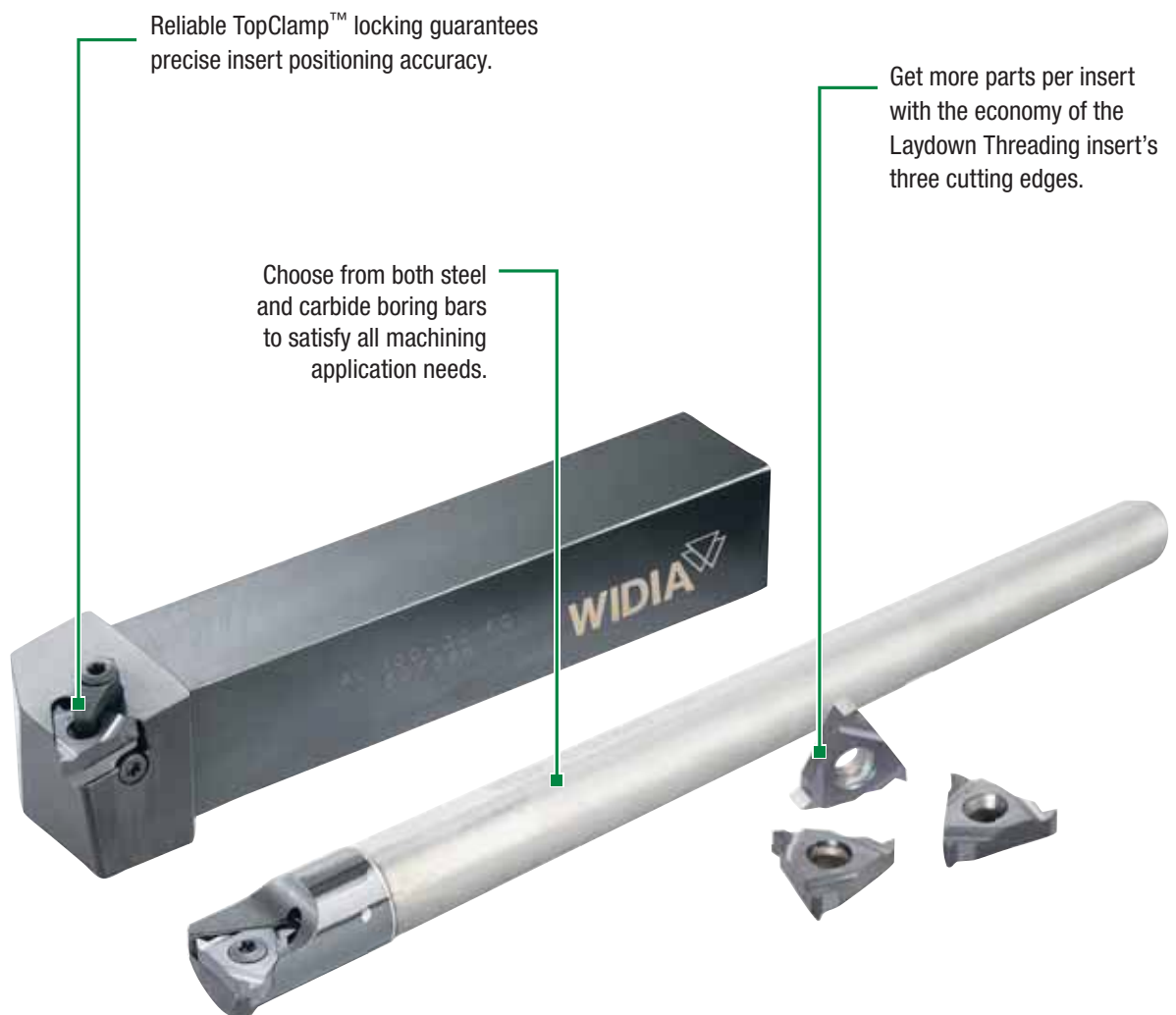
Laydown insert technology, with its wide range of available tools and inserts, guarantees increased tool life, minimized built-up edges, and precise cuts of most common materials.

- 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.
- Maximized tool life and low-profile design for unhindered chip flow and superior performance.



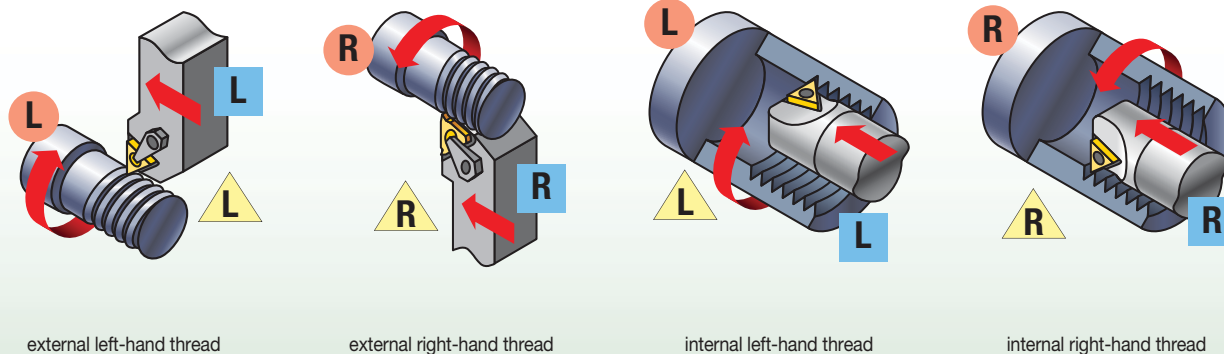
Step 1 • Select Threading Method and Hand of Tooling

Required Information:

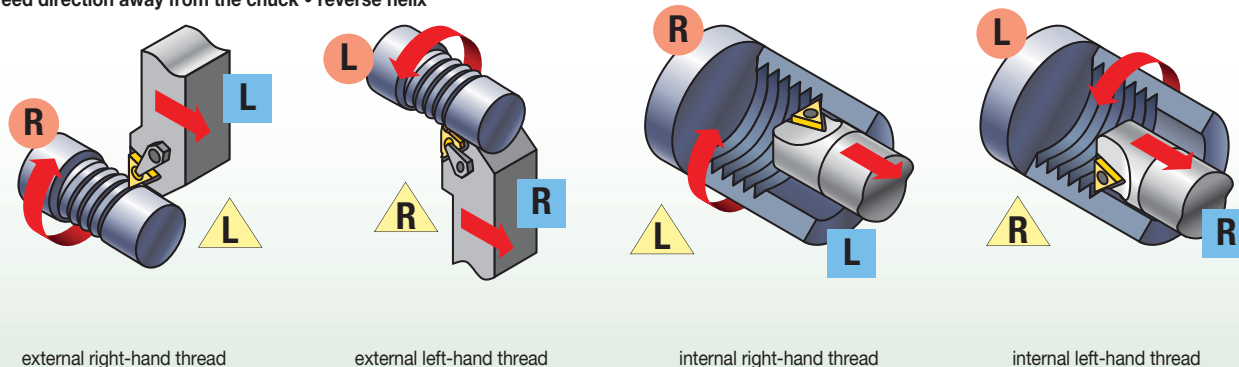
- External/internal operation.
- Spindle rotation/hand of thread.
- Feed direction.



Feed direction toward the chuck • standard helix • RECOMMENDED



Feed direction away from the chuck • reverse helix*



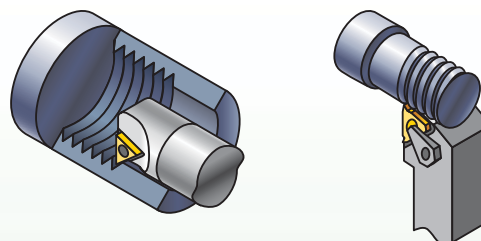
*Negative shim required

Step 2 • Select Holder from Catalog 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:

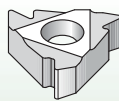


The insert size must match the gage insert size of your toolholder selection:

catalog number	gage insert	minimum bore diameter	shim
S0812LSER2	2IRA60	.650"	—
S2020LSER3	3IR...	1.45"	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 optimized 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	catalog number	TN6025
	11	2IRA60	•
	16	3IRAG60	•

See threading insert overview on page F44.

Step 4 • Select Appropriate Shim

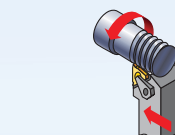
Required Information:

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

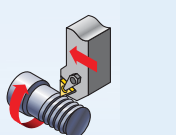
Select the proper shim:

SMYE... for external RH or internal LH
SMYI... for internal RH or external LH

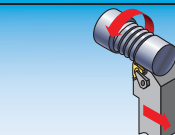
RH thread/RH tooling



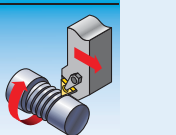
LH thread/LH tooling



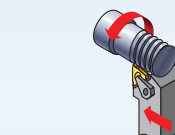
LH thread/RH tooling



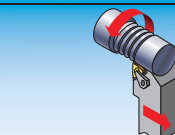
RH thread/LH tooling



Feed direction toward the chuck • RECOMMENDED



feed direction away from the chuck • reverse helix



Laydown Threading Shim Selection Table • Inch

insert size	external		internal		external		internal	
	SMYE	SMYI	SMYE	SMYI	SMYE	SMYI	SMYE	SMYI
11	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
16	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020

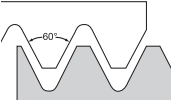
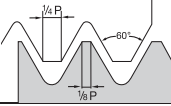
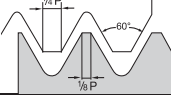
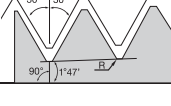
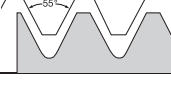
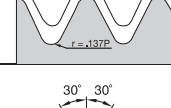
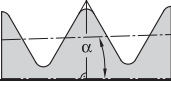
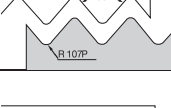
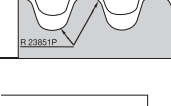
If recommended shim is different from shim supplied with toolholder, order shim separately.

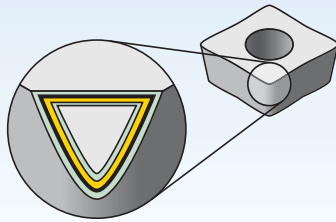
NOTE: Optimize your threading operation by using the proper infeed angle and the recommended infeed values. See the Technical Section on pages F83–F105. Also see detailed shim selection information on pages F104–F105.

Step 5 • Select Grade and Speed

Recommendations for Grade and Speed Selection — m/min (SFM)

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

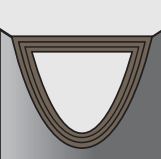
style		thread profile	standard	tolerance class	cresting	application	page(s)	
	flat top							
	60		Partial profile 60°	—	—	N	General use for 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches.	F49–F50
	ISO		Metric ISO	ISO R262, DIN 13	6g/6H	Y	Widely used metric 60° V-form for all industries.	F51–F56
	UN		American UN	ANSI B1.1:74	2A/2B	Y	Widely used inch-based 60° V-form for all industries.	F57–F60
	NPT		NPT	ANSI/ASME B1.20.1S1983	Standard NPT	N	National Pipe Thread standard 60° thread form for pipe fittings.	F61–F62
	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.	F63–F64
	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.	F65–F66
	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.	F67
	PG		PG	DIN 404B0		Y	80° steel conduit thread.	F67
	RD		Round	DIN 405	7e/7H	Y	Round thread form for tube fittings in the chemical and food industries.	F68–F69
	TR		Trapez	DIN 103	7e/7H	N	30° truncated metric thread form for motion applications.	F70–F71



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.

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

		wear resistance ← → toughness									
Coating	Grade Description		05	10	15	20	25	30	35	40	45
Grade TN6025 HC-P25	 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.	P									
		M									
		K									
		N									
		S									

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 major, minor, root, and crest for a given pitch. The need for deburring is eliminated and the inserts are optimized 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

3

Insert
Size

E

Insert Type

E —
External thread

I —
Internal thread

R

Hand
of Insert

R —
Right-hand
thread

L —
Left-hand
thread

A

Thread
Pitch

ISO

Thread
Profile

Number of Teeth

Single tooth profile —
No symbol

Multi-tooth profile —
Number of teeth
(cutting edge and symbol)

Multi-tooth profile with
two teeth — 2M

55

Partial Profile 55°

60

Partial Profile 60°

ISO

ISO Metric 60°

TR

ISO Metric 60°

UN

ISO Inch/American UN 60°

W

Whitworth 55°

NPT

American National Pipe Thread 60°

RD

Round

PG

Steel Conduit

APIRD

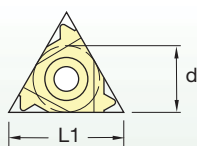
API Round

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

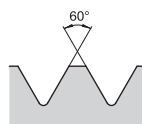
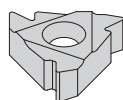
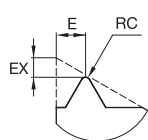
symbol	mm
Actual TPI	0,5–0,4



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

		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

		Cutting Speed — vc SFM		
		TN6025		
Material Group		min	Start	max
P	0/1	425	455	490
	2	360	465	575
	3	360	465	575
	4	235	300	365
	5	325	400	475
	6	130	180	210
M	1	195	245	295
	2	130	160	180
	3	130	165	195
K	1	195	255	295
	2	195	240	280
	3	195	245	295
N	1	1965	2460	2950
	2	1750	2240	2730
	3	750	980	1210
	4	445	590	730
	5	230	295	360
	6	1450	1855	2260
	7	1805	2295	2785
S	1	75	110	130
	2	40	55	65
	3	135	195	235
	4	65	95	115



Partial Profile
60° External

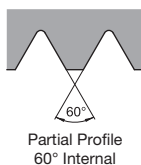
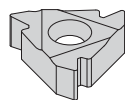
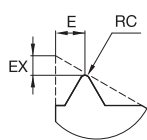
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

ER/L-60

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
2ERA60	0,05	.002	0,9	.035	0,8	.032	2	0,50-1,5	48-16	—	2007404
3ERA60	0,05	.002	0,8	.031	0,9	.035	3	0,50-1,5	48-16	—	2018214
3ERAG60	0,08	.003	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018246
3ERG60	0,28	.011	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2018222
4ERN60	0,53	.021	1,7	.067	2,5	.098	4	3,5-5,0	7-5	—	2018252
5ERQ60	0,64	.025	2,1	.083	3,1	.122	5	5,5-6,0	4,5-4	—	2018256
left hand											
3ELAG60	0,08	.003	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018236
3ELG60	0,28	.011	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2018236

Threading

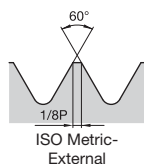
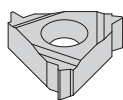
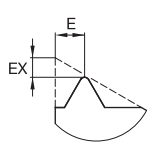


- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

IR/L-60

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
2IRA60	0,05	.002	0,8	.031	0,9	.035	2	0,50-1,5	48-16	—	2018262
3IRA60	0,05	.002	0,8	.031	0,9	.035	3	0,50-1,5	48-16	—	2018272
3IRAG60	0,05	.002	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018284
3IRG60	0,15	.006	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2018278
4IRN60	0,31	.012	1,7	.067	2,5	.098	4	3,5-5,0	7-5	—	2018290
5IRQ60	0,30	.012	1,8	.071	2,7	.106	5	5,5-6,0	4.5-4	—	2018295
left hand											
2ILA60	0,05	.002	0,8	.031	0,9	.035	2	0,50-1,5	48-16	—	2021656
3ILAG60	0,05	.002	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2008275
3ILG60	0,15	.006	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2007419
4ILN60	0,31	.012	1,7	.067	2,5	.098	4	3,5-5,0	7-5	—	2100489



- first choice
- alternate choice

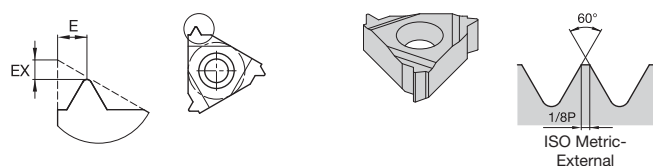
P	●
M	●
K	●
N	○
S	●
H	●

ER/L-ISO

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
2ER15ISO	1,0	.039	0,8	.032	2	1,50	—	—	2007542
3ER05ISO	0,6	.024	0,4	.016	3	0,50	—	—	2018377
3ER07ISO	0,6	.024	0,6	.024	3	0,70	—	—	2018389
3ER075ISO	0,6	.024	0,6	.024	3	0,75	—	—	2018395
3ER08ISO	0,6	.024	0,6	.024	3	0,80	—	—	2018403
3ER10ISO	0,7	.027	0,7	.027	3	1,00	—	—	2018411
3ER125ISO	0,8	.031	0,9	.035	3	1,25	—	—	2018421
3ER15ISO	0,8	.031	1,0	.039	3	1,50	—	—	2018429
3ER175ISO	0,9	.035	1,2	.047	3	1,75	—	—	2018445
3ER20ISO	1,0	.039	1,3	.051	3	2,00	—	—	2018460
3ER25ISO	1,1	.043	1,5	.059	3	2,50	—	—	2018472
3ER30ISO	1,2	.047	1,6	.063	3	3,00	—	—	2008256
4ER40ISO	1,6	.063	2,3	.090	4	4,00	—	—	2018501
4ER35ISO	1,6	.063	2,3	.090	4	4,50	—	—	2018495
4ER45ISO	1,7	.067	2,4	.094	4	4,50	—	—	2018508

(continued)

(ER/L-ISO – continued)



- first choice
- alternate choice

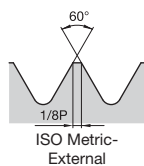
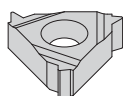
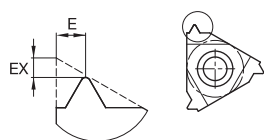
P	●
M	●
K	●
N	○
S	●
H	●

Threading

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
4ER50ISO	1,7	.067	2,5	.098	4	5,00	—	—	2018517
5ER55ISO	2,7	.106	1,9	.075	5	5,50	—	—	2018522
5ER60ISO	2,9	.114	2,0	.079	5	6,00	—	—	2018528
left hand									
2EL05ISO	0,6	.024	0,4	.016	2	0,50	—	—	3118234
2EL06ISO	0,6	.024	0,6	.024	2	0,60	—	—	3118236
2EL07ISO	0,6	.024	0,6	.024	2	0,70	—	—	3118240
2EL075ISO	0,6	.024	0,6	.024	2	0,75	—	—	3118238
2EL08ISO	0,6	.024	0,6	.024	2	0,80	—	—	3118242
2EL10ISO	0,7	.028	0,7	.028	2	1,00	—	—	3118374
2EL125ISO	0,8	.031	0,9	.035	2	1,25	—	—	3118376
2EL15ISO	0,8	.031	1,0	.039	2	1,50	—	—	3118378
2EL175ISO	0,8	.031	1,1	.043	2	1,75	—	—	3118380
3EL035ISO	0,8	.031	0,4	.016	3	0,35	—	—	3122015
3EL04ISO	0,7	.028	0,4	.016	3	0,40	—	—	3122018
3EL045ISO	0,7	.028	0,4	.016	3	0,45	—	—	3122017

(continued)

(ER/L-ISO – continued)

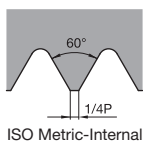
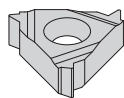
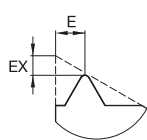


- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
3EL06ISO	0,6	.024	0,6	.024	3	0,60	—	—	3122021
3EL10ISO	0,7	.027	0,7	.027	3	1,00	—	—	2008187
3EL15ISO	0,8	.031	1,0	.039	3	1,50	—	—	2018435
3EL175ISO	0,9	.035	1,2	.047	3	1,75	—	—	2018447
3EL20ISO	1,3	.051	1,0	.039	3	2,00	—	—	2018466
3EL30ISO	1,2	.047	1,6	.063	3	3,00	—	—	2018489
4EL40ISO	1,6	.063	2,3	.090	4	4,00	—	—	2101539
4EL50ISO	1,7	.067	2,5	.098	4	5,00	—	—	2101597

Threading



- first choice
- alternate choice

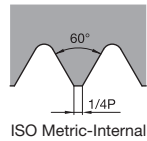
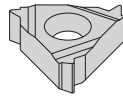
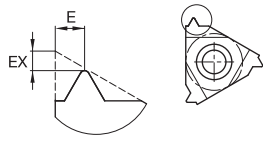
P	●
M	●
K	●
N	○
S	●
H	●

IR/L-ISO

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
2IR075ISO	0,6	.024	0,3	.012	2	0,75	—	—	2007585
2IR10ISO	0,6	.024	0,7	.028	2	1,00	—	—	2007613
2IR125ISO	0,6	.024	0,7	.028	2	1,25	—	—	2007622
2IR15ISO	0,8	.032	1,0	.039	2	1,50	—	—	2018550
2IR175ISO	0,9	.032	1,1	.043	2	1,75	—	—	2018564
3IR05ISO	0,6	.024	0,6	.024	3	0,50	—	—	2018582
3IR075ISO	0,6	.024	0,6	.024	3	0,75	—	—	2018596
3IR10ISO	0,6	.024	0,7	.028	3	1,00	—	—	2018612
3IR125ISO	0,8	.032	0,9	.035	3	1,25	—	—	2018626
3IR15ISO	0,8	.032	1,0	.039	3	1,50	—	—	2018636
3IR175ISO	0,9	.035	1,2	.047	3	1,75	—	—	2018652
3IR20ISO	1,0	.039	1,3	.051	3	2,00	—	—	2018663
3IR25ISO	1,1	.043	1,5	.059	3	2,50	—	—	2018674
3IR30ISO	1,1	.043	1,5	.059	3	3,00	—	—	2018684
4IR35ISO	1,6	.063	2,3	.091	4	3,50	—	—	2018695

(continued)

(IR/L-ISO — continued)



ISO Metric-Internal

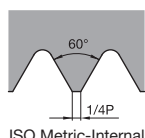
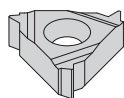
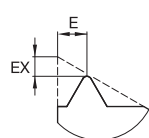
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
4IR40ISO	1,6	.063	2,3	.091	4	4,00	—	—	2018702
4IR45ISO	1,6	.063	2,4	.095	4	4,50	—	—	2018708
4IR50ISO	1,6	.063	2,3	.091	4	5,00	—	—	2018714
5IR55ISO	1,6	.063	2,3	.091	5	5,50	—	—	2021597
5IR60ISO	1,8	.071	2,5	.098	5	6,00	—	—	2018720
left hand									
2IL035ISO	0,8	.031	0,4	.016	2	0,35	—	—	3118382
2IL04ISO	0,7	.028	0,4	.016	2	0,40	—	—	3118384
2IL05ISO	0,6	.024	0,4	.016	2	0,50	—	—	3118386
2IL06ISO	0,6	.024	0,6	.024	2	0,60	—	—	3118387
2IL07ISO	0,6	.024	0,6	.024	2	0,70	—	—	3118390
2IL075ISO	0,6	.024	0,6	.024	2	0,75	—	—	3118389
2IL08ISO	0,6	.024	0,6	.024	2	0,80	—	—	3118392
2IL125ISO	0,8	.031	0,9	.035	2	1,25	—	—	3123198
2IL15ISO	0,8	.032	1,0	.039	2	1,50	—	—	2018557
2IL20ISO	0,9	.035	1,1	.043	2	2,00	—	—	2071923

(continued)

(I/R/L-ISO — continued)



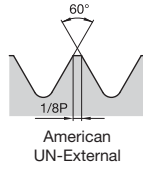
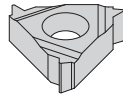
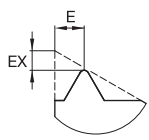
ISO Metric-Internal

- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	○

Threading

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
3IL035ISO	0,8	.031	0,3	.012	3	0,35	—	—	3124269
3IL04ISO	0,8	.031	0,4	.016	3	0,40	—	—	3124271
3IL05ISO	0,6	.024	0,4	.016	3	0,50	—	—	3124272
3IL06ISO	0,6	.024	0,6	.024	3	0,60	—	—	3124274
3IL07ISO	0,6	.024	0,6	.024	3	0,70	—	—	3124276
3IL075ISO	0,6	.024	0,6	.024	3	0,75	—	—	2018598
3IL15ISO	0,8	.032	1,0	.039	3	1,50	—	—	2018642
3IL20ISO	1,0	.039	1,3	.051	3	2,00	—	—	2018667
3IL25ISO	1,1	.043	1,5	.059	3	2,50	—	—	2018678
3IL30ISO	1,1	.043	1,5	.059	3	3,00	—	—	2018688
4IL40ISO	1,6	.063	2,3	.090	4	4,00	—	—	2102322
4IL45ISO	1,6	.063	2,4	.094	4	4,50	—	—	2102347
4IL50ISO	1,6	.063	2,3	.090	4	5,00	—	—	2076776
5IL55ISO	1,6	.063	2,3	.091	5	5,50	—	—	2642318
5IL60ISO	1,8	.071	2,5	.098	5	6,00	—	—	2642319



- first choice
- alternate choice

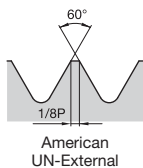
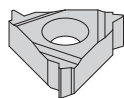
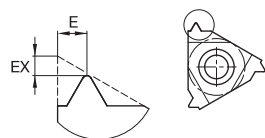
P	●
M	●
K	●
N	○
S	●
H	●

ER/L-UN

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
3ER48UN	0,6	.024	0,6	.024	3	—	48	—	2018736
3ER40UN	0,6	.024	0,6	.024	3	—	40	—	2018744
3ER36UN	0,6	.024	0,6	.024	3	—	36	—	2018748
3ER32UN	0,6	.024	0,6	.024	3	—	32	—	2018752
3ER28UN	0,6	.024	0,7	.028	3	—	28	—	2018756
3ER27UN	0,8	.032	0,7	.028	3	—	27	—	2018760
3ER24UN	0,7	.028	0,8	.032	3	—	24	—	2018766
3ER20UN	0,8	.032	0,9	.035	3	—	20	—	2018772
3ER18UN	0,8	.032	1,0	.039	3	—	18	—	2018778
3ER16UN	0,9	.035	1,1	.043	3	—	16	—	2018782
3ER14UN	1,0	.039	1,2	.047	3	—	14	—	2018790

(continued)

(ER/L-UN — continued)

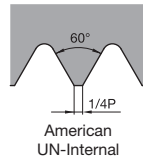
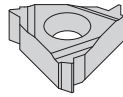
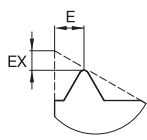


- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

Threading

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
3ER13UN	1,3	.051	1,0	.039	3	—	13	—	2018796
3ER12UN	1,1	.043	1,4	.055	3	—	12	—	2018802
3ER11UN	1,1	.043	1,5	.059	3	—	11	—	2018808
3ER10UN	1,1	.043	1,5	.059	3	—	10	—	2018814
3ER8UN	1,2	.047	1,6	.063	3	—	8	—	2018824
left hand									2018824
3EL13UN	1,0	.039	1,3	.051	3	—	13	—	3122039
3EL12UN	1,1	.043	1,4	.055	3	—	12	—	2192607
3EL11UN	1,1	.043	1,5	.059	3	—	11	—	3122032
3EL10UN	1,1	.043	1,5	.059	3	—	10	—	3122028



- first choice
- alternate choice

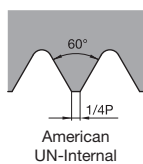
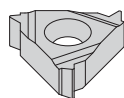
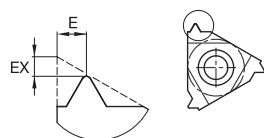
P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-UN

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
2IR32UN	0,6	.024	0,6	.024	2	—	32	—	2018860
3IR32UN	0,6	.024	0,6	.024	3	—	32	—	2018918
3IR28UN	0,6	.024	0,7	.027	3	—	28	—	2018922
3IR24UN	0,7	.028	0,8	.032	3	—	24	—	2018932
3IR20UN	0,8	.032	0,9	.035	3	—	20	—	2018938
2IR20UN	0,8	.032	0,9	.035	2	—	20	—	2018876
3IR18UN	0,8	.032	1,0	.039	3	—	18	—	2018944
2IR18UN	0,8	.031	1,0	.039	2	—	18	—	2018882
3IR16UN	0,9	.035	1,1	.043	3	—	16	—	2018950
2IR16UN	0,9	.035	1,1	.043	2	—	16	—	2018886
3IR14UN	0,9	.035	1,2	.047	3	—	14	—	2018955

(continued)

(IR/L-UN — continued)

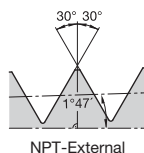
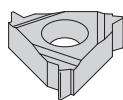
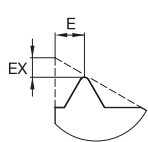


- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

Threading

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
3IR12UN	1,1	.043	1,4	.055	3	—	12	—	2018966
3IR10UN	1,1	.043	1,5	.059	3	—	10	—	2018979
3IR8UN	1,1	.043	1,5	.059	3	—	8	—	2018990
left hand									
3IL64UN	0,8	.031	0,4	.016	3	—	64	—	3122416
3IL56UN	0,7	.028	0,4	.016	3	—	56	—	3122414
2IL32UN	0,6	.024	0,6	.024	2	—	32	—	2102653
3IL12UN	1,1	.043	1,4	.055	3	—	12	—	2102749
3IL9UN	1,2	.047	1,7	.067	3	—	9	—	3122446
3IL8UN	1,1	.043	1,5	.059	3	—	8	—	3122444



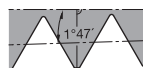
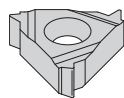
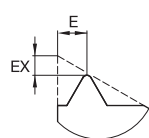
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-NPT

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
3ER115NPT	1,1	.043	1,5	.059	3	—	11.5	.7500	2019298
3ER14NPT	0,9	.035	1,2	.047	3	—	14	.7500	2019288
3ER18NPT	0,8	.032	1,0	.039	3	—	18	.7500	2019278
3ER8NPT	1,3	.051	1,8	.071	3	—	8	.7500	2019305

Threading



NPT-Internal

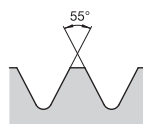
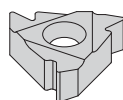
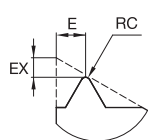
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

IR/L-NPT

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
3IR115NPT	1,1	.043	1,5	.059	3	—	11.5	.7500	2019335
3IR14NPT	0,9	.035	1,2	.047	3	—	14	.7500	2019329
3IR18NPT	0,8	.031	1,0	.039	3	—	18	.7500	2019323
3IR8NPT	1,3	.051	1,8	.071	3	—	8	.7500	2019339

Threading



Partial Profile
55° External

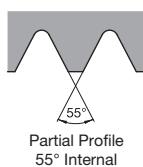
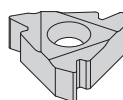
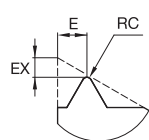
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-55

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TNS025
	mm	in	mm	in	mm	in					
right hand											
3ERA55	0,05	.002	0,8	.031	0,9	.035	3	0,50-1,5	48-16	—	2018301
3ERAG55	0,08	.003	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018314
3ERG55	0,20	.008	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2018308
4ERN55	0,43	.017	1,7	.067	2,5	.098	4	3,5-5,0	7-5	—	2018320
left hand											
3ELG55	0,20	.008	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2008190

Threading



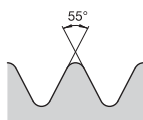
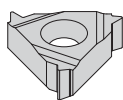
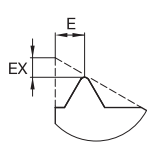
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

IR/L-55

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
2IRA55	0,05	.002	0,8	.031	0,9	.035	2	0,50-1,5	48-16	—	2018328
3IRA55	0,05	.002	0,8	.031	0,9	.035	3	0,50-1,5	48-16	—	2018334
3IRAG55	0,07	.003	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018346
3IRG55	0,21	.008	1,2	.047	1,7	.067	3	1,75-3,0	14-8	—	2018340
4IRN55	0,43	.017	1,7	.067	2,5	.098	4	3,5-5,0	7-5	—	2018354
left hand											
3ILA55	0,05	.002	0,8	.031	0,9	.035	3	0,50-1,5	48-16	—	2018340
3ILAG55	0,07	.003	1,2	.047	1,7	.067	3	0,50-3,0	48-8	—	2018348

Threading



Whitworth BSW,
BSF, BSP-External

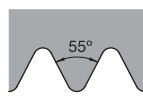
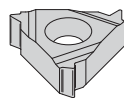
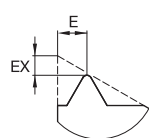
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

ER/L-W

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									2019023
3ER32W	0,6	.024	0,6	.024	3	—	32	—	2019029
3ER28W	0,6	.024	0,7	.028	3	—	28	—	2019055
3ER19W	0,8	.032	1,0	.039	3	—	19	—	2021677
3ER18W	0,8	.031	1,0	.039	3	—	18	—	2019061
3ER16W	0,9	.035	1,1	.043	3	—	16	—	2019071
3ER14W	1,0	.039	1,2	.047	3	—	14	—	2019077
3ER12W	1,1	.043	1,4	.055	3	—	12	—	2019083
3ER11W	1,1	.043	1,5	.059	3	—	11	—	2019089
3ER10W	1,1	.043	1,5	.059	3	—	10	—	2019101
3ER8W	1,2	.047	1,5	.059	3	—	8	—	2021725
4ER6W	1,6	.063	2,3	.091	4	—	6	—	2103046
left hand									2065289
3EL11W	1,1	.043	1,5	.059	3	—	11	—	2103046
3EL8W	1,2	.047	1,5	.059	3	—	8	—	

Threading



Whitworth
BSW, BSF,
BSP-Internal

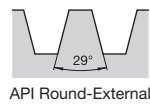
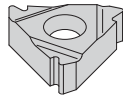
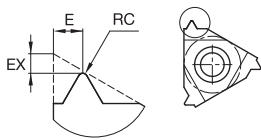
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

IR/L-W

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
2IR19W	0,8	.032	1,0	.039	2	—	19	—	2019121
2IR14W	0,9	.035	1,1	.043	2	—	14	—	2019136
3IR19W	0,8	.032	0,9	.035	3	—	19	—	2019172
3IR16W	0,9	.035	1,1	.043	3	—	16	—	2019178
3IR14W	1,0	.039	1,2	.047	3	—	14	—	2019189
3IR12W	1,1	.043	1,4	.055	3	—	12	—	2019195
3IR11W	1,1	.043	1,5	.059	3	—	11	—	2019205
3IR8W	1,2	.047	1,5	.059	3	—	8	—	2019224
4IR6W	1,6	.063	2,3	.090	4	—	6	—	2019234

Threading

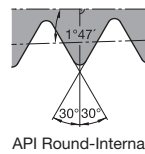
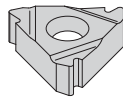
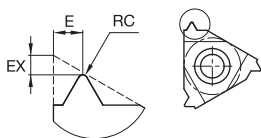


- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

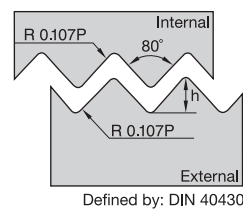
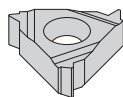
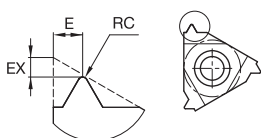
ER-APIRD

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
3ER10APIRD	0,34	.013	1,2	.047	1,4	.055	3	—	10	.750	2019608



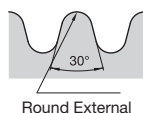
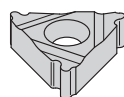
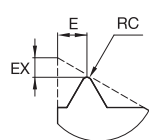
IR-APIRD

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
3IR10APIRD	0,34	.013	1,2	.047	1,4	.055	3	—	10	.750	2019618
3IR8APIRD	0,40	.016	1,3	.051	1,5	.059	3	—	8	.750	2019622



IR-PG

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
3IR16PG	0,11	.004	1,1	.043	0,8	.032	3	—	16	—	2019441



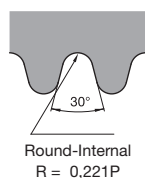
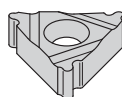
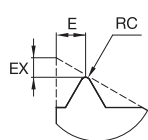
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ ER/L-RD

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025 2019347 2019359 2071943
	mm	in	mm	in	mm	in					
right hand											
3ER8RD	0,76	.030	1,4	.055	1,3	.051	3	—	8	—	
4ER6RD	1,01	.040	1,5	.059	1,7	.067	4	—	6	—	
left hand											
3EL8RD	0,76	.030	1,4	.055	1,3	.051	3	—	8	—	

Threading



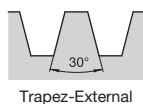
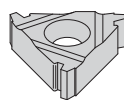
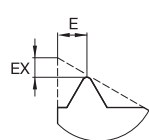
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

IR/L-RD

catalog number	RC		EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in	mm	in					
right hand											
3IR10RD	0,70	.028	1,1	.043	1,2	.047	3	—	10	—	2019375
3IR8RD	0,70	.028	1,4	.055	1,4	.055	3	—	8	—	2019381
4IR6RD	0,93	.037	1,5	.059	1,7	.067	4	—	6	—	2019394
4IR4RD	1,40	.055	2,3	.091	2,2	.087	4	—	4	—	2019400
left hand											
3IL8RD	0,06	.022	1,4	.055	1,4	.055	3	—	8	—	3122422

Threading



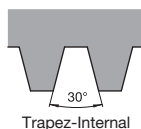
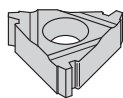
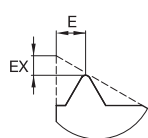
- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

ER/L-TR

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
3ER2TR	1,1	.043	1,3	.051	3	2,00	—	—	2010453
3ER3TR	1,3	.051	1,5	.059	3	3,00	—	—	2010461
4ER4TR	1,7	.067	1,9	.075	4	4,00	—	—	2010469
4ER5TR	2,1	.083	2,5	.098	4	5,00	—	—	2010479
5ER6TR	2,3	.091	2,7	.106	5	6,00	—	—	2010487
left hand									
3EL3TR	1,3	.051	1,5	.059	3	3,00	—	—	2010463
4EL4TR	1,7	.067	1,9	.075	4	4,00	—	—	2010471

Threading



- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	●
H	●

■ IR/L-TR

catalog number	EX		E		insert size	thread pitch mm	TPI	TPF	TN6025
	mm	in	mm	in					
right hand									
3IR3TR	1,3	.051	1,5	.059	3	3,00	—	—	2019511
4IR4TR	1,7	.067	1,9	.075	4	4,00	—	—	2019520
4IR5TR	2,1	.083	2,5	.098	4	5,00	—	—	2019528
5IR6TR	2,3	.091	2,7	.106	5	6,00	—	—	2019534

Threading

Laydown Threading Toolholder Identification System

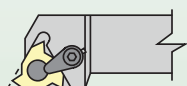


LSASR163

L

Insert
Style

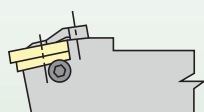
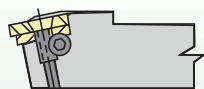
L –
Laydown triangle



S

Insert
Holding
Method

S –
Insert screw or clamp only



AS

Tool
Style

Straight shank



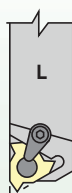
Offset shank



R

Hand
of Tool

Left
hand



Right
hand



16

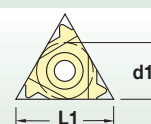
Drop
Head



Inch:

This shows a two-digit number that indicates the holder cross section. For shanks 5/8" square and over, the number will represent the number of sixteenths of width and height. For shanks under 5/8" square, the number of sixteenths of cross section will be preceded by a zero. For rectangular holders, the first digit represents the number of eighths of width, and the second digit the number of quarters of height, except for a toolholder 1-1/4" x 1-1/2", which is given the number 91.

Size equals number of
1/8" increments of iC.



inch insert size	metric insert size	d1 inch	L1 mm
2	11	1/4	11,0
3	16	3/8	16,5
4	22	1/2	22,0
5	27	5/8	27,0

3

Qualified
Surface and
Length

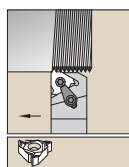
C –
qualified
back and
end, 5" long

D –
qualified
back and
end, 6" long

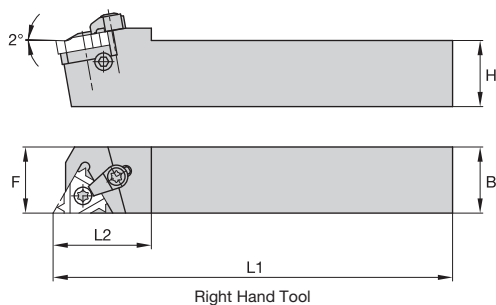
E –
qualified
back and
end, 7" long

T –
qualified
back and
end, 3.25"
long

Q –
qualified
metric
holder



See page F44
for inserts.

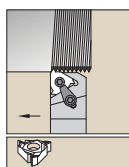


Right Hand Tool

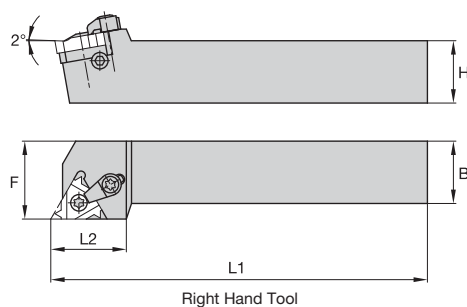
■ LSAS

															
order number	catalog number	seat size	H	B	F	L1	L2	gage insert	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
right hand															
2968567	LSASR83	3	.500	.500	.500	3.25	.87	LT16ER	SMYE3	SSY3T	T10	—	—	SSA3T	T10
2968583	LSASR103	3	.625	.625	.630	5.00	1.20	LT16ER	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968584	LSASR123	3	.750	.750	.750	5.00	1.20	LT16ER	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968585	LSASR163	3	1.000	1.000	1.000	6.00	1.20	LT16ER	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968587	LSASR203	3	1.250	1.250	1.250	7.00	1.18	LT16ER	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968586	LSASR164	4	1.000	1.000	1.000	6.00	1.42	LT22ER	SMYE4	SSY4T	T20	CKC4	T20	SSA4T	T20
left hand															
2968572	LSASL83	3	.500	.500	.500	3.25	.87	LT16EL	SMYI3	SSY3T	T10	—	—	SSA3T	T10
2968568	LSASL103	3	.625	.625	.630	5.00	1.20	LT16EL	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968569	LSASL123	3	.750	.750	.750	5.00	1.20	LT16EL	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968570	LSASL163	3	1.000	1.000	1.000	6.00	1.20	LT16EL	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10
2968571	LSASL164	4	1.000	1.000	1.000	6.00	1.42	LT22EL	SMYI4	SSY4T	T20	CKC4	T20	SSA4T	T20

Threading



See page F44
for inserts.



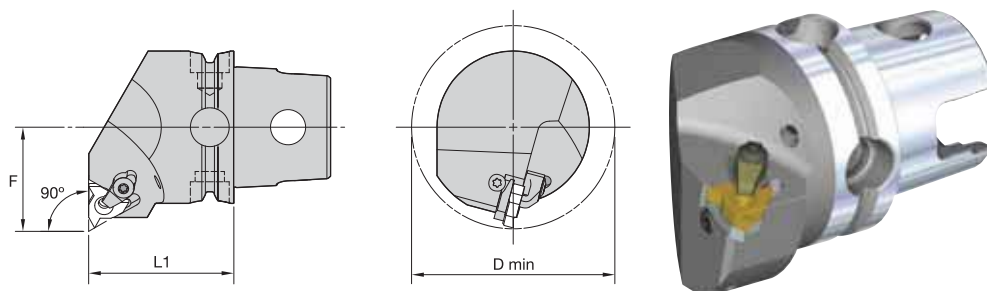
Right Hand Tool



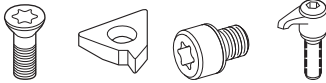
LSS

Threading

order number	catalog number	seat size	H	B	F	L1	L2	gage insert	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx
right hand															
2968591	LSSR123D	3	.750	.750	1.000	6.00	1.00	LT16ER			T10		T15		T10
2968592	LSSR163D	3	1.000	1.000	1.250	6.00	1.00	LT16ER			T10		T15		T10
2968594	LSSR203D	3	1.250	1.250	1.500	6.00	1.00	LT16ER			T10		T15		T10
2968593	LSSR164D	4	1.000	1.000	1.250	6.00	1.20	LT22ER			T20		T20		T20
left hand															
2968588	LSSL123D	3	.750	.750	1.000	6.00	1.00	LT16EL			T10		T15		T10
2968589	LSSL163D	3	1.000	1.000	1.250	6.00	1.00	LT16EL			T10		T15		T10
2968590	LSSL164D	4	1.000	1.000	1.250	6.00	1.20	LT22EL			T20		T20		T20

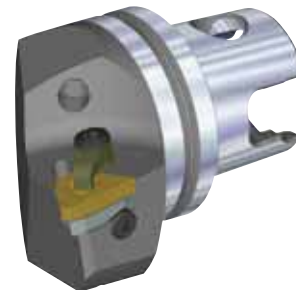
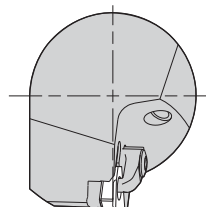
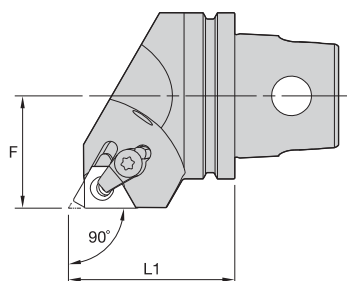


■ LSE-N 90° • Internal Only

														
order number	catalog number	L1		F		D min		gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
		mm	in	mm	in	mm	in							
right hand														
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
left hand														
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

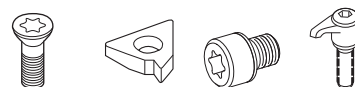
NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.

Threading



■ LSS 90°

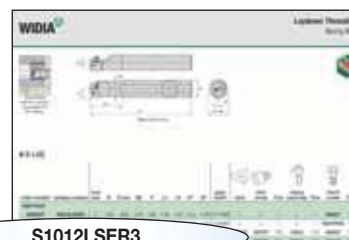
Threading



order number	catalog number	L1		F		gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
		mm	in	mm	in							
right hand												
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
left hand												
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

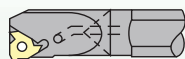


S1012LSER3

S

Bar
Type

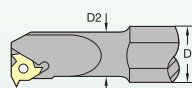
E — Carbide with
coolant



S — Steel shank
without coolant

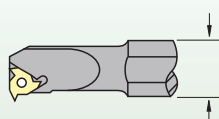


Indicates the primary bar diameter
in 1/16" increments.



NOTE: Boring bars with primary
bar diameters larger than
5/8" are supplied with clamp
and insert screw. Secure the
insert with either the clamp
or insert screw.
Do not use both.

Indicates the secondary bar diameter
in 1/16" increments.



10

Primary
Necked
Shank Bar
Diameter

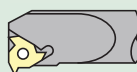
12

Secondary
(mounting)
Bar
Diameter

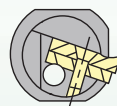
L

Insert
Style

L —
Laydown
triangle



S —
Insert screw or clamp only



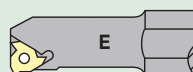
S

Insert
Holding
Method

E

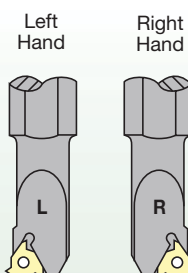
Bar
Style

End cutting
edge mount



R

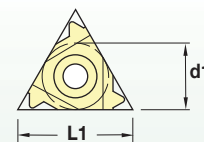
Hand
of Tool



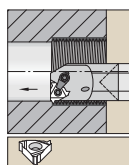
3

Insert
Size

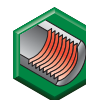
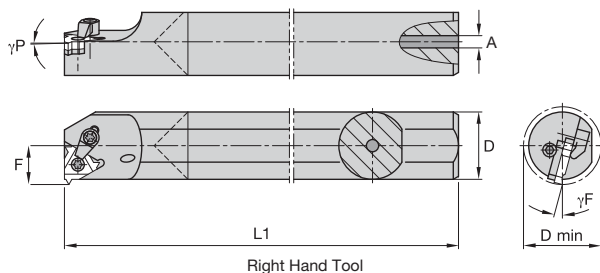
Size equals number of
1/8" increments of iC.



inch insert size	metric insert size	d1 inch	L1 mm
2	11	1/4	11,0
3	16	3/8	16,5
4	22	1/2	22,0



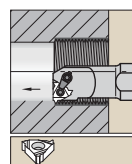
Carbide shank with through coolant. See page F44 for inserts.



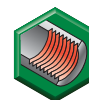
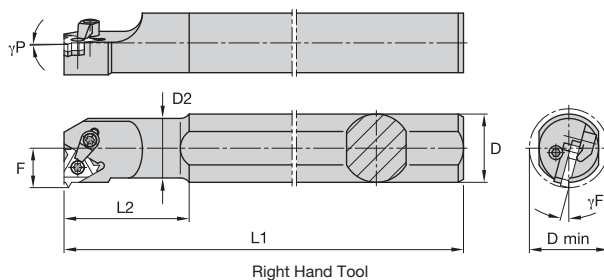
E-LSE

																			
order number	catalog number	seat size	D	D min	F	L1	A	γF°	γP°	gage insert	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx		
right hand																			
2892518	E06LSER2	2	.375	.500	.280	6.00	.13	-15.0	-1.50	LT11NR	—	—	—	—	—	SSN2T	T8		
2892520	E08LSER2	2	.500	.650	.350	8.00	.19	-15.0	-1.50	LT11NR	—	—	—	—	—	SSN2T	T8		
left hand																			
2892519	E06LSEL2	2	.375	.500	.280	6.00	.13	-15.0	-1.50	LT11NL	—	—	—	—	—	SSN2T	T8		
2892521	E08LSEL2	2	.500	.650	.350	8.00	.19	-15.0	-1.50	LT11NL	—	—	—	—	—	SSN2T	T8		
2892553	E10LSEL3	3	.625	.800	.460	10.00	.22	-15.0	-1.50	LT16NL	—	—	—	—	—	SN3TPKG	T10		
2892555	E12LSEL3	3	.750	.900	.510	10.00	.22	-15.0	-1.50	LT16NL	SMYE3	SSY3T	T10	CKC3	T15	SSA3T	T10		

NOTE: Items listed without a shim are designed for a 1.5° inclination angle.



Steel shank
without coolant.
See page F44
for inserts.

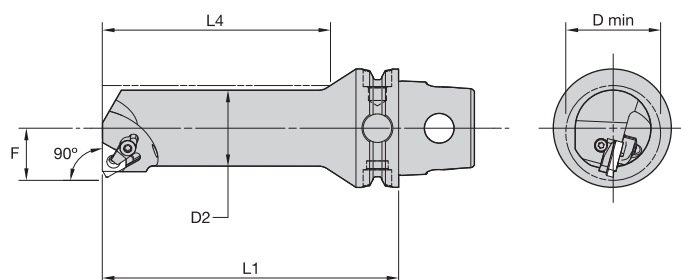


■ S-LSE

																				
order number	catalog number	seat size	D	D min	D2	F	L1	L2	γF°	γP°	gage insert	shim	shim screw	Torx	clamp assembly	Torx	insert screw	Torx		
right hand																				
2968597	S0612LSER2	2	.750	.500	.375	.280	7.00	1.00	-15.0	-1.50	LT11NR	—	—	—	—	—	SSN2T	T8		
2968601	S1012LSER3	3	.750	.800	.625	.460	7.00	1.50	-15.0	-1.50	LT16NR	—	—	—	—	—	SN3TPKG	T10		
2968763	S1212LSER3	3	.750	.900	—	.510	7.00	1.57	-15.0	-1.50	LT16NR	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10		
2968765	S1620LSER3	3	1.250	1.200	1.000	.650	10.00	2.50	-15.0	-1.50	LT16NR	SMYI3	SSY3T	T10	CKC3	T15	SSA3T	T10		

NOTE: Items listed without a shim are designed for a 1.5° inclination angle.

Threading



■ LSE 90°

Threading

order number	catalog number	D min		D2		F		L4		L1		gage insert	kg	lbs
		mm	in	mm	in	mm	in	mm	in	mm	in			
right hand														
3955464	KM40TSS10DLSER11	13	.51	10	.39	7	.276	35	1.38	60	2.362	LT11NR	0,22	.49
3955466	KM40TSS12ELSER11	16	.63	12	.47	9	.354	42	1.66	70	2.756	LT11NR	0,25	.56
3955468	KM40TSS16FLSER16	20	.79	16	.63	11	.433	56	2.21	80	3.150	LT16NR	0,28	.61
3955470	KM40TSS20GLSER16	25	.98	20	.79	13	.512	70	2.76	90	3.543	LT16NR	0,34	.75
3955472	KM40TSS25HLSER16	32	1.26	25	.98	17	.669	75	2.95	100	3.937	LT16NR	0,50	1.11
3955474	KM40TSS32JLSER16	40	1.57	32	1.26	22	.866	96	3.78	110	4.331	LT16NR	0,72	1.58
3955476	KM40TSS32JLSER22	40	1.57	32	1.26	22	.866	96	3.78	110	4.331	LT22NR	0,71	1.56
left hand														
3955463	KM40TSS10DLSEL11	13	.51	10	.39	7	.276	35	1.38	60	2.362	LT11NL	0,22	.49
3955465	KM40TSS12ELSEL11	16	.63	12	.47	9	.354	42	1.65	70	2.756	LT11NL	0,25	.55
3955467	KM40TSS16FLSEL16	20	.79	16	.63	11	.433	56	2.21	80	3.150	LT16NL	0,28	.61
3955469	KM40TSS20GLSEL16	25	.98	20	.79	13	.512	70	2.76	90	3.543	LT16NL	0,34	.75
3955471	KM40TSS25HLSSEL16	32	1.26	25	.98	17	.669	75	2.95	100	3.937	LT16NL	0,50	1.11
3955473	KM40TSS32JLSEL16	40	1.57	32	1.26	22	.866	96	3.78	110	4.331	LT16NL	0,72	1.58
3955475	KM40TSS32JLSEL22	40	1.57	32	1.26	22	.866	96	3.78	110	4.331	LT22NL	0,71	1.56

(continued)

(LSE 90° — continued)

■ Spare Parts

				
catalog number	insert screw	shim	shim screw	clamp assembly
right hand				
KM40TSS10DLSER11	SSN2T	—	—	—
KM40TSS12ELSER11	SSN2T	—	—	—
KM40TSS16FLSER16	SN3TPKG	—	—	—
KM40TSS20GLSER16	SSA3T	SMYI3	SSY3T	CKC3
KM40TSS25HLSER16	SSA3T	SMYI3	SSY3T	CKC3
KM40TSS32JLSER16	SSA3T	SMYI3	SSY3T	CKC3
KM40TSS32JLSER22	SSA4T	SMYI4	SSY4T	CKC4
left hand				
KM40TSS10DLSEL11	SSN2T	—	—	—
KM40TSS12ELSEL11	SSN2T	—	—	—
KM40TSS16FLSEL16	SN3TPKG	—	—	—
KM40TSS20GLSEL16	SSA3T	SMYE3	SSY3T	CKC3
KM40TSS25HLSSEL16	SSA3T	SMYE3	SSY3T	CKC3
KM40TSS32JLSEL16	SSA3T	SMYE3	SSY3T	CKC3
KM40TSS32JLSEL22	SSA4T	SMYE4	SSY4T	CKC4

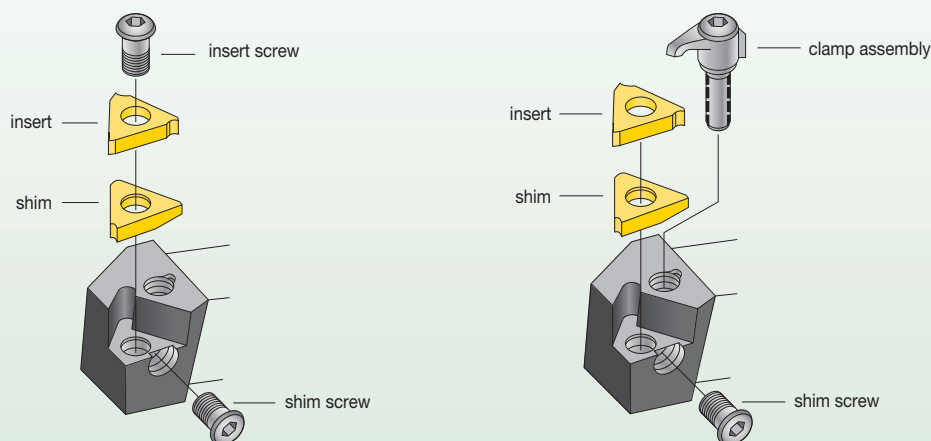
NOTE: Items listed without a shim are designed for a 1,5° inclination angle. Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.

Threading

Laydown Threading Toolholders

In all cases, the proper shim selection is important.

WIDIA™ toolholders are supplied with a shim for a 1.5° lead angle. Change the shim if your thread is more than 1° different. For more details on proper shim selections, see pages F104–F105.



insert size and screw		insert screw	shim	shim screw and washer	clamp assembly
3ER		S-SA3T	SM-YIE3	S-SY3T	CK-C3
3EL		S-SA3T	SM-YI3	S-SY3T	CK-C3
4ER		S-SA4T	SM-YIE4	S-SY4T	CK-C4
4EL		S-SA4T	SM-YI4	S-SY4T	CK-C4
Laydown Threading boring bars					
2IR		S-SN2T	—	—	—
2IL		S-SN2T	—	—	—
3IR		S-SA3T	SM-YI3	S-SY3T	CK-C3
3IL		S-SA3T	SM-YIE3	S-SY3T	CK-C3
4IR		S-SA4T	SM-YI4	S-SY4T	CK-C4
4IL		S-SA4T	SM-YIE4	S-SY4T	CK-C4

SM

Shim

—

Y

 Y-shim for
Laydown
standard inserts

E
E — External
I — Internal

3
iC — 1/8"

—

2N

Shim Angle

2P	2° positive
1P	1° positive
—	0°
1N	1° negative
2N	2° negative
3N	3° negative