

THREADING TOOLS & INSERTS



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THREADING INSERTS



Main Types of Laydown Inserts

B/M-TYPE	U-TYPE	REGULAR TYPE	MULTI-TOOTH
			
 			

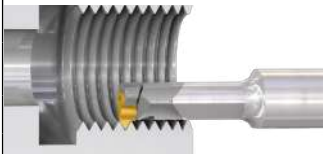
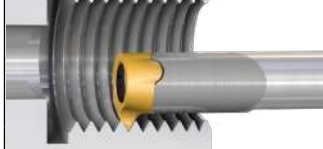
Additional Threading Systems

External

CUT-GRIP External	
 	 
SWISSCUT External	
	 
PENTACUT External	
 	 

-  Partial profile
-  Full profile

Internal

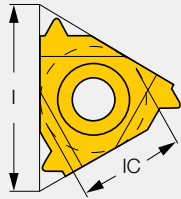
MINICHAM Internal	
	 
Minimum bore dia. 4 mm	
PICCOCUT Mini-Bar	
 	 
Minimum bore dia. 2.4 mm	
CHAMGROOVE Internal	
	 
Minimum bore dia. 8.0 mm	
CUT-GRIP Internal	
	
Minimum bore dia. 12.5 mm	
	 
Minimum bore dia. 20 mm	
 Partial profile  Full profile	

Insert Identification System

16	E	R	M	1.50	ISO	2M	IC808
1	2	3	4	5	6	7	8

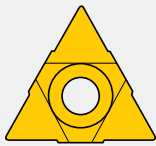
1. Insert Size

I (mm)	IC
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"
27	5/8"

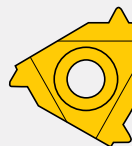


2. Application

E	External
I	Internal
UE	U-type, External
UI	U-type, Internal
UEI	U-type, External and Internal



U-type



Regular Type

3. Hand of Tool

R	Right-hand
L	Left-hand
RL	Right- and Left-hand

4. Type

B	Peripherally ground & chipformer
M	Press to size with a chipformer
□	No indication regular type

5. Pitch

Full Profile (value by number)

0.35-9.0 mm

72-2 TPI

Partial Profile (range by letter)

	mm	TPI
A	0.5-1.5	48-16
AG	0.5-3.0	48-8
G	1.75-3.0	14-8
N	3.5-5.0	7-5
Q	5.5-6.0	4.5-4
U	5.5-9.0	4.5-2.75

6. Thread Standard

60	Partial Profile 60°
55	Partial Profile 55°
ISO	ISO Metric
UN	American UN
W	Whitworth
BSPT	British BSPT
RND	Round DIN 405
TR	Trapeze DIN 103
ACME	ACME
STACME	Stub ACME
ABUT	American Buttress
UNJ	UNJ
NPT	NPT
API RD	API Round
BUT	API Buttress Casing
API	API
H90	H-90
EL	Extreme Line Casing
MJ	ISO 5855

7. No. of Teeth (Optional)

2M	2 teeth
3M	3 teeth

8. Grade

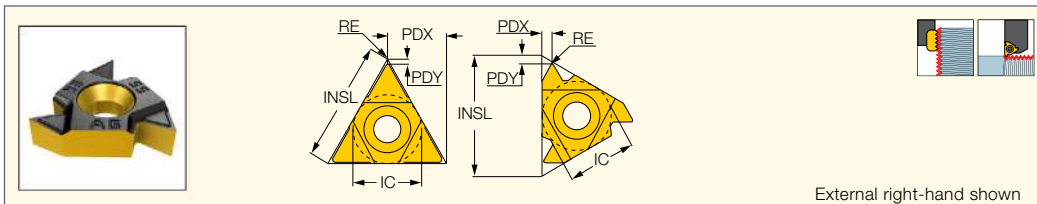
IC1007
IC908
IC808
IC508
IC250
IC228
IC50M
IC806

Partial Profile 55° (Whitworth)

ISCAR THREAD

ER/L-55°

External Laydown Threading
Inserts with a 55° Partial
Profile for General Industry



Designation	Dimensions									Tough ↔ Hard					
	IC	TPN ⁽²⁾	TPX ⁽³⁾	TPIX ⁽⁴⁾	TPIN ⁽⁵⁾	INSL	RE	PDY	PDX	IC228	IC50M	IC250	IC808	IC908	IC1007
11ER A 55	6.35	0.500	1.500	48.00	16.00	11.00	0.05	0.8	0.9			•		•	
16EL A 55	9.52	0.500	1.500	48.00	16.00	16.49	0.05	0.8	0.9		•	•		•	
16ER A 55	9.52	0.500	1.500	48.00	16.00	16.49	0.05	0.8	0.9		•	•		•	
16EL AG 55	9.52	0.500	3.000	48.00	8.00	16.49	0.07	1.2	1.7			•		•	
16ER AG 55	9.52	0.500	3.000	48.00	8.00	16.49	0.07	1.2	1.7	•		•		•	•
16ERB AG 55 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.07	1.2	1.7			•		•	
16ERM AG 55 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.07	1.2	1.7		•	•	•	•	•
16EL G 55	9.52	1.750	3.000	14.00	8.00	16.49	0.20	1.2	1.7			•		•	
16ER G 55	9.52	1.750	3.000	14.00	8.00	16.49	0.23	1.2	1.7			•		•	
16ERB G 55 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.23	1.2	1.7			•		•	
16ERM G 55 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.23	1.2	1.7			•	•	•	•
22EL N 55	12.70	3.500	5.000	7.00	5.00	22.00	0.42	1.7	2.5			•		•	
22ER N 55	12.70	3.500	5.000	7.00	5.00	22.00	0.48	1.7	2.5			•		•	
22UEIRL U 55	12.70	5.500	8.000	4.50	3.25	22.00	0.60	0.9	11.0		•	•		•	
27ER Q 55	15.88	5.500	6.000	4.50	4.00	27.50	0.60	2.0	2.9			•		•	
27UEIRL U 55	15.88	6.500	9.000	4.00	2.75	27.50	0.81	1.2	13.7			•		•	

- For insert identification system, see pages 640-641
- For threading between walls use GRIP-type inserts TIP-WT, GEPI-WT, TIPI-WT
- For detailed cutting data, see page 713

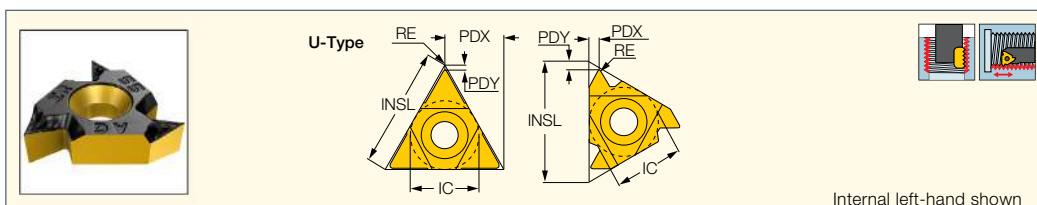
- ⁽¹⁾ With pressed chipformer
- ⁽²⁾ Threads per inch maximum
- ⁽³⁾ Threads per inch minimum
- ⁽⁴⁾ Threads per inch maximum
- ⁽⁵⁾ Threads per inch minimum

Tools: C#-SER/L • SER-D • SER/L

ISCAR THREAD

IR/L-55°

Internal Laydown Threading
Inserts with a 55° Partial
Profile for General Industry



Designation	Dimensions								Tough ↔ Hard						
	IC	TPIX ⁽²⁾	TPIN ⁽³⁾	INSL	RE	PDY	PDX		IC228	IC928	IC50M	IC250	IC508	IC808	IC908
06IL A 55	4.00	48.00	20.00	6.88	0.07	0.6	0.6		•						
06IR A 55	4.00	48.00	20.00	6.88	0.08	0.6	0.6		•						
08IL A 55	5.00	48.00	16.00	8.24	0.08	0.6	0.7		•						
08IR A 55	5.00	48.00	16.00	8.24	0.08	0.6	0.7		•	•					•
08UIRL U 55	5.00	18.00	12.00	8.24	0.10	0.9	4.0		•						
11IL A 55	6.35	48.00	16.00	11.00	0.05	0.8	0.9					•			•
11IR A 55	6.35	48.00	16.00	11.00	0.05	0.8	0.9		•			•			•
16IR A 55	9.52	48.00	16.00	16.49	0.05	0.8	0.9				•				•
16IL AG 55	9.52	48.00	8.00	16.49	0.07	1.2	1.7					•			•
16IR AG 55	9.52	48.00	8.00	16.49	0.07	1.2	1.7					•			•
16IRB AG 55 ⁽¹⁾	9.52	48.00	8.00	16.49	0.07	1.2	1.7					•			•
16IRM AG 55 ⁽¹⁾	9.52	48.00	8.00	16.49	0.05	1.2	1.7					•		•	•
16IL G 55	9.52	14.00	8.00	16.49	0.20	1.2	1.7					•			•
16IR G 55	9.52	14.00	8.00	16.49	0.23	1.2	1.7					•	•		•
16IRB G 55 ⁽¹⁾	9.52	14.00	8.00	16.49	0.23	1.2	1.7					•			•
16IRM G 55 ⁽¹⁾	9.52	14.00	8.00	16.49	0.20	1.2	1.7					•		•	•
22IR N 55	12.70	7.00	5.00	22.00	0.42	1.7	2.5				•	•			•
27IR Q 55	15.88	4.00	4.00	27.50	0.60	2.0	2.9				•	•			•

- For insert identification system, see pages 640-641
- For threading between walls use GRIP-type inserts TIP-WT, GEPI-WT, TIPI-WT.
- For detailed cutting data, see page 713

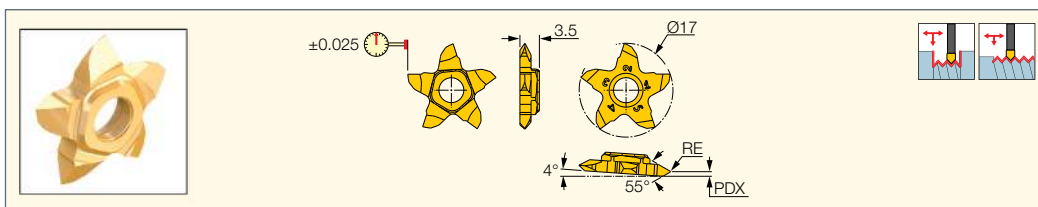
- ⁽¹⁾ With pressed chipformer
- ⁽²⁾ Threads per inch maximum
- ⁽³⁾ Threads per inch minimum

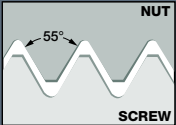
Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

ISCAR

PENTACUT

PENTA 17-WT-RS/LS
Precision Ground Pentagonal
External Threading Inserts
with a 55° Partial Profile
for General Industry



	Dimensions				
	Designation	TPIX ⁽¹⁾	TPIN ⁽²⁾	RE	PDX
	PENTA 17-WTL003LS	72.00	16.00	0.03	0.80
	PENTA 17-WTR003RS	72.00	16.00	0.03	0.80
	PENTA 17-WTL008LS	31.00	8.00	0.08	1.40
	PENTA 17-WTR008RS	31.00	8.00	0.08	1.40

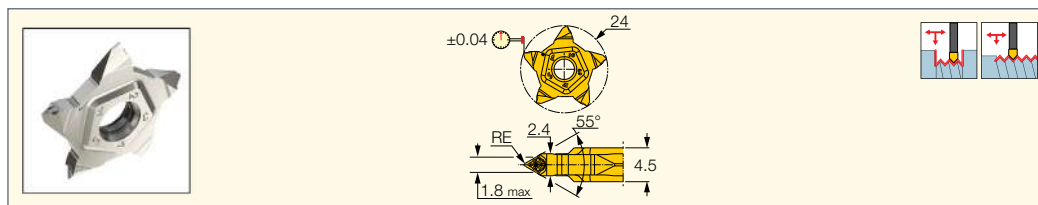
(1) Threads per inch maximum

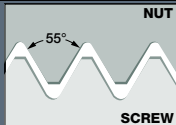
(2) Threads per inch minimum

Tools: NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

PENTACUT

PENTA 24-WT
Precision Ground Pentagonal
External Threading Inserts
with a Whitworth 55°
Partial Profile



	Dimensions			
	Designation	TPIX ⁽²⁾	TPIN ⁽³⁾	RE
	PENTA 24A-WT-0.15 ⁽¹⁾	24.00	8.00	0.15
	PENTA 24A-WT-0.05 ⁽¹⁾	80.00	8.00	0.05

• TPIN=6.4/D(inch) D-nominal thread diameter (inch)

(1) Flat rake (without a chipformer)

(2) Threads per inch maximum

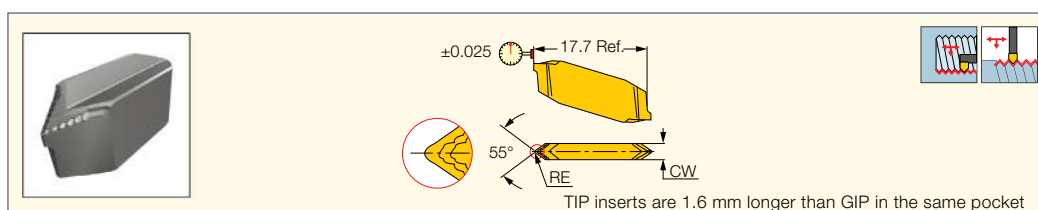
(3) Threads per inch minimum

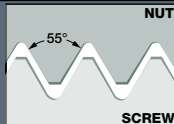
Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD

CUTGRIP

TIP-WT
Precision Ground Double-Ended
Threading Inserts with a 55°
Partial Profile and a Chipformer



	Dimensions					Tough ↔ Hard	
	Designation	CW	RE	RETOL ⁽²⁾	TPIX ⁽³⁾	TPIN ⁽⁴⁾	IC08
TIP 2WT-0.05 ⁽¹⁾	2.40	0.05	0.030	54.00	12.00	●	●
TIP 4WT-0.15 ⁽¹⁾	4.00	0.15	0.030	19.00	7.00	●	●
TIP 5WT-0.25 ⁽¹⁾	5.50	0.25	0.030	12.00	6.00	●	●

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD

(1) TPIN(thread per inch minimum) = D/6.4 • D-Diameter of thread (inch)

(2) Corner radius tolerance (+/-)

(3) Threads per inch maximum

(4) Threads per inch minimum

Tools: C#-GHDR/L • CGHN 32-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket)

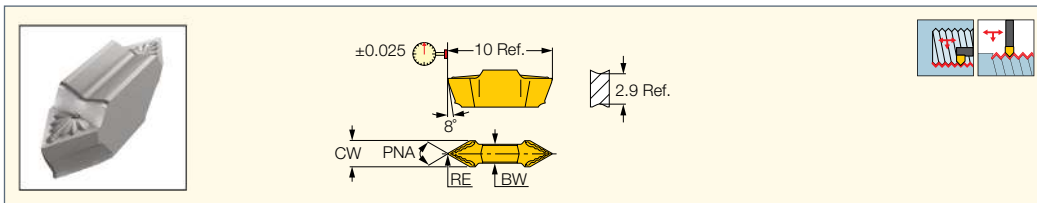
• GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSL/L • GHSL/L-JHP-SL • NQCH-GHSR/L-JHP

ISCARTHREAD

CUTGRIP

GEPI-WT

Precision Ground Double-Ended Threading Inserts with a 55° Partial Profile and a Chipformer for 11.5 mm Bore Diameter



 Designation	Dimensions									Tough ↔ Hard	
	CW	RE	RETOL ⁽¹⁾	PNA	BW	TPN ⁽²⁾	TPX ⁽³⁾	TPIN ⁽⁴⁾	TPIX ⁽⁵⁾	IC08	IC908
GEPI 2.5-WT0.05	2.50	0.05	0.030	55.0	1.80	0.470	2.540	10.00	54.00	●	●

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.167xD, TPI min D/6.0

⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Thread pitch maximum (mm)

⁽⁴⁾ Threads per inch minimum

⁽⁵⁾ Threads per inch maximum

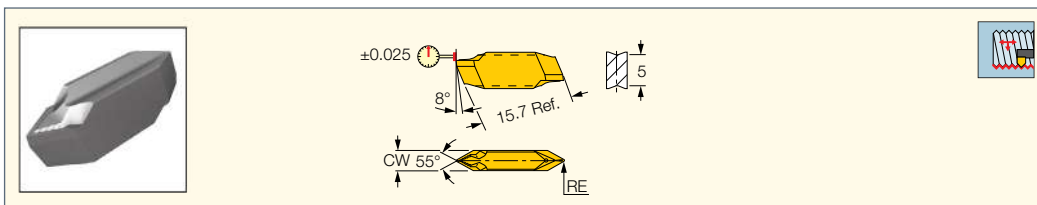
Tools: AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIMR/L • GEHIMR/L-SC • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

ISCARTHREAD

CUTGRIP

TIPI-WT

Double-Ended Internal Threading Inserts with a 55° Partial Profile and a Chipformer for 20 mm Min. Bore Diameter



 Designation	Dimensions						Tough ↔ Hard	
	CW	RE	RETOL ⁽¹⁾	TPN ⁽²⁾	TPIX ⁽³⁾	TPIN ⁽⁴⁾	IC08	IC908
TIPI 3.4WT-0.10	3.40	0.10	0.030	0.950	27.00	8.00	●	●
TIPI 5.4WT-0.20	5.40	0.20	0.030	1.670	15.00	5.00	●	●

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD, TPI min D/5.25 D=Diameter of thread (pitch max<=CW)

⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Threads per inch maximum

⁽⁴⁾ Threads per inch minimum

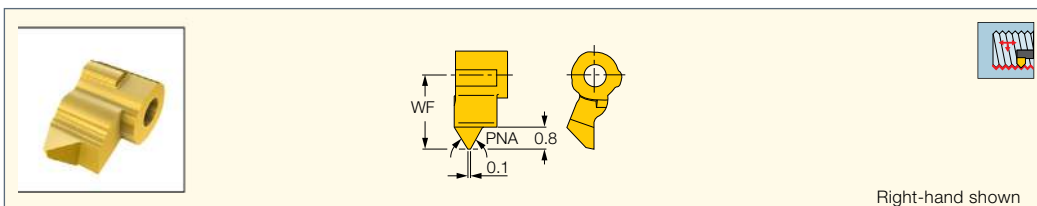
Tools: AVC-GAIR/L • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-SC (W=2-4.8)

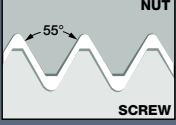
ISCARTHREAD

MINICHAM

UMGR-A55

Mini Indexable Inserts with Whitworth Partial Profile for Threading in 5.2 mm and Larger Holes



 Designation	Dimensions							IC508
	WF	PNA	TPIX ⁽¹⁾	TPIN ⁽²⁾	TPN ⁽³⁾	TPX ⁽⁴⁾	DMIN	
UMGR 4.0-A55	2.70	55.0	40.00	24.00	0.500	1.400	5.20	●

⁽¹⁾ Threads per inch maximum

⁽²⁾ Threads per inch minimum

⁽³⁾ Thread pitch minimum (mm)

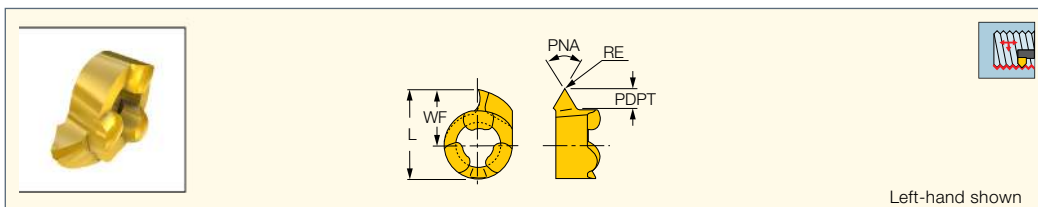
⁽⁴⁾ Thread pitch maximum (mm)

Tools: MGUHR

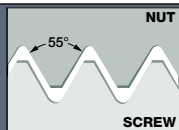
ISCARTHREAD CHAMGROOVE

GIQR/L-WT

Internal Inserts with Whitworth
Partial Profile for Threading
in 8 mm and Larger Holes



Left-hand shown

 NUT SCREW	Dimensions								IC528
Designation	L	RE	PNA	PDPT ⁽¹⁾	WF	DMIN	TPIN ⁽²⁾	TPIX ⁽³⁾	
GIQR/L 8-WT-0.05	7.78	0.05	55.0	1.50	4.80	8.00	16.00	50.00	●
GIQR/L 11-WT-0.05	10.68	0.05	55.0	2.00	6.70	11.00	11.00	50.00	●

• Can be used for thread milling by circular interpolation • TPI min D/5.9 • D-diameter of thread (pitch max<=W) • For cutting speed recommendations, see page 713

⁽¹⁾ Cutting depth maximum

⁽²⁾ Threads per inch maximum

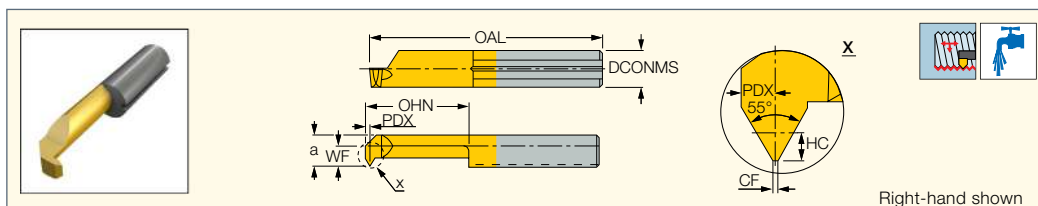
⁽³⁾ Threads per inch maximum

Tools: MG • MGCH

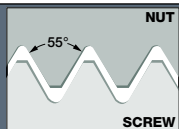
ISCARTHREAD PICCOCUT

PICCO-55°-Thread

Inserts for 55° Internal
Threading Profile



Right-hand shown

 NUT SCREW Designation	Dimensions											IC228
	DCONMS	TPIX ⁽¹⁾	TPIN ⁽²⁾	HC	CF	PDX	WF	a	OHN ⁽³⁾	OAL	DMIN	
PICCO R 005.5548-15	5.00	48.00	24.00	0.40	0.06	0.5	1.90	4.40	15.0	30.00	4.80	•
PICCO R 006.5548-15	6.00	48.00	24.00	0.40	0.06	0.5	2.30	5.30	15.0	30.00	6.00	•
PICCO R 006.5524-15	6.00	24.00	16.00	0.81	0.12	0.8	2.30	5.30	15.0	30.00	6.00	•
PICCO R 007.5524-15	7.00	24.00	16.00	0.81	0.12	0.8	2.80	6.30	15.0	30.00	7.00	•

• All mini-bars have sharp corners • For detailed cutting data, see page 713

⁽¹⁾ Threads per inch maximum

⁽²⁾ Threads per inch minimum

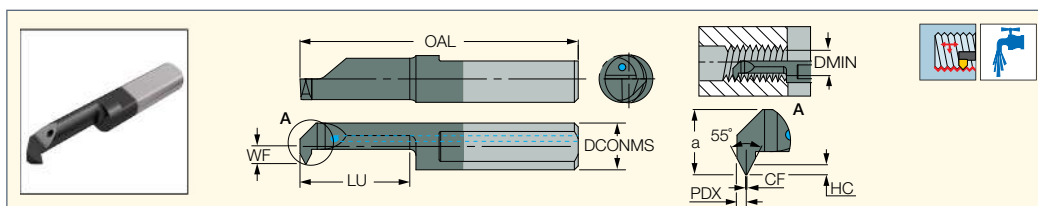
⁽³⁾ Minimum overhang

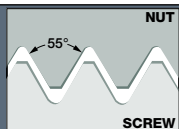
Holders: GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

ISCARTHREAD PICCOCUT

PICCO-55°-N

(55° Threading)
Inserts with Internal Coolant
Channel for 55° Internal
Threading Profile



 NUT SCREW Designation	Dimensions											IC908
	DCONMS	TPIX ⁽¹⁾	TPIN ⁽²⁾	HC	CF	PDX	WF	a	LU	OAL	DMIN	
PICCO R 006.5524-15N	6.05	24.00	16.00	0.81	0.12	0.8	2.30	5.30	14.0	36.00	6.00	•
PICCO R 007.5524-15N	7.05	24.00	16.00	0.81	0.12	0.8	2.80	6.30	14.0	36.00	7.00	•

• All mini-bars have sharp corners • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only • For detailed cutting data, see page 713

⁽¹⁾ Threads per inch maximum

⁽²⁾ Threads per inch minimum

Holders: PICCO ACE-N • PICCO-N (holder)

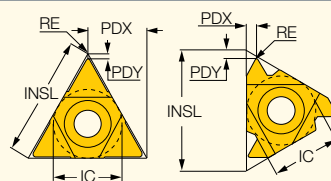


Partial Profile 60°

ISCAR THREAD

ER/L-60°

External Laydown Threading
Inserts with a 60° Partial
Profile for General Industries



External right-hand shown

Designation	Dimensions									Tough ↔ Hard							
	IC	TPN ⁽²⁾	TPX ⁽³⁾	TPIX ⁽⁴⁾	TPIN ⁽⁵⁾	INSL	RE	PDY	PDX	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
11EL A 60	6.35	0.500	1.500	48.00	16.00	11.00	0.05	0.8	0.9							•	
11ER A 60	6.35	0.500	1.500	48.00	16.00	11.00	0.06	0.8	0.9							•	
16EL A 60	9.52	0.500	1.500	48.00	16.00	16.49	0.06	0.8	0.9		•	•				•	
16ER A 60	9.52	0.500	1.500	48.00	16.00	16.49	0.06	0.8	0.9	•		•	•			•	•
16ERB A 60 ⁽¹⁾	9.52	0.500	1.500	48.00	16.00	16.49	0.06	0.8	0.8				•			•	
16ERM A 60 ⁽¹⁾	9.52	0.500	1.500	48.00	16.00	16.49	0.05	0.8	0.9		•	•			•	•	•
16EL AG 60	9.52	0.500	3.000	48.00	8.00	16.49	0.06	1.2	1.7		•	•				•	
16ER AG 60	9.52	0.500	3.000	48.00	8.00	16.49	0.06	1.2	1.7	•	•	•	•	•		•	•
16ERB AG 60 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.06	1.2	1.7							•	
16ERM AG 60 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.06	1.2	1.7		•	•		•	•	•	•
16EL G 60	9.52	1.750	3.000	14.00	8.00	16.49	0.22	1.2	1.7			•				•	
16ER G 60	9.52	1.750	3.000	14.00	8.00	16.49	0.22	1.2	1.7	•		•	•			•	•
16ERB G 60 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.22	1.2	1.7							•	
16ERM G 60 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.25	1.2	1.7		•	•			•	•	•
22EL N 60	12.70	3.500	5.000	7.00	5.00	22.00	0.42	1.7	2.5		•	•				•	
22ER N 60	12.70	3.500	5.000	7.00	5.00	22.00	0.42	1.7	2.5	•	•	•	•			•	•
22ERM N 60 ⁽¹⁾	12.70	3.500	5.000	7.00	5.00	22.00	0.32	1.7	2.5		•	•			•	•	•
22UEIRL U 60	12.70	5.500	8.000	4.50	3.25	22.00	0.28	0.6	0.6			•				•	
27EL Q 60	15.88	5.500	6.000	4.50	4.00	27.50	0.63	2.0	3.0	•							
27ER Q 60	15.88	5.500	6.000	4.50	4.00	27.50	0.63	2.0	3.0		•	•				•	
27UEIRL U 60	15.88	6.500	9.000	4.00	2.75	27.50	0.28	1.0	13.7		•	•					

• For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type inserts SCIR/L B/F -MTR/L, TIP-MT, GEPI-MT, TIPI-MT.

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Thread pitch maximum (mm)

⁽⁴⁾ Threads per inch maximum

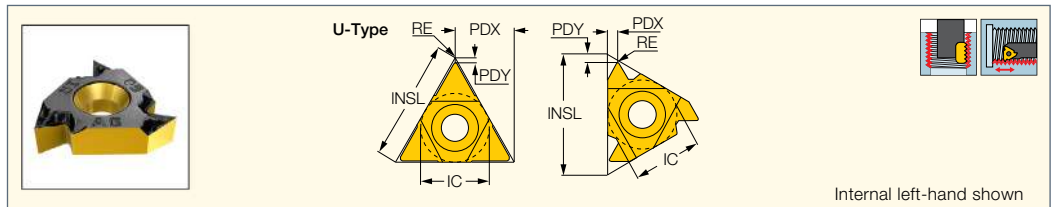
⁽⁵⁾ Threads per inch minimum

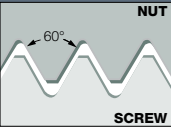
Tools: C#-SER/L • SER-D • SER/L



IR/L-60°

Internal Laydown Threading
Inserts with a 60° Partial
Profile for General Industry



	Dimensions									Tough ↔ Hard								
	IC	TPN ⁽²⁾	TPX ⁽³⁾	TPIX ⁽⁴⁾	TPIN ⁽⁵⁾	INSL	RE	PDY	PDX	IC28	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
Designation																		
06IL A 60	4.00	0.500	1.250	48.00	20.00	6.88	0.04	0.6	0.6		●							
06IR A 60	4.00	0.500	1.250	48.00	20.00	6.88	0.04	0.6	0.6	●	●						●	
06IRM A 60 ⁽¹⁾	4.00	0.500	1.250	48.00	20.00	6.88	0.05	0.5	0.6		●							
08IL A 60	5.00	0.500	1.500	48.00	16.00	8.24	0.05	0.6	0.7		●							
08IR A 60	5.00	0.500	1.500	48.00	16.00	8.24	0.05	0.5	0.7	●	●			●			●	●
08IRM A 60 ⁽¹⁾	5.00	0.500	1.500	48.00	16.00	8.24	0.04	0.6	0.7		●					●	●	●
08UIRL U 60	5.00	1.250	2.000	18.00	12.00	8.24	0.10	0.8	4.0		●							
11IL A 60	6.35	0.500	1.500	48.00	16.00	11.00	0.04	0.8	0.9			●	●				●	
11IR A 60	6.35	0.500	0.500	48.00	16.00	11.00	0.04	0.8	0.9		●	●	●	●			●	●
11IRM A 60 ⁽¹⁾	6.35	0.500	1.500	48.00	16.00	11.00	0.05	0.7	0.9				●			●	●	●
16IL A 60	9.52	0.500	1.500	48.00	16.00	16.49	0.04	0.8	0.8				●				●	
16IR A 60	9.52	0.500	1.500	48.00	16.00	16.49	0.04	0.8	0.9		●	●	●				●	●
16IRB A 60 ⁽¹⁾	9.52	0.500	1.500	48.00	16.00	16.49	0.04	0.8	0.8								●	
16IRM A 60 ⁽¹⁾	9.52	0.500	1.500	48.00	16.00	16.49	0.05	0.8	0.9				●			●	●	●
16IL AG 60	9.52	0.500	3.000	48.00	8.00	16.49	0.04	1.2	1.7				●				●	●
16IR AG 60	9.52	0.500	3.000	48.00	8.00	16.49	0.04	1.2	1.7		●	●	●		●		●	●
16IRB AG 60 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.03	1.2	1.7								●	
16IRM AG 60 ⁽¹⁾	9.52	0.500	3.000	48.00	8.00	16.49	0.05	1.2	1.7			●	●			●	●	●
16IL G 60	9.52	1.750	3.000	14.00	8.00	16.49	0.13	1.2	1.7									
16IR G 60	9.52	1.750	3.000	14.00	8.00	16.49	0.13	1.2	1.7		●	●	●	●			●	●
16IRB G 60 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.13	1.2	1.7								●	
16IRM G 60 ⁽¹⁾	9.52	1.750	3.000	14.00	8.00	16.49	0.10	1.2	1.7			●	●			●	●	●
22IL N 60	12.70	3.500	5.000	7.00	5.00	22.00	0.22	1.7	2.5								●	
22IR N 60	12.70	3.500	5.000	7.00	5.00	22.00	0.22	1.7	2.5				●	●			●	●
22IRM N 60 ⁽¹⁾	12.70	3.500	5.000	7.00	5.00	22.00	0.19	1.7	2.5			●	●			●	●	●
27IL Q 60	15.88	5.500	6.000	4.50	4.00	27.50	0.31	2.1	3.1			●						
27IR Q 60	15.88	5.500	6.000	4.50	4.00	27.50	0.31	1.9	2.7				●				●	

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With a pressed chipformer

⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Thread pitch maximum (mm)

⁽⁴⁾ Threads per inch maximum

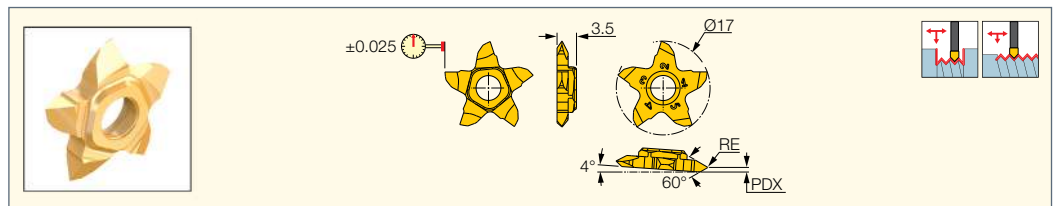
⁽⁵⁾ Threads per inch minimum

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

PENTACUT
THREADING LINE

PENTA 17-MT-RS/LS

Precision Ground Pentagonal
External Threading Inserts
with a 60° Partial Profile
for General Industry



Designation	Dimensions						IC1008
	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPN ⁽³⁾	TPX ⁽⁴⁾	RE	PDX	
PENTA 17-MTL008LS	8.00	36.00	0.700	3.000	0.08	1.40	•
PENTA 17-MTR008RS	8.00	36.00	0.700	3.000	0.08	1.40	•
PENTA 17-MTL003LS	17.00	80.00	0.300	1.500	0.03	0.80	•
PENTA 17-MTR003RS	17.00	80.00	0.300	1.500	0.03	0.80	•

⁽¹⁾ Threads per inch minimum

⁽²⁾ Threads per inch maximum

⁽³⁾ Thread pitch minimum (mm)

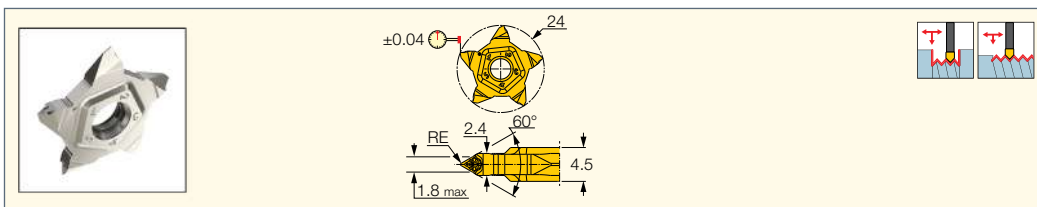
⁽⁴⁾ Thread pitch maximum (mm)

Tools: NQCH-PCHR/L-S-JHP • PCADRS/LS-JHP • PCHRS/LS-17 • PCHRS/LS-17-JHP • Y-PCHRS-17 • Y-PCHRS-17-JHP

PENTACUT

PENTA 24-MT

Precision Ground Pentagonal
External Threading Inserts
with a 60° Partial Profile
for General Industry



Designation	Dimensions			IC908
	TPN ⁽²⁾	TPX ⁽³⁾	RE	
PENTA 24A-MT-0.05 ⁽¹⁾	0.250	3.000	0.05	•
PENTA 24-MT-0.05	0.250	3.500	0.05	•
PENTA 24A-MT-0.15	0.800	3.000	0.15	•

• TPX=0.175xD

⁽¹⁾ Flat rake (without a chipformer)

⁽²⁾ Thread pitch minimum (mm)

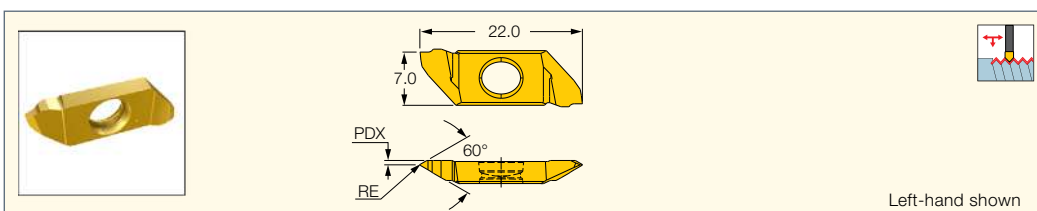
⁽³⁾ Thread pitch maximum (mm)

Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD

SWISSCUT

SCIR/L-22-MTR/MTL
Threading Inserts with
a 60° Partial Profile



Designation	Dimensions						Tough ↔ Hard		
	RE	PDX	TPN ⁽¹⁾	TPX ⁽²⁾	TPIX ⁽³⁾	TPIN ⁽⁴⁾	IC1008	IC07	IC1007
SCIL 22-MTL003	0.03	0.4	0.300	0.900	83.00	28.00	•	•	•
SCIR 22-MTR003	0.03	0.4	0.300	0.900	83.00	28.00	•	•	•
SCIL 22-MTL007	0.07	0.5	0.700	1.100	36.00	23.00	•	•	•
SCIL 22-MTR007	0.07	0.5	0.700	1.100	36.00	23.00	•	•	•
SCIR 22-MTR007	0.07	0.5	0.700	1.100	36.00	23.00	•	•	•
SCIL 22-MTL010	0.10	0.8	0.900	1.700	28.00	15.00	•	•	•
SCIR 22-MTR010	0.10	0.8	0.900	1.700	28.00	15.00	•	•	•

• For detailed cutting data, see page 713

⁽¹⁾ Thread pitch minimum (mm)

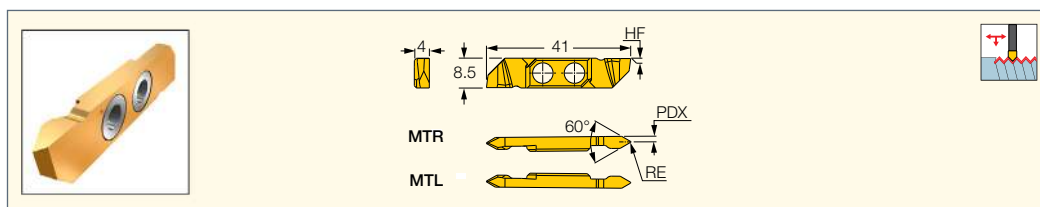
⁽²⁾ Thread pitch maximum (mm)

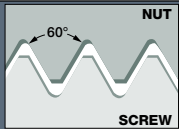
⁽³⁾ Threads per inch maximum

⁽⁴⁾ Threads per inch minimum

Tools: NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

SCIR/L-41-MTR/MTL
Threading Inserts with
a 60° Partial Profile



	Dimensions							IC1008
	RE	PDX	TPN ⁽¹⁾	TPX ⁽²⁾	TPIN ⁽³⁾	TPIX ⁽⁴⁾	HF ⁽⁵⁾	
SCIL 41-MTL006	0.06	0.90	0.400	1.500	17.00	64.00	0.2	●
SCIR 41-MTR006	0.06	0.90	0.400	1.500	17.00	64.00	0.2	●
SCIL 41-MTL020	0.20	1.60	1.500	2.500	10.00	17.00	0.2	●
SCIR 41-MTR020	0.20	1.60	1.500	2.500	10.00	17.00	0.2	●

• For detailed cutting data, see page 713

⁽¹⁾ Thread pitch minimum (mm)

⁽²⁾ Thread pitch maximum (mm)

⁽³⁾ Threads per inch minimum

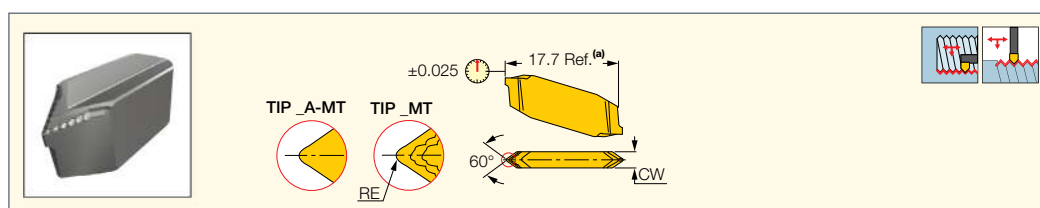
⁽⁴⁾ Threads per inch maximum

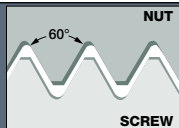
⁽⁵⁾ Cutting edge below center

Tools: SCHR/L-41BF

ISCARTHREAD
CUTGRIP

TIP-MT
Precision Ground Double-Ended
Threading Inserts with a 60°
Partial Profile and Chipformer



	Dimensions							Tough ↔ Hard	
	CW	RE	RETOL ⁽²⁾	TPN ⁽³⁾	TPIX ⁽⁴⁾	TPIN ⁽⁵⁾	TPX ⁽⁶⁾	IC08	IC908
TIP 2A-MT-0.05⁽¹⁾	2.40	0.05	0.030	0.450	56.00	12.00	2.120	●	●
TIP 2MT-0.05	2.40	0.05	0.030	0.450	56.00	12.00	2.120	●	●
TIP 2MT-0.14	2.40	0.14	0.030	1.110	23.00	12.00	2.120	●	●
TIP 4A-MT-0.15⁽¹⁾	4.00	0.15	0.030	1.270	20.00	7.00	3.630	●	●
TIP 4MT-0.15	4.00	0.15	0.030	1.270	20.00	7.00	3.630	●	●
TIP 4MT-0.20	4.00	0.20	0.030	1.600	16.00	7.00	3.630	●	●
TIP 5MT-0.25	5.50	0.25	0.030	1.950	13.00	5.00	5.100	●	●

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Without chipformer (flat rake)

⁽²⁾ Corner radius tolerance (+/-)

⁽³⁾ Thread pitch minimum (mm)

⁽⁴⁾ Threads per inch maximum

⁽⁵⁾ Threads per inch minimum

⁽⁶⁾ Thread pitch maximum (mm)

Tools: C#-GHDR/L • CGHN 26-M • CGHN 32-DGM • CGHN 32-M • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket)

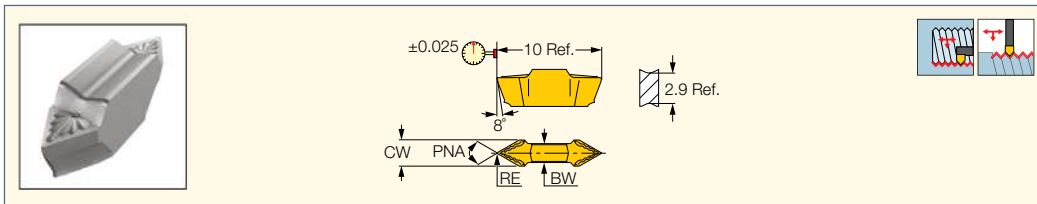
• GHDR/L-JHP (short pocket) • GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

ISCAR THREAD

CUTGRIP

GEPI-MT

Precision Ground Internal Double-Ended Threading Inserts with a 60° Partial Profile for General Applications



Designation	Dimensions									Tough ↔ Hard	
	CW	RE	RETOL ⁽¹⁾	PNA	BW	TPN ⁽²⁾	TPX ⁽³⁾	TPIN ⁽⁴⁾	TPIX ⁽⁵⁾	IC08	IC908
GEPI 2.5-MT0.05	2.50	0.05	0.030	60.0	1.80	0.910	2.540	10.00	28.00	●	●

• Toolholder seat needs to be modified according to insert profile to ensure clearance • Pitch max 0.187xD, TPI min D/5.35

• D=Diameter of thread (pitch max<=CW)

(1) Corner radius tolerance (+/-)

(2) Thread pitch minimum (mm)

(3) Thread pitch maximum (mm)

(4) Threads per inch minimum

(5) Threads per inch maximum

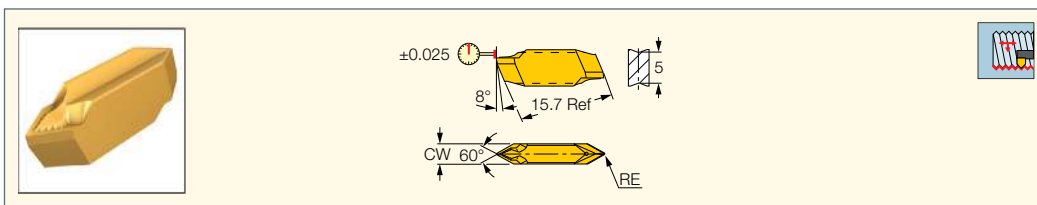
Tools: AVC-GEAIR/L • E-GEHIR / E-GHIR • GEAIR/L • GEHIMR/L • GEHIMR/L-SC • GEHIR/L • GEHIR/L-SC • GEHSR • GEHSR/L-SL

ISCAR THREAD

CUTGRIP

TIPI-MT

Precision Ground Double-Ended Internal Threading Inserts with 60° Partial Profile and Chipformer for 20mm Min. Bore Dia.



Designation	Dimensions							Tough ↔ Hard	
	CW	RE	RETOL ⁽¹⁾	TPN ⁽²⁾	TPIX ⁽³⁾	TPIN ⁽⁴⁾	TPX ⁽⁵⁾	IC08	IC908
TIPI 3.4MT-0.10	3.40	0.10	0.030	1.800	14.00	8.00	3.180	●	●
TIPI 5.4MT-0.20	5.40	0.20	0.030	3.190	8.00	5.00	5.100	●	●

• Toolholder seat needs to be modified according to insert profile to ensure clearance. • Pitch max 0.205xD, TPI min D/4.8

• D=Diameter of thread (pitch max<=CW) • TIPI inserts are 1.6 mm longer than GIPI in the same pocket

(1) Corner radius tolerance (+/-)

(2) Thread pitch minimum (mm)

(3) Threads per inch maximum

(4) Threads per inch minimum

(5) Thread pitch maximum (mm)

Tools: AVC-GAIR/L • CGIN 26 • GAIR/L • GHIR/L (W=1.9-6.4) • GHIR/L-C (W=4-6.4) • GHIR/L-SC (W=2-4.8)

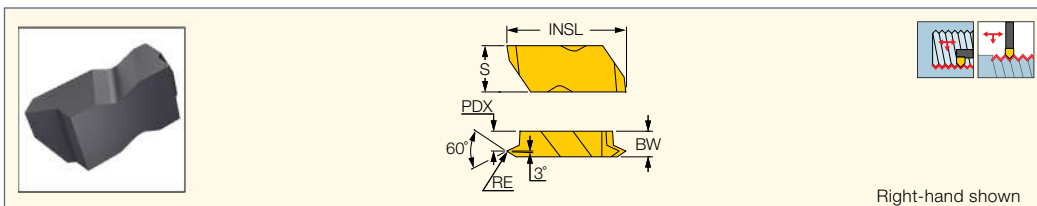
NOTCHGRIP

GROOVE-TURN LINE

ISCAR THREAD

60° PARTIAL PROFILE THREADING FLT F

Double-Ended Precision Flat Top Threading Inserts



Right-hand shown

	Dimensions											IC908		
	Designation	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPIN_DF2 ⁽³⁾	TPIX_DF2 ⁽⁴⁾	RE	PDX	BW	S	INSL	TPN_DF2		TPX_DF2	
	FLTF-3R/L	9.00	24.00	10.00	44.00	0.00	3.60	4.95	8.74	22.60	2.500		1.750	●
	FLTF-4R/L	9.00	24.00	10.00	44.00	0.00	5.10	6.48	11.51	28.45	2.500		1.750	●
	FLTF-2R/L	12.00	24.00	14.00	44.00	0.00	2.80	3.81	5.56	12.95	0.600		1.750	●

• DMIN according to related boring bar

(1) TPI int. min.

(2) TPI int. max.

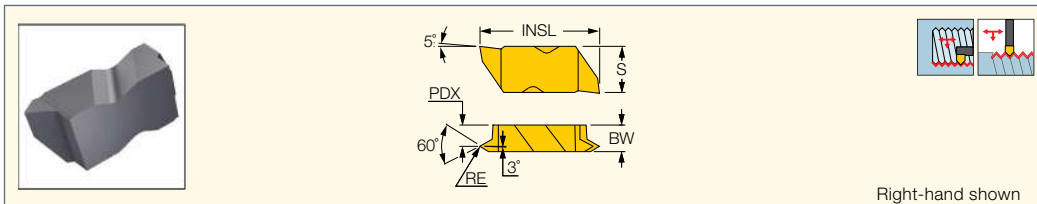
(3) TPI ext. min.

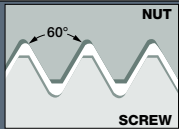
(4) TPI ext. max.

Tools: FLASR/L • FLSPR/L

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

**60° PARTIAL PROFILE
THREADING FLT-K**
Double-Ended Precision Positive
Rake Threading Inserts



 Designation	Dimensions										IC908
	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPIN_DF2 ⁽³⁾	TPIX_DF2 ⁽⁴⁾	RE	TTP	PDX	BW	S	INSL	
FLT-K-3R/L	9.00	24.00	10.00	44.00	0.00	BOTH	3.60	4.95	8.74	22.60	●
FLT-K-4R/L	9.00	24.00	10.00	44.00	0.00	BOTH	5.10	6.48	11.51	28.45	●
FLT-K-2R/L	12.00	24.00	14.00	44.00	0.00	BOTH	2.80	3.81	5.56	12.95	●

• DMIN according to related boring bar

(1) TPI int. min.

(2) TPI int. max.

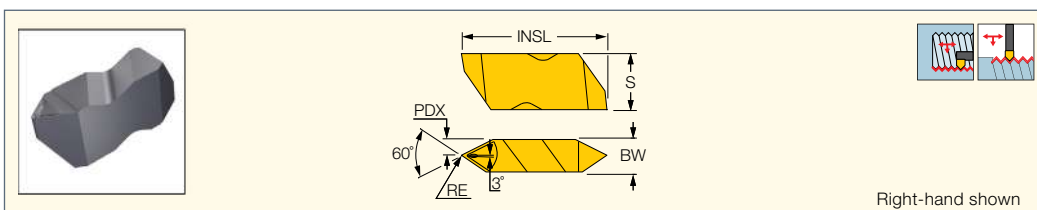
(3) TPI ext. min.

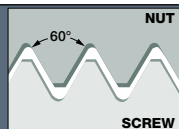
(4) TPI ext. max.

Tools: FLASR/L • FLSR/L

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

**60° PARTIAL PROFILE
THREADING FLT-CB**
Double-Ended Precision
Threading Inserts with
Chipbreakers



 Designation	Dimensions									IC908		
	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPIN_ DF2 ⁽³⁾	TPIX_ DF2 ⁽⁴⁾	RE	PDX	BW	S	INSL			
	FLT-4R/L-HCB	4.00	12.00	4.00	20.00	0.00	3.30	6.48	11.51		28.45	●
	FLT-3R/LC-HCB	5.00	6.00	6.00	11.00	0.00	2.50	4.95	8.74		22.60	●
	FLT-3R/L-HCB	5.00	12.00	6.00	20.00	0.00	2.50	4.95	8.74		22.60	●
	FLT-3R/L-FCB	7.00	20.00	8.00	36.00	0.00	2.50	4.95	8.74		22.60	●
	FLT-3R/L-CB	8.00	12.00	8.00	20.00	0.00	2.50	4.95	8.74		22.60	●

• DMIN according to related boring bar

(1) TPI int. min.

(2) TPI int. max.

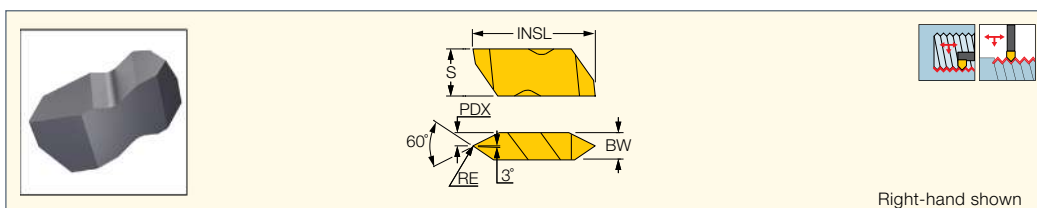
(3) TPI ext. min.

(4) TPI ext. max.

Tools: FLASR/L • FLSR/L

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

**60° PARTIAL PROFILE
THREADING FLT**
Double-Ended Precision Flat
Top Threading Inserts



 Designation	Dimensions									IC908	
	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPIN_DF2 ⁽³⁾	TPIX_DF2 ⁽⁴⁾	RE	PDX	BW	S	INSL		
	FLT-4R/L	4.00	12.00	4.00	20.00	0.00	3.30	6.48	11.51		28.45
	FLT-3R/L	5.00	12.00	6.00	20.00	0.00	2.50	4.95	8.74		22.60
	FLT-3010R/L	5.00	12.00	6.00	18.00	0.00	2.50	4.95	8.74		22.60
	FLT-2R/L	7.00	20.00	8.00	36.00	0.00	1.90	3.81	5.56		12.95

• DMIN according to related boring bar

(1) TPI int. min.

(2) TPI int. max.

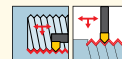
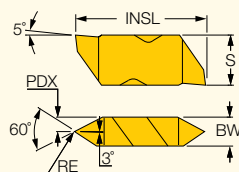
(3) TPI ext. min.

(4) TPI ext. max.

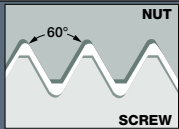
Tools: FLASR/L • FLSR/L

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

**60° PARTIAL PROFILE
THREADING FLTP**
Double-Ended Precision Positive
Rake Threading Inserts



Right-hand shown

 Designation	Dimensions									IC908
	TPIN ⁽¹⁾	TPIX ⁽²⁾	TPIN _{DF2} ⁽³⁾	TPIX _{DF2} ⁽⁴⁾	RE	PDX	BW	S	INS	
FLTP-4R/L	4.00	12.00	4.00	20.00	0.00	3.30	6.50	11.51	28.45	•
FLTP-3R/L	5.00	12.00	6.00	20.00	0.00	2.50	5.00	8.74	22.60	•
FLTP-2R/L	7.00	20.00	8.00	36.00	0.00	1.90	3.80	5.56	12.95	•

• DMIN according to related boring bar

⁽¹⁾ TPI int. min.

⁽²⁾ TPI int. max.

⁽³⁾ TPI ext. min.

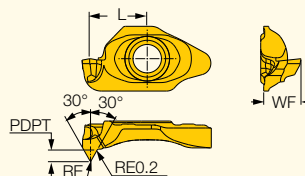
⁽⁴⁾ TPI ext. max.

Tools: FLASR/L • FLSR/L

ISCARTHREAD

MIN CUT
MINI FACE LINE

MTR 8-MT
Internal ISO Metric Threading
Inserts for Partial Profile



 Designation	Dimensions							IC908	
	PDPT ⁽¹⁾	RE	L	WF	DMIN ⁽²⁾	TPN ⁽³⁾	TPX ⁽⁴⁾		
	MITR 8-MT2-0.1	1.17	0.10	5.75	3.80	10.00	1.500		2.000
	MITR 8-MT1-0.05	1.23	0.05	5.75	3.80	10.00	0.750		1.250

⁽¹⁾ Cutting depth maximum

⁽²⁾ Minimum diameter

⁽³⁾ Thread pitch minimum (mm)

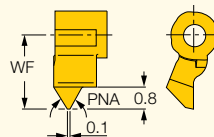
⁽⁴⁾ Thread pitch maximum (mm)

Tools: MIFHR

ISCARTHREAD

MINICHAM

UMGR-A60
Mini Indexable Inserts with a
60° Partial Profile for Threading
in 5.2 mm and Larger Holes



Right-hand shown

 Designation	Dimensions							IC508
	PNA	WF	DMIN	TPN ⁽¹⁾	TPX ⁽²⁾	TPIN ⁽³⁾	TPIX ⁽⁴⁾	
UMGR 4.0-A60	60.0	2.70	5.20	0.600	1.250	20.00	40.00	●

• For detailed cutting data, see page 713

⁽¹⁾ Thread pitch minimum (mm)

⁽²⁾ Thread pitch maximum (mm)

⁽³⁾ Threads per inch minimum

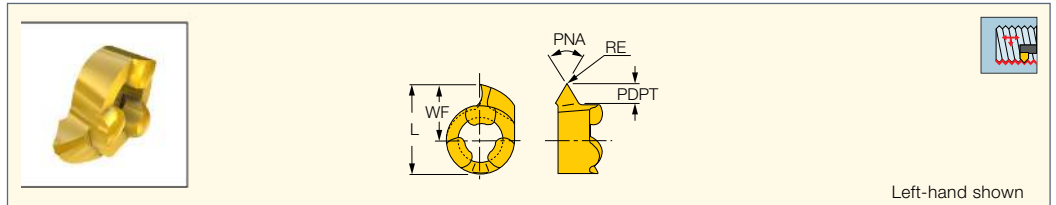
⁽⁴⁾ Threads per inch maximum

Tools: MGUHR

ISCARTHREAD CHAMGROOVE

GIQR/L-MT

Internal Threading Inserts with a 60° Partial Profile for Threading in 8 mm and Larger Holes



Left-hand shown

Designation	Dimensions										IC528
	L	RE	PNA	PDPT ⁽¹⁾	WF	DMIN ⁽²⁾	TPN ⁽³⁾	TPX ⁽⁴⁾	TPIN ⁽⁵⁾	TPIX ⁽⁶⁾	
GIQR/L 8-MT-0.05	7.78	0.05	60.0	1.50	4.80	8.00	0.500	1.590	16.00	50.00	•
GIQR/L 11-MT-0.05	10.68	0.05	60.0	2.00	6.70	11.00	0.500	2.300	11.00	50.00	•

• Can be used for thread milling by circular interpolation • Pitch max 0.19xD • D-diameter of thread • For cutting speed recommendations, see page 713

⁽¹⁾ Cutting depth maximum

⁽²⁾ Minimum diameter

⁽³⁾ Thread pitch minimum (mm)

⁽⁴⁾ Thread pitch maximum (mm)

⁽⁵⁾ Threads per inch minimum

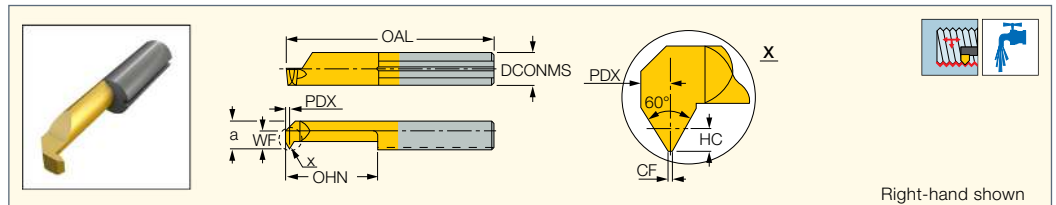
⁽⁶⁾ Threads per inch maximum

Tools: MG • MGCH

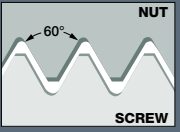
ISCARTHREAD PICCO CUT

PICCO R/L-60°-Thread

Inserts with a 60° Internal Thread Profile for 2.4 mm Min. Bore Diameter



Right-hand shown

	Dimensions													Tough ↔ Hard		
	Designation	DCONMS	HC	CF	PDX	WF	a	OHN ⁽¹⁾	OAL	DMIN	TPN ⁽²⁾	TPX ⁽³⁾	TPIN ⁽⁴⁾	TPIX ⁽⁵⁾	IC228	IC908
PICCO R 003.0105-8	4.00	0.27	0.04	0.3	0.30	2.30	8.0	22.00	2.40	0.500	0.700	36.00	48.00			●
PICCO R 004.0105-10	4.00	0.27	0.09	0.4	1.00	3.00	10.0	24.00	3.20	0.500	0.750	36.00	48.00			●
PICCO R/L 004.0205-15	4.00	0.27	0.06	0.4	1.50	3.50	15.0	30.00	4.00	0.500	0.750	36.00	48.00	●		
PICCO R/L 005.0205-15	5.00	0.27	0.06	0.4	1.90	4.40	15.0	30.00	5.00	0.500	0.750	36.00	48.00	●		
PICCO L 005.0407-15	5.00	0.40	0.09	0.5	1.90	4.40	15.0	30.00	5.00	0.750	1.000	24.00	36.00	●		
PICCO R 005.0407-15	5.00	0.40	0.09	0.5	1.90	4.40	15.0	30.00	5.00	0.750	1.000	24.00	36.00	●		●
PICCO R 005.0407-20	5.00	0.40	0.09	0.5	1.90	4.40	20.0	35.00	5.00	0.750	1.000	24.00	36.00			●
PICCO R/L 005.0510-15	5.00	0.55	0.12	0.6	1.90	4.40	15.0	30.00	4.80	1.000	1.250	20.00	24.00	●		
PICCO R 005.0510-20	5.00	0.55	0.12	0.6	1.90	4.40	20.0	35.00	4.80	1.000	1.250	20.00	24.00			●
PICCO R/L 006.0510-15	6.00	0.55	0.12	0.6	2.30	5.30	15.0	30.00	6.00	1.000	1.250	20.00	24.00	●		
PICCO R 006.0510-22	6.00	0.55	0.12	0.6	2.30	5.30	22.0	37.00	6.00	1.000	1.250	20.00	24.00			●
PICCO R/L 006.0612-15	6.00	0.68	0.15	0.7	2.30	5.30	15.0	30.00	6.00	1.250	1.500	16.00	20.00	●		
PICCO R 006.0612-22	6.00	0.68	0.15	0.7	2.30	5.30	22.0	37.00	6.00	1.250	1.500	16.00	20.00			●
PICCO R/L 006.0815-15	6.00	0.81	0.18	0.8	2.30	5.30	15.0	30.00	6.00	1.500	1.750	14.00	16.00	●		
PICCO R 006.0815-22	6.00	0.81	0.18	0.8	2.30	5.30	22.0	37.00	6.00	1.500	1.750	14.00	16.00			●
PICCO R/L 007.0815-15	7.00	0.81	0.18	0.8	2.70	6.30	15.0	30.00	7.00	1.500	1.750	14.00	16.00	●		

• For detailed cutting data, see page 713

⁽¹⁾ Minimum overhang

⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Thread pitch maximum (mm)

⁽⁴⁾ Threads per inch minimum

⁽⁵⁾ Threads per inch maximum

Holders: GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

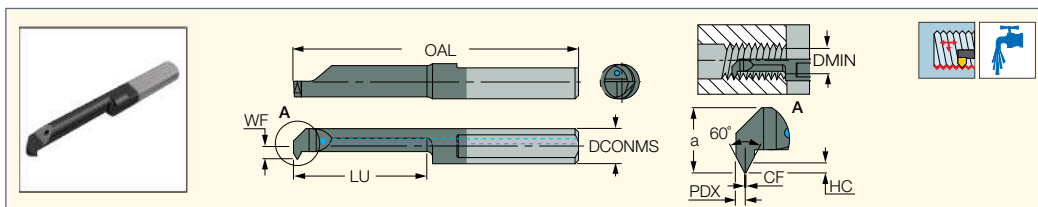
ISCAR THREAD

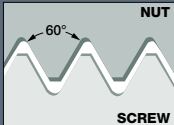
PICCO CUT

PICCO R/L60°-N

(60° Threading)

Inserts with a 60° Internal Thread Profile and Internal Coolant Channel for 2.4 mm Min. Bore Diameter



	Dimensions													IC908
	Designation	DCONMS	HC	CF	PDX	WF	a	LU	OAL	DMIN	TPN ⁽¹⁾	TPX ⁽²⁾	TPIN ⁽³⁾	
PICCO R 003.0105-8N	4.05	0.27	0.04	0.3	0.30	2.30	7.0	31.00	2.40	0.500	0.700	36.00	48.00	●
PICCO R 004.0105-10N	4.05	0.27	0.09	0.4	1.00	3.00	9.0	31.00	3.20	0.500	0.750	36.00	48.00	●
PICCO R 004.0205-15N	4.05	0.27	0.06	0.4	1.50	3.50	14.0	36.00	4.00	0.500	0.750	36.00	48.00	●
PICCO R 005.0205-15N	5.05	0.27	0.06	0.4	1.90	4.40	14.0	36.00	5.00	0.500	0.750	36.00	48.00	●
PICCO R 005.0407-15N	5.05	0.40	0.09	0.5	1.90	4.40	14.0	36.00	5.00	0.750	1.000	24.00	36.00	●
PICCO R/L 005.0510-15N	5.05	0.55	0.12	0.6	1.90	4.40	14.0	36.00	4.80	1.000	1.250	20.00	24.00	●
PICCO R 005.0510-20N	5.05	0.55	0.12	0.6	1.90	4.40	19.0	41.00	4.80	1.000	1.250	20.00	24.00	●
PICCO R 006.0510-15N	6.05	0.55	0.12	0.6	2.30	5.30	14.0	36.00	6.00	1.000	1.250	20.00	24.00	●
PICCO R 006.0510-22N	6.05	0.55	0.12	0.6	2.30	5.30	21.0	43.00	6.00	1.000	1.250	20.00	24.00	●
PICCO R 006.0612-15N	6.05	0.68	0.15	0.7	2.30	5.30	14.0	36.00	6.00	1.250	1.500	16.00	20.00	●
PICCO R 006.0815-15N	6.05	0.81	0.18	0.8	2.30	5.30	14.0	36.00	6.00	1.500	1.750	14.00	16.00	●
PICCO R/L 007.0815-15N	7.05	0.81	0.18	0.8	2.70	6.30	14.0	36.00	7.00	1.500	1.750	14.00	16.00	●

• Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only • For detailed cutting data, see page 713

⁽¹⁾ Thread pitch minimum (mm)

⁽²⁾ Thread pitch maximum (mm)

⁽³⁾ Threads per inch minimum

⁽⁴⁾ Threads per inch maximum

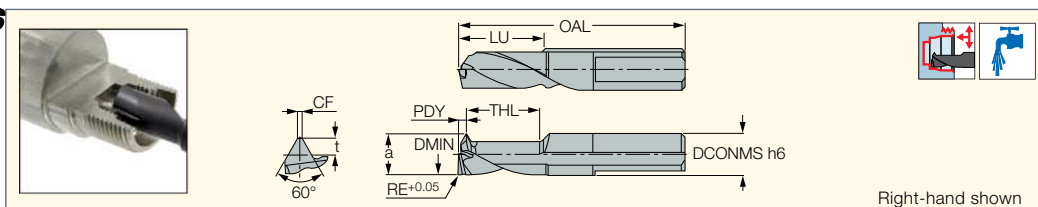
Holders: PICCO ACE-N • PICCO-N (holder)

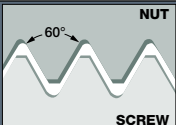


MULTIFUNCTION TOOLS

PICCO-MFT

Solid Carbide Tools for Drilling, Facing, Int. and Ext. Turning and Threading on Swiss and Small CNC Machines



	Dimensions													IC908
	Designation	DCONMS	DMIN	LU	TPN ⁽²⁾	TPX ⁽³⁾	t	a	CF	THL	OAL	PDY	RE	
	PICCO R/L-MFT60 6-4 L08	6.00	4.00	8.0	0.500	0.750	0.46	3.90	0.06	7.3	30.00	1.3	0.10	●
	PICCO R-MFT60 6-4 L12	6.00	4.00	12.0	0.500	0.750	0.46	3.90	0.06	11.6	34.00	1.2	0.20	●
	PICCO R/L-MFT60 6-5 L10	6.00	5.00	10.0	0.500	1.000	0.61	4.90	0.06	9.0	32.00	1.4	0.10	●
	PICCO R/L-MFT60 6-5 L15 ⁽¹⁾	6.00	5.00	15.0	0.500	1.000	0.61	4.90	0.06	14.4	37.00	1.4	0.30	●
	PICCO R/L-MFT60 6-6 L18 ⁽¹⁾	6.00	6.00	18.0	0.500	1.000	0.61	5.90	0.06	17.3	43.00	1.4	0.30	●
	PICCO R-MFT60 6-6 L12	6.00	6.00	12.0	0.500	1.000	0.61	5.90	0.06	11.0	34.00	1.4	0.10	●
	PICCO R/L-MFT60 8-7 L14	8.00	7.00	14.0	0.750	1.250	0.76	6.90	0.09	13.0	41.00	1.5	0.10	●
	PICCO R-MFT60 8-7 L21	8.00	7.00	21.0	0.750	1.250	0.76	6.90	0.09	20.0	55.00	1.5	0.30	●
	PICCO R/L-MFT60 8-8 L16	8.00	8.00	16.0	0.900	1.500	0.92	7.90	0.11	15.0	43.00	1.5	0.10	●
	PICCO L-MFT60 8-8 L24 ⁽¹⁾	8.00	8.00	24.0	0.900	1.500	0.92	7.90	0.11	23.0	57.00	1.5	0.30	●
	PICCO R-MFT60 8-8 L24	8.00	8.00	24.0	0.900	1.500	0.92	7.90	0.11	23.0	51.00	1.5	0.30	●

• Applications: Drilling; face turning; internal chamfering; internal turning/boring; internal profiling; external chamfering; external turning; internal

And external 60° threading (right- and left-hand)

⁽¹⁾ Available on request

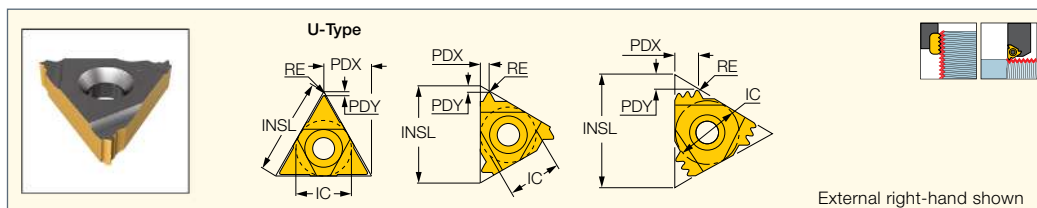
⁽²⁾ Thread pitch minimum (mm)

⁽³⁾ Thread pitch maximum (mm)

Holders: PICCO/MG PCO (holder)

ISCARTHREAD**ER/L-ISO**

External ISO Metric
(DIN13 12-1986 class: 6g)
Laydown Threading Inserts
for General Industry



Designation	Dimensions							Tough ↔ Hard							
	IC	TP ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
11EL 0.35 ISO	6.35	0.350	0.04	11.00	0.8	0.4	1							•	
11ER 0.35 ISO	6.35	0.350	0.04	11.00	0.6	0.4	1							•	
11ER 0.40 ISO	6.35	0.400	0.04	11.00	0.7	0.4	1							•	
11ER 0.45 ISO	6.35	0.450	0.05	11.00	0.7	0.4	1	•						•	
11EL 0.50 ISO	6.35	0.500	0.06	11.00	0.6	0.6	1			•				•	
11ER 0.50 ISO	6.35	0.500	0.06	11.00	0.6	0.6	1			•				•	
11ER 0.60 ISO	6.35	0.600	0.07	11.00	0.6	0.6	1							•	
11ER 0.70 ISO	6.35	0.700	0.11	11.00	0.6	0.6	1							•	
11EL 0.75 ISO	6.35	0.750	0.08	11.00	0.6	0.6	1							•	
11ER 0.75 ISO	6.35	0.750	0.11	11.00	0.6	0.6	1							•	
11ER 0.80 ISO	6.35	0.800	0.12	11.00	0.6	0.6	1							•	
11EL 1.00 ISO	6.35	1.000	0.13	11.00	0.7	0.7	1			•				•	
11ER 1.00 ISO	6.35	1.000	0.13	11.00	0.7	0.7	1							•	
11ER 1.25 ISO	6.35	1.250	0.16	11.00	0.8	0.9	1							•	
11EL 1.50 ISO	6.35	1.500	0.19	11.00	0.8	0.9	1							•	
11ER 1.50 ISO	6.35	1.500	0.19	11.00	1.0	0.8	1			•				•	
11ER 1.75 ISO	6.35	1.750	0.22	11.00	1.1	0.8	1			•					
16ER/L 0.35 ISO	9.52	0.350	0.04	16.49	0.6	0.4	1							•	
16EL 0.40 ISO	9.52	0.400	0.05	16.49	0.7	0.4	1							•	
16ER 0.40 ISO	9.52	0.400	0.05	16.49	0.6	0.4	1							•	
16ER 0.45 ISO	9.52	0.450	0.05	16.49	0.6	0.4	1							•	
16EL 0.50 ISO	9.52	0.500	0.06	16.49	0.6	0.6	1							•	
16ER 0.50 ISO	9.52	0.500	0.06	16.49	0.6	0.6	1			•	•			•	•
16ERM 0.50 ISO	9.52	0.500	0.06	16.49	0.6	0.6	1							•	
16ER 0.60 ISO	9.52	0.600	0.10	16.49	0.6	0.6	1							•	
16EL 0.70 ISO	9.52	0.700	0.11	16.49	0.6	0.6	1							•	
16ER 0.70 ISO	9.52	0.700	0.11	16.49	0.6	0.6	1			•				•	•
16EL 0.75 ISO	9.52	0.750	0.11	16.49	0.6	0.6	1							•	
16ER 0.75 ISO	9.52	0.750	0.11	16.49	0.6	0.6	1			•	•			•	•
16ER 0.75 ISO 3M ⁽¹⁾	9.52	0.750	0.07	16.49	1.4	1.9	3							•	
16ERM 0.75 ISO ⁽²⁾	9.52	0.750	0.08	16.49	0.6	0.6	1						•	•	•
16EL 0.80 ISO	9.52	0.800	0.12	16.49	0.6	0.6	1			•				•	
16ER 0.80 ISO	9.52	0.800	0.12	16.49	0.6	0.6	1			•				•	•
16ERB 0.80 ISO ⁽²⁾	9.52	0.800	0.12	16.49	0.7	0.7	1							•	
16EL 1.00 ISO	9.52	1.000	0.13	16.49	0.7	0.7	1			•	•			•	
16ER 1.00 ISO	9.52	1.000	0.13	16.49	0.7	0.7	1	•	•	•	•			•	•
16ER 1.00 ISO 3M ⁽¹⁾	9.52	1.000	0.07	16.49	1.7	2.5	3							•	
16ERB 1.00 ISO ⁽²⁾	9.52	1.000	0.13	16.49	0.7	0.7	1							•	
16ERM 1.00 ISO ⁽²⁾	9.52	1.000	0.11	16.49	0.7	0.7	1		•	•		•	•	•	•
16EL 1.25 ISO	9.52	1.250	0.16	16.49	0.8	0.9	1			•	•			•	
16ER 1.25 ISO	9.52	1.250	0.16	16.49	0.8	0.9	1			•	•			•	•
16ERB 1.25 ISO ⁽²⁾	9.52	1.250	0.16	16.49	0.8	0.9	1							•	
16ERM 1.25 ISO ⁽²⁾	9.52	1.250	0.14	16.49	0.8	0.9	1			•			•	•	•
16EL 1.50 ISO	9.52	1.500	0.19	16.49	0.9	1.2	1			•	•			•	•
16ER 1.50 ISO	9.52	1.500	0.19	16.49	0.9	1.2	1	•	•	•	•			•	•
16ER 1.50 ISO 2M ⁽¹⁾	9.52	1.500	0.18	16.49	1.5	2.3	2							•	
16ERB 1.50 ISO ⁽²⁾	9.52	1.500	0.19	16.49	0.8	1.0	1							•	
16ERM 1.50 ISO ⁽²⁾	9.52	1.500	0.19	16.49	0.8	1.0	1		•	•		•	•	•	•
16EL 1.75 ISO	9.52	1.750	0.22	16.49	0.9	1.2	1							•	
16ER 1.75 ISO	9.52	1.750	0.22	16.49	0.9	1.2	1	•		•	•			•	•
16ERB 1.75 ISO ⁽²⁾	9.52	1.750	0.22	16.49	0.9	1.2	1							•	
16ERM 1.75 ISO ⁽²⁾	9.52	1.750	0.20	16.49	0.9	1.2	1			•			•	•	•

• For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type inserts TIP-ISO class: 6g

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Multi-tooth

⁽²⁾ With pressed chipformer

⁽³⁾ Thread pitch

⁽⁴⁾ Number of teeth per corner

Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

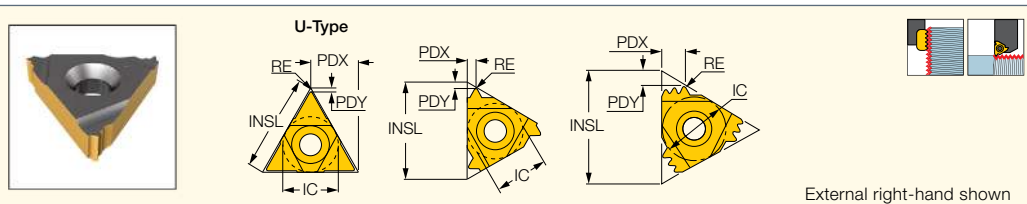
ISCAR THREAD

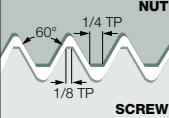
ER/L-ISO (Continued)

External ISO Metric

(DIN13 12-1986 class: 6g)

Laydown Threading Inserts for General Industry



	Dimensions							Tough ↔ Hard							
	IC	TP ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
16EL 2.00 ISO	9.52	2.000	0.25	16.49	1.0	1.3	1	●		●				●	
16ER 2.00 ISO	9.52	2.000	0.25	16.49	1.0	1.3	1	●	●	●	●			●	●
16ER 2.00 ISO 2M ⁽¹⁾	9.52	2.000	0.09	16.49	1.8	2.9	2							●	
16ERB 2.00 ISO ⁽²⁾	9.52	2.000	0.25	16.49	0.9	1.2	1							●	
16ERM 2.00 ISO ⁽²⁾	9.52	2.000	0.24	16.49	1.0	1.3	1			●		●	●	●	●
16EL 2.50 ISO	9.52	2.500	0.32	16.49	1.1	1.5	1							●	
16ER 2.50 ISO	9.52	2.500	0.32	16.49	1.1	1.5	1		●	●				●	●
16ERB 2.50 ISO	9.52	2.500	0.32	16.49	1.1	1.5	1							●	
16ERM 2.50 ISO ⁽²⁾	9.52	2.500	0.30	16.49	1.1	1.5	1			●		●	●	●	●
16EL 3.00 ISO	9.52	3.000	0.38	16.49	1.2	1.6	1							●	
16ER 3.00 ISO	9.52	3.000	0.38	16.49	1.2	1.6	1	●	●	●		●		●	●
16ERB 3.00 ISO ⁽²⁾	9.52	3.000	0.38	16.49	1.2	1.6	1							●	
16ERM 3.00 ISO ⁽²⁾	9.52	3.000	0.38	16.49	1.2	1.6	1		●	●		●	●	●	●
22ER 1.50 ISO 3M ⁽¹⁾	12.70	1.500	0.07	22.00	2.3	3.7	3			●				●	
22ER 2.00 ISO 2M ⁽¹⁾	12.70	2.000	0.25	22.00	2.0	3.0	2							●	
22ER 2.00 ISO 3M ⁽¹⁾	12.70	2.000	0.25	22.00	3.1	5.0	3			●				●	
22EL 3.50 ISO	12.70	3.500	0.46	22.00	1.6	2.3	1	●		●					
22ER 3.50 ISO	12.70	3.500	0.46	22.00	1.6	2.3	1			●				●	
22ERM 3.50 ISO ⁽²⁾	12.70	3.500	0.48	22.00	1.6	2.3	1					●	●	●	
22EL 4.00 ISO	12.70	4.000	0.52	22.00	1.6	2.3	1			●				●	
22ER 4.00 ISO	12.70	4.000	0.52	22.00	1.6	2.3	1		●	●				●	●
22ERM 4.00 ISO ⁽²⁾	12.70	4.000	0.52	22.00	1.6	2.3	1					●	●	●	
22ER 4.50 ISO	12.70	4.500	0.58	22.00	1.6	2.3	1			●				●	
22EL 5.00 ISO	12.70	5.000	0.66	22.00	1.7	2.5	1			●					
22ER 5.00 ISO	12.70	5.000	0.66	22.00	1.7	2.5	1			●				●	
22ER 6.00 ISO	12.70	6.000	0.79	22.00	1.9	2.7	1			●					
22UURL 5.50 ISO	12.70	5.500	0.70	22.00	2.3	11.0	1			●					
22EL 6.00 ISO	12.70	6.000	0.78	22.00	2.0	2.7	1			●					
22UURL 6.00 ISO	12.70	6.000	0.78	22.00	2.6	11.0	1	●		●					
27ER 3.00 ISO 2M ⁽¹⁾	15.88	3.000	0.38	27.50	2.9	4.6	2							●	
27ER 5.50 ISO	15.88	5.500	0.71	27.50	2.0	2.9	1							●	
27EL 6.00 ISO	15.88	6.000	0.78	27.50	2.0	2.9	1							●	
27ER 6.00 ISO	15.88	6.000	0.78	27.50	2.0	2.9	1	●		●				●	
27UURL 8.00 ISO	15.88	8.000	1.08	27.50	2.4	13.7	1							●	

• For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type inserts TIP-ISO class: 6g

• For technical information and detailed cutting data, see pages 713-729

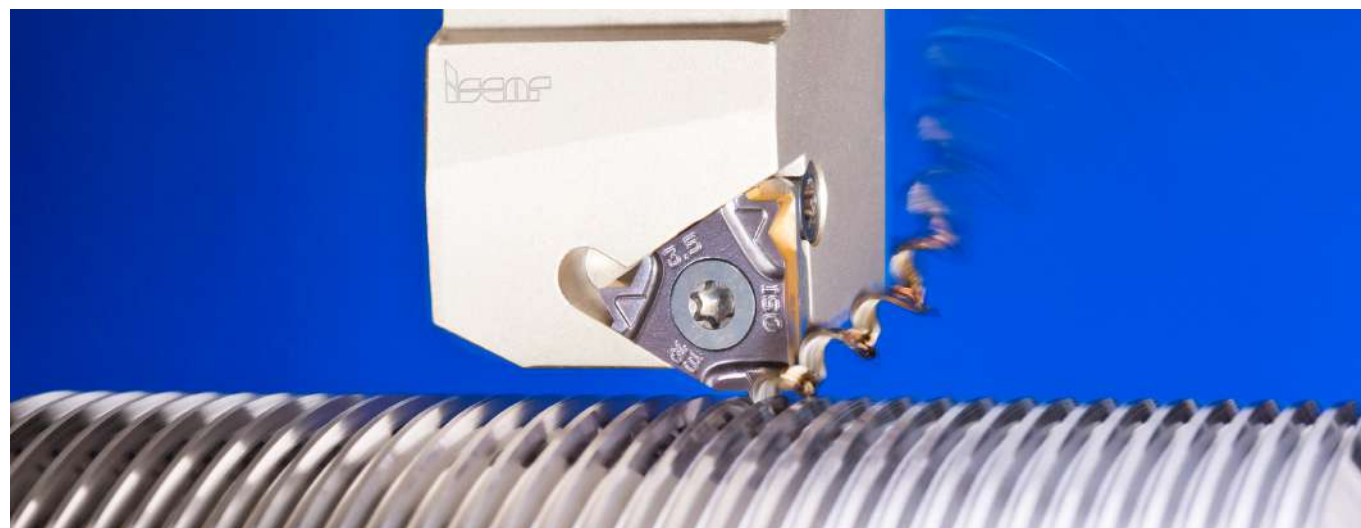
⁽¹⁾ Multi-tooth

⁽²⁾ With pressed chipformer

⁽³⁾ Thread pitch

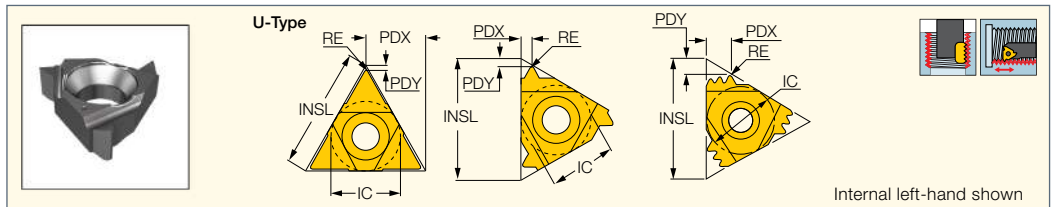
⁽⁴⁾ Number of teeth per corner

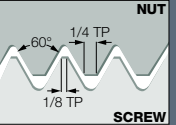
Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC



IR/L-ISO

Internal ISO Metric
(DIN13 12-1986 class 6H)
Laydown Threading Inserts
for General Industry



 Designation	Dimensions							Tough ↔ Hard									
	IC	TP ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC28	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
06IL 0.50 ISO	4.00	0.500	0.04	6.88	0.6	0.4	1		•								
06IR 0.50 ISO	4.00	0.500	0.04	6.88	0.6	0.4	1		•	•						•	
06IL 0.75 ISO	4.00	0.750	0.06	6.88	0.6	0.5	1		•								
06IR 0.75 ISO	4.00	0.750	0.06	6.88	0.6	0.5	1		•	•						•	
06IL 1.00 ISO	4.00	1.000	0.05	6.88	0.6	0.6	1		•								
06IR 1.00 ISO	4.00	1.000	0.05	6.88	0.6	0.6	1		•	•						•	
06IL 1.25 ISO	4.00	1.250	0.07	6.88	0.6	0.6	1		•								
06IR 1.25 ISO	4.00	1.250	0.07	6.88	0.6	0.6	1		•	•						•	
08IL 0.50 ISO	5.00	0.500	0.04	8.24	0.6	0.4	1		•								
08IR 0.50 ISO	5.00	0.500	0.04	8.24	0.6	0.4	1		•	•						•	
08IR 0.75 ISO	5.00	0.750	0.05	8.24	0.6	0.5	1		•	•						•	
08IL 1.00 ISO	5.00	1.000	0.07	8.24	0.6	0.6	1		•								
08IR 1.00 ISO	5.00	1.000	0.07	8.24	0.6	0.6	1		•	•						•	
08IL 1.25 ISO	5.00	1.250	0.09	8.24	0.6	0.7	1		•								
08IR 1.25 ISO	5.00	1.250	0.09	8.24	0.6	0.7	1		•	•						•	
08IL 1.50 ISO	5.00	1.500	0.10	8.24	0.6	0.7	1		•								
08IR 1.50 ISO	5.00	1.500	0.10	8.24	0.6	0.7	1	•	•	•						•	
08IL 1.75 ISO	5.00	1.750	0.15	8.24	0.6	0.9	1		•								
08IR 1.75 ISO	5.00	1.750	0.15	8.24	0.6	0.8	1		•	•						•	
08VIRL 2.00 ISO	5.00	2.000	0.14	8.24	0.8	4.3	1		•								
11IL 0.35 ISO	6.35	0.350	0.04	11.00	0.8	0.3	1						•				
11IR 0.35 ISO	6.35	0.350	0.04	11.00	0.8	0.3	1									•	
11IR 0.40 ISO	6.35	0.400	0.03	11.00	0.8	0.4	1									•	
11IL 0.50 ISO	6.35	0.500	0.04	11.00	0.8	0.6	1									•	
11IR 0.50 ISO	6.35	0.500	0.04	11.00	0.8	0.6	1					•	•			•	
11IRB 0.50 ISO	6.35	0.500	0.04	11.00	0.8	0.6	1									•	
11IRM 0.50 ISO	6.35	0.500	0.04	11.00	0.3	0.4	1									•	
11IR 0.70 ISO	6.35	0.700	0.05	11.00	0.6	0.6	1									•	
11IR/L 0.75 ISO	6.35	0.750	0.05	11.00	0.6	0.6	1									•	
11IRB 0.75 ISO	6.35	0.750	0.05	11.00	0.1	0.6	1									•	
11IRM 0.75 ISO	6.35	0.750	0.06	11.00	0.3	0.5	1									•	
11IR 0.80 ISO	6.35	0.800	0.04	11.00	0.6	0.6	1									•	
11IRB 0.80 ISO	6.35	0.800	0.04	11.00	0.6	0.6	1									•	
11IL 1.00 ISO	6.35	1.000	0.07	11.00	0.6	0.7	1									•	
11IR 1.00 ISO	6.35	1.000	0.07	11.00	0.6	0.7	1		•		•	•	•			•	•
11IRB 1.00 ISO	6.35	1.000	0.07	11.00	0.6	0.6	1									•	
11IRM 1.00 ISO ⁽¹⁾	6.35	1.000	0.05	11.00	0.6	0.7	1								•	•	•
11IR/L 1.25 ISO	6.35	1.250	0.09	11.00	0.8	0.8	1									•	
11IRB 1.25 ISO	6.35	1.250	0.09	11.00	0.8	0.9	1									•	
11IL 1.50 ISO	6.35	1.500	0.12	11.00	0.8	1.0	1					•				•	
11IR 1.50 ISO	6.35	1.500	0.12	11.00	0.8	1.0	1		•		•	•	•			•	•
11IRB 1.50 ISO	6.35	1.500	0.12	11.00	0.8	1.0	1									•	
11IRM 1.50 ISO ⁽¹⁾	6.35	1.500	0.08	11.00	0.8	1.0	1					•				•	•
11IL 1.75 ISO	6.35	1.750	0.12	11.00	0.8	1.0	1				•					•	
11IR 1.75 ISO	6.35	1.750	0.12	11.00	0.8	1.0	1									•	
11IRB 1.75 ISO	6.35	1.750	0.12	11.00	0.8	1.0	1									•	
11IRM 1.75 ISO	6.35	1.750	0.15	11.00	0.6	0.9	1									•	
11IL 2.00 ISO	6.35	2.000	0.14	11.00	0.8	0.9	1									•	
11IR 2.00 ISO	6.35	2.000	0.14	11.00	0.8	0.9	1		•			•		•		•	•
11IRM 2.00 ISO	6.35	2.000	0.16	11.00	0.6	1.0	1									•	
16IR 0.35 ISO	9.52	0.350	0.02	16.49	0.6	0.3	1									•	
16IR/L 0.40 ISO	9.52	0.400	0.03	16.49	0.6	0.4	1									•	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ Thread pitch

⁽⁴⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

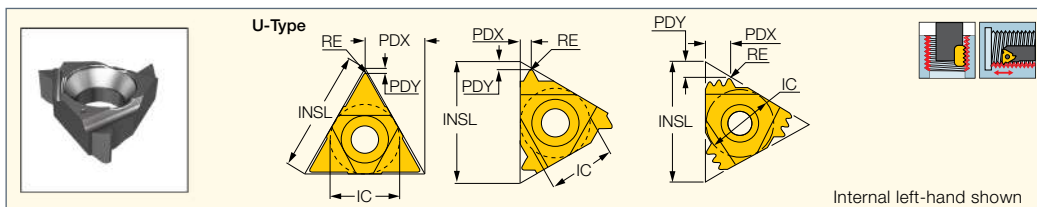
ISCAR THREAD

IR/L-ISO (Continued)

Internal ISO Metric

(DIN13 12-1986 class 6H)

Laydown Threading Inserts
for General Industry



	Dimensions							Tough ↔ Hard									
	IC	TP ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC28	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
Designation																	
16IL 0.45 ISO	9.52	0.450	0.02	16.49	0.8	0.4	1									•	
16IL 0.50 ISO	9.52	0.500	0.04	16.49	0.6	0.6	1									•	
16IR 0.50 ISO	9.52	0.500	0.04	16.49	0.6	0.6	1					•	•			•	
16IR 0.60 ISO	9.52	0.600	0.04	16.49	0.6	0.6	1									•	
16IR 0.70 ISO	9.52	0.700	0.05	16.49	0.6	0.6	1					•				•	
16IL 0.75 ISO	9.52	0.750	0.05	16.49	0.6	0.6	1									•	
16IR 0.75 ISO	9.52	0.750	0.05	16.49	0.6	0.6	1						•			•	
16IL 0.80 ISO	9.52	0.800	0.05	16.49	0.6	0.6	1				•						
16IR 0.80 ISO	9.52	0.800	0.05	16.49	0.6	0.6	1					•					
16IL 1.00 ISO	9.52	1.000	0.07	16.49	0.7	0.8	1									•	
16IR 1.00 ISO	9.52	1.000	0.07	16.49	0.7	0.8	1				•	•	•			•	•
16IR 1.00 ISO 3M ⁽²⁾	9.52	1.000	0.07	16.49	1.5	2.5	3									•	
16IRB 1.00 ISO ⁽¹⁾	9.52	1.000	0.07	16.49	0.7	0.8	1									•	
16IRM 1.00 ISO ⁽¹⁾	9.52	1.000	0.05	16.49	0.6	0.7	1				•	•		•		•	•
16IL 1.25 ISO	9.52	1.250	0.09	16.49	0.8	0.9	1				•		•			•	
16IR 1.25 ISO	9.52	1.250	0.09	16.49	0.8	0.9	1					•	•			•	
16IRB 1.25 ISO ⁽¹⁾	9.52	1.250	0.09	16.49	0.7	0.8	1									•	
16IRM 1.25 ISO ⁽¹⁾	9.52	1.250	0.06	16.49	0.8	0.9	1					•				•	•
16IL 1.50 ISO	9.52	1.500	0.12	16.49	0.9	1.0	1				•	•				•	•
16IR 1.50 ISO	9.52	1.500	0.12	16.49	0.9	1.0	1		•		•	•	•			•	•
16IR 1.50 ISO 2M ⁽²⁾	9.52	1.500	0.10	16.49	1.5	2.3	2									•	
16IRB 1.50 ISO ⁽¹⁾	9.52	1.500	0.12	16.49	0.1	1.2	1									•	
16IRM 1.50 ISO ⁽¹⁾	9.52	1.500	0.08	16.49	0.8	1.0	1				•	•		•	•	•	•
16IL 1.75 ISO	9.52	1.750	0.12	16.49	0.9	1.2	1									•	
16IR 1.75 ISO	9.52	1.750	0.12	16.49	0.9	1.2	1					•	•			•	
16IRB 1.75 ISO ⁽¹⁾	9.52	1.750	0.12	16.49	0.9	1.2	1									•	
16IRM 1.75 ISO ⁽¹⁾	9.52	1.750	0.10	16.49	0.9	1.2	1					•			•	•	•
16IL 2.00 ISO	9.52	2.000	0.16	16.49	0.9	1.2	1					•				•	
16IR 2.00 ISO	9.52	2.000	0.16	16.49	0.9	1.2	1		•			•		•		•	•
16IR 2.00 ISO 2M ⁽²⁾	9.52	2.000	0.14	16.49	1.6	2.7	2									•	
16IRB 2.00 ISO ⁽¹⁾	9.52	2.000	0.14	16.49	1.0	1.2	1									•	
16IRM 2.00 ISO ⁽¹⁾	9.52	2.000	0.11	16.49	1.0	1.3	1					•		•	•	•	•
16IL 2.50 ISO	9.52	2.500	0.18	16.49	1.1	1.5	1									•	
16IR 2.50 ISO	9.52	2.500	0.18	16.49	1.1	1.5	1		•			•				•	•
16IRB 2.50 ISO	9.52	2.500	0.18	16.49	1.2	1.5	1									•	
16IRM 2.50 ISO ⁽¹⁾	9.52	2.500	0.14	16.49	1.1	1.5	1					•			•	•	•
16IL 3.00 ISO	9.52	3.000	0.21	16.49	1.1	1.5	1									•	
16IR 3.00 ISO	9.52	3.000	0.21	16.49	1.1	1.5	1		•			•				•	•
16IRB 3.00 ISO ⁽¹⁾	9.52	3.000	0.21	16.49	1.1	1.5	1									•	
16IRM 3.00 ISO ⁽¹⁾	9.52	3.000	0.22	16.49	1.1	1.5	1					•		•	•	•	•
22IR 1.50 ISO 3M ⁽²⁾	12.70	1.500	0.11	22.00	2.3	3.7	3					•				•	
22IR 2.00 ISO 2M ⁽²⁾	12.70	2.000	0.15	22.00	2.3	3.0	2									•	
22IR 2.00 ISO 3M ⁽²⁾	12.70	2.000	0.13	22.00	3.1	5.0	3									•	
22IL 3.00 ISO	12.70	3.000	0.17	22.00	1.1	1.5	1		•								
22IL 3.50 ISO	12.70	3.500	0.23	22.00	1.6	2.3	1					•					
22IR 3.50 ISO	12.70	3.500	0.23	22.00	1.6	2.3	1					•				•	•
22IL 4.00 ISO	12.70	4.000	0.27	22.00	1.6	2.3	1									•	
22IR 4.00 ISO	12.70	4.000	0.27	22.00	1.6	2.3	1				•	•				•	
22IL 4.50 ISO	12.70	4.500	0.31	22.00	1.6	2.3	1					•					
22IR 4.50 ISO	12.70	4.500	0.31	22.00	1.6	2.3	1					•				•	
22IL 5.00 ISO	12.70	5.000	0.32	22.00	1.7	2.5	1				•					•	
22IR 5.00 ISO	12.70	5.000	0.32	22.00	1.7	2.5	1					•				•	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ Thread pitch

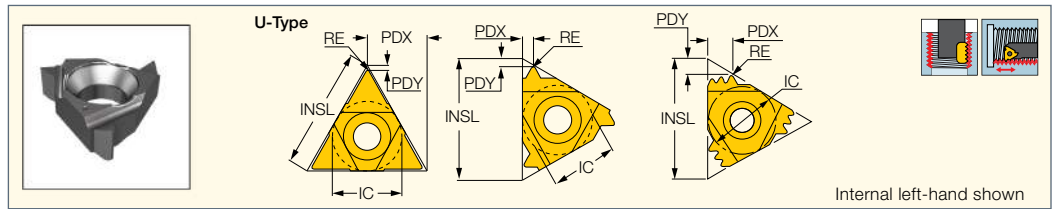
⁽⁴⁾ Number of teeth per corner

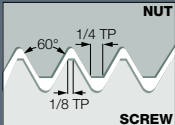
Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

ISCARTHREAD

IR/L-ISO (Continued)

Internal ISO Metric
(DIN13 12-1986 class 6H)
Laydown Threading Inserts
for General Industry



	Dimensions							Tough ↔ Hard									
	IC	TP ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC28	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
Designation																	
22IR 6.00 ISO	12.70	6.000	0.40	22.00	1.7	2.5	1									●	
22UIRL 5.50 ISO	12.70	5.500	0.36	22.00	2.3	11.0	1					●					
22UIRL 6.00 ISO	12.70	6.000	0.40	22.00	2.1	11.0	1					●					
27IR 3.00 ISO 2M ⁽²⁾	15.88	3.000	0.21	27.50	3.1	4.6	2									●	
27IR 5.50 ISO	15.88	5.500	0.36	27.50	1.8	2.5	1					●				●	
27IR 6.00 ISO	15.88	6.000	0.40	27.50	1.8	2.5	1					●				●	
27UIRL 8.00 ISO	15.88	8.000	0.50	27.50	2.5	13.8	1									●	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 6H. • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ Thread pitch

⁽⁴⁾ Number of teeth per corner

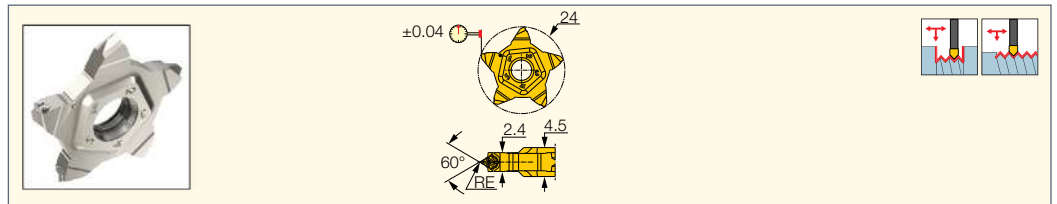
Tools: AVC-D-SIR/L • MGSIR/L • MTET Single Point • PICIN-MGSIR/L • SIR/L

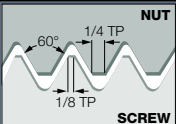
PENTACUT

THREADING LINE

PENTA 24-ISO

Precision Ground ISO Metric
Full Profile Pentagonal
External Threading Inserts
with a Chipformer



 Designation	Dimensions		IC908
	TP ⁽¹⁾	RE	
PENTA 24-0.5-ISO	0.500	0.08	•
PENTA 24-0.75-ISO	0.750	0.11	•
PENTA 24-0.8-ISO	0.800	0.12	•
PENTA 24-1.0-ISO	1.000	0.14	•
PENTA 24-1.25-ISO	1.250	0.18	•
PENTA 24-1.5-ISO	1.500	0.22	•
PENTA 24-1.75-ISO	1.750	0.25	•
PENTA 24-2.0-ISO	2.000	0.28	•

• DMIN(mm)=5.435xTP

⁽¹⁾ Thread pitch

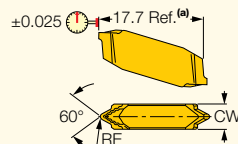
Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

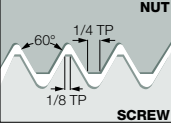
ISCARTHREAD

CUTGRIP

TIP-P-ISO

Precision Ground ISO Metric
Full Profile Double-Ended
External Threading Inserts
with a Chipformer



 NUT SCREW	Dimensions				Tough ↔ Hard	
	TP ⁽¹⁾	CW	RE	RETOL ⁽²⁾	IC08	IC908
TIP 2P0.5-ISO	0.500	2.40	0.08	0.030	●	●
TIP 2P0.75-ISO	0.750	2.40	0.11	0.030	●	●
TIP 2P0.8-ISO	0.800	2.40	0.12	0.030	●	●
TIP 2P1.0-ISO	1.000	2.40	0.14	0.030	●	●
TIP 2P1.25-ISO	1.250	2.40	0.18	0.030	●	●
TIP 2P1.5-ISO	1.500	2.40	0.22	0.030	●	●
TIP 2P1.75-ISO	1.750	2.40	0.25	0.030	●	●
TIP 4P2.0-ISO	2.000	4.00	0.28	0.030	●	●
TIP 4P2.5-ISO	2.500	4.00	0.35	0.050	●	●
TIP 4P3.0-ISO	3.000	4.00	0.42	0.050		●
TIP 4P3.5-ISO	3.500	4.00	0.48	0.050		●
TIP 5P4.0-ISO	4.000	5.50	0.55	0.050		●
TIP 5P5.0-ISO	5.000	5.50	0.68	0.050		●

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Thread pitch

⁽²⁾ Corner radius tolerance (+/-)

Tools: C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

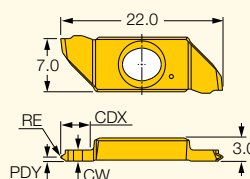
ISCARTHREAD

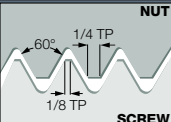
SWISSCUT

INNOVATION LINE

SCIR-22-MTR-ISO

Precision Ground ISO Metric
Full Profile Threading Inserts



 NUT SCREW	Dimensions					IC1008
	TP ⁽¹⁾	CW	CDX ⁽²⁾	RE	PDY	
SCIR 22-MTR-0.3ISO	0.300	1.00	3.00	0.03	0.2	●
SCIR 22-MTR-0.4ISO	0.400	1.00	3.00	0.04	0.2	●
SCIR 22-MTR-0.5ISO	0.500	1.00	3.00	0.06	0.3	●
SCIR 22-MTR-0.75ISO	0.750	1.00	3.00	0.10	0.4	●
SCIR 22-MTR-1.0ISO	1.000	1.50	4.00	0.14	0.6	●
SCIR 22-MTR-1.5ISO	1.500	2.00	4.00	0.20	0.8	●

⁽¹⁾ Thread pitch

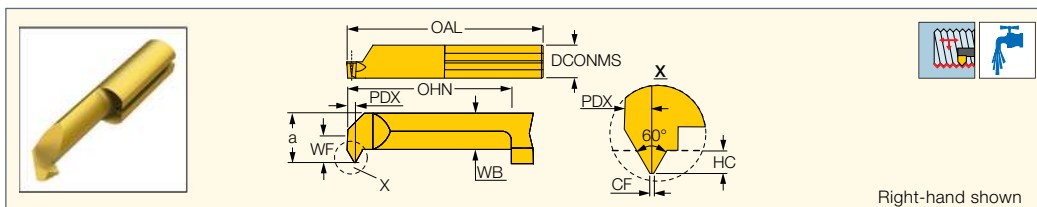
⁽²⁾ Cutting depth maximum

Tools: NQCH-SCHR/L-BF-JHP • NQCH-Y-SCHR-BF-JHP • SCHR/L-22BF • SCHR/L-22BF-JHP • Y-SCHR-22BF • Y-SCHR-22BF-JHP

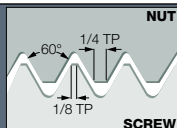
PICCO CUT

PICCO ISO Full Profile

Inserts for ISO Standard
Full Profile Thread



Right-hand shown



Designation	Dimensions											IC908
	TP ⁽¹⁾	DCONMS	WF	a	OAL	OHN ⁽²⁾	WB	PDX	HC	CF	DMIN	
PICCO R/L 105.0510-15	1.000	5.00	1.90	4.40	30.00	15.0	3.30	0.6	0.54	0.12	4.80	●
PICCO R/L 106.0612-15	1.250	6.00	2.30	5.30	30.00	15.0	3.40	0.7	0.67	0.15	6.00	●
PICCO R/L 106.0815-15	1.500	6.00	2.30	5.30	30.00	15.0	3.40	0.8	0.81	0.18	6.00	●
PICCO R/L 107.0815-15	1.500	7.00	2.80	6.30	30.00	15.0	3.80	0.8	0.81	0.18	7.00	●

⁽¹⁾ Thread pitch

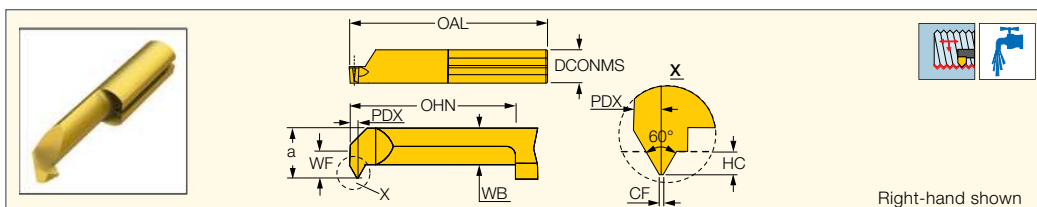
⁽²⁾ Minimum overhang

Holders: GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

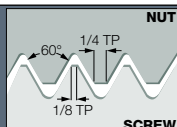
PICCO CUT

PICCO ISO Full Profile Fine

Inserts for ISO Fine Pitch
Full Profile Thread



Right-hand shown



Designation	Dimensions											IC908
	TP ⁽¹⁾	DCONMS	WF	a	OAL	OHN ⁽²⁾	WB	PDX	HC	CF	DMIN	
PICCO R/L 104.0205-15	0.500	5.00	1.50	3.50	30.00	15.0	2.40	0.4	0.27	0.06	4.00	●
PICCO R/L 105.0205-15	0.500	5.00	1.90	4.40	30.00	15.0	3.30	0.4	0.27	0.06	5.00	●
PICCO R/L 105.0407-15	0.750	5.00	1.90	4.40	30.00	15.0	3.30	0.5	0.40	0.09	5.00	●
PICCO R/L 106.0510-15	1.000	6.00	2.30	5.30	30.00	15.0	3.40	0.6	0.54	0.12	6.00	●

⁽¹⁾ Thread pitch

⁽²⁾ Minimum overhang

Holders: GHPCOR • PICCO ACE • PICCO/MG PCO (holder)

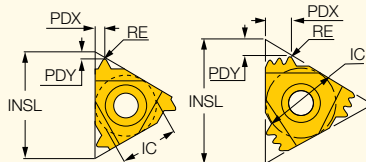


Full Profile UN

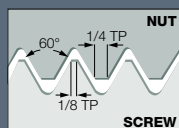
ISCARTHREAD

ER/L-UN

External American UN
Full Profile (UN, UNC, UNF, UNEF)
Laydown Threading Inserts for
General Industry



External right-hand shown



Designation	Dimensions							Tough ↔ Hard							
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
11ER 44 UN	6.35	44.0	0.05	11.00	0.6	0.6	1							•	
11ER 32 UN	6.35	32.0	0.10	11.00	0.6	0.6	1							•	
11ER 28 UN	6.35	28.0	0.10	11.00	0.6	0.7	1				•			•	
11ER 24 UN	6.35	24.0	0.12	11.00	0.7	0.8	1							•	
11EL 20 UN	6.35	20.0	0.15	11.00	0.8	0.9	1							•	
11ER 20 UN	6.35	20.0	0.15	11.00	0.8	0.9	1			•	•			•	
11ER 18 UN	6.35	18.0	0.17	11.00	0.8	1.0	1				•			•	
11ER 16 UN	6.35	16.0	0.18	11.00	0.9	1.1	1		•	•				•	
16ER 72 UN	9.52	72.0	0.04	16.49	0.8	0.4	1							•	
16ER 56 UN	9.52	56.0	0.06	16.49	0.7	0.4	1							•	
16ER 48 UN	9.52	48.0	0.05	16.49	0.6	0.6	1							•	
16ER 40 UN	9.52	40.0	0.06	16.49	0.6	0.6	1				•	•		•	
16EL 36 UN	9.52	36.0	0.07	16.49	0.6	0.6	1							•	
16ER 36 UN	9.52	36.0	0.08	16.49	0.6	0.6	1							•	
16EL 32 UN	9.52	32.0	0.10	16.49	0.6	0.6	1							•	
16ER 32 UN	9.52	32.0	0.10	16.49	0.6	0.6	1			•				•	•
16EL 28 UN	9.52	28.0	0.11	16.49	0.6	0.7	1							•	
16ER 28 UN	9.52	28.0	0.11	16.49	0.6	0.7	1			•	•			•	•
16ER 27 UN	9.52	27.0	0.10	16.49	0.7	0.8	1		•					•	
16EL 24 UN	9.52	24.0	0.13	16.49	0.7	0.8	1							•	
16ER 24 UN	9.52	24.0	0.13	16.49	0.7	0.8	1			•	•			•	•
16ERB 24 UN ⁽¹⁾	9.52	24.0	0.13	16.49	0.7	0.8	1							•	
16ERM 24 UN ⁽¹⁾	9.52	24.0	0.11	16.49	0.7	0.8	1			•				•	•
16EL 20 UN	9.52	20.0	0.16	16.49	0.8	0.8	1			•	•			•	
16ER 20 UN	9.52	20.0	0.16	16.49	0.8	0.9	1			•	•			•	•
16ERB 20 UN ⁽¹⁾	9.52	20.0	0.16	16.49	0.8	0.9	1							•	
16ERM 20 UN ⁽¹⁾	9.52	20.0	0.14	16.49	0.8	0.9	1			•			•	•	•
16EL 18 UN	9.52	18.0	0.17	16.49	0.7	0.8	1				•			•	
16ER 18 UN	9.52	18.0	0.17	16.49	0.7	0.8	1		•	•				•	•
16ERB 18 UN ⁽¹⁾	9.52	18.0	0.18	16.49	0.7	0.8	1							•	
16ERM 18 UN ⁽¹⁾	9.52	18.0	0.15	16.49	0.8	1.0	1			•			•	•	•
16EL 16 UN	9.52	16.0	0.18	16.49	0.9	1.1	1			•				•	
16ER 16 UN	9.52	16.0	0.20	16.49	1.0	1.2	1	•		•				•	•
16ER 16 UN 2M ⁽²⁾	9.52	16.0	0.09	16.49	1.5	2.3	2							•	
16ERB 16 UN ⁽¹⁾	9.52	16.0	0.20	16.49	1.0	1.2	1							•	
16ERM 16 UN ⁽¹⁾	9.52	16.0	0.19	16.49	0.9	1.1	1			•			•	•	•
16EL 14 UN	9.52	14.0	0.22	16.49	1.0	1.2	1			•		•		•	
16ER 14 UN	9.52	14.0	0.23	16.49	1.0	1.2	1			•				•	•
16ER 14 UN 2M ⁽²⁾	9.52	14.0	0.09	16.49	1.6	2.6	2							•	
16ERB 14 UN ⁽¹⁾	9.52	14.0	0.23	16.49	1.0	1.2	1							•	
16ERM 14 UN ⁽¹⁾	9.52	14.0	0.22	16.49	1.0	1.2	1			•			•	•	•
16EL 13 UN	9.52	13.0	0.24	16.49	1.0	1.2	1			•				•	
16ER 13 UN	9.52	13.0	0.24	16.49	1.0	1.2	1			•	•			•	
16ERB 13 UN ⁽¹⁾	9.52	13.0	0.25	16.49	0.9	1.2	1							•	
16ERM 13 UN ⁽¹⁾	9.52	13.0	0.24	16.49	1.0	1.3	1							•	
16EL 12 UN	9.52	12.0	0.27	16.49	1.1	1.2	1			•				•	
16ER 12 UN	9.52	12.0	0.27	16.49	1.1	1.2	1			•	•			•	•
16ER 12 UN 2M ⁽²⁾	9.52	12.0	0.27	16.49	2.2	3.4	2							•	
16ERB 12 UN ⁽¹⁾	9.52	12.0	0.27	16.49	0.9	1.2	1							•	
16ERM 12 UN ⁽¹⁾	9.52	12.0	0.25	16.49	1.1	1.4	1		•	•			•	•	•
16ER 11.5 UN	9.52	11.5	0.27	16.49	1.2	1.5	1			•				•	
16EL 11 UN	9.52	11.0	0.28	16.49	1.1	1.5	1							•	
16ER 11 UN	9.52	11.0	0.29	16.49	1.1	1.5	1			•				•	

- For Insert Identification System, see pages 640-641
- Tolerance: Class 2A
- For threading between walls use GRIP-type insert TIP-UN
- For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer.

⁽²⁾ Multi-tooth

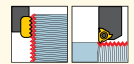
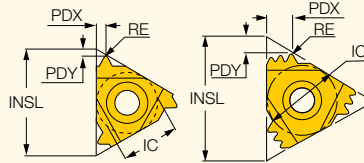
⁽³⁾ Threads per inch

⁽⁴⁾ Number of teeth per corner

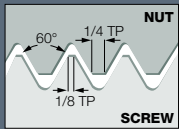
Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

ER/L-UN (continued)

External American UN
Full Profile (UN, UNC, UNF, UNEF)
Laydown Threading Inserts for
General Industry



External right-hand shown

 Designation	Dimensions							Tough ↔ Hard							
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
16ERB 11 UN ⁽¹⁾	9.52	11.0	0.29	16.49	1.1	1.5	1			•				•	
16EL 10 UN	9.52	10.0	0.32	16.49	1.1	1.5	1			•				•	
16ER 10 UN	9.52	10.0	0.32	16.49	1.1	1.5	1			•	•			•	•
16ERB 10 UN ⁽¹⁾	9.52	10.0	0.32	16.49	1.1	1.5	1							•	
16ERM 10 UN	9.52	10.0	0.32	16.49	1.1	1.5	1							•	
16ER 9 UN	9.52	9.0	0.35	16.49	1.3	1.6	1							•	
16ERB 9 UN ⁽¹⁾	9.52	9.0	0.35	16.49	1.3	1.6	1							•	
16EL 8 UN	9.52	8.0	0.40	16.49	1.2	1.6	1			•				•	
16ER 8 UN	9.52	8.0	0.40	16.49	1.2	1.6	1			•				•	•
16ERB 8 UN ⁽¹⁾	9.52	8.0	0.40	16.49	1.2	1.6	1							•	
16ERM 8 UN ⁽¹⁾	9.52	8.0	0.41	16.49	1.2	1.6	1			•				•	
22ER 12 UN 2M ⁽²⁾	12.70	12.0	0.27	22.00	2.2	3.4	2							•	
22ER 12 UN 3M ⁽²⁾	12.70	12.0	0.27	22.00	3.2	5.2	3		•					•	
22ER 7 UN	12.70	7.0	0.47	22.00	1.6	2.3	1			•				•	
22ER 6 UN	12.70	6.0	0.56	22.00	1.6	2.3	1				•			•	
22ER 5 UN	12.70	5.0	0.67	22.00	1.7	2.5	1		•	•				•	
27ER 8 UN 2M ⁽²⁾	15.88	8.0	0.41	27.50	3.1	4.9	2							•	
27ER 4.5 UN	15.88	4.5	0.75	27.50	1.9	2.7	1							•	
27ER 4 UN	15.88	4.0	0.85	27.50	0.7	0.8	1		•	•	•			•	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 2A • For threading between walls use GRIP-type insert TIP-UN

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer.

⁽²⁾ Multi-tooth

⁽³⁾ Threads per inch

⁽⁴⁾ Number of teeth per corner

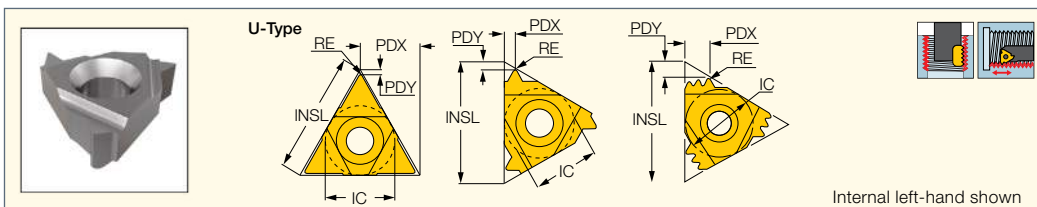
Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

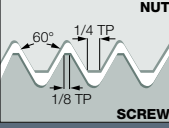


ISCAR THREAD

IR/L-UN

Internal American UN Full Profile
(UN, UNC, UNF, UNEF)
Laydown Threading Inserts
for General Industry



 NUT SCREW	Dimensions							Tough ↔ Hard								
	IC	TPI ⁽⁴⁾	RE	INSL	PDY	PDX	CICT ⁽⁵⁾	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
06IR 32 UN	4.00	32.0	0.05	6.88	0.6	0.5	1	●								
06IL 24 UN	4.00	24.0	0.07	6.88	0.6	0.6	1	●								
06IR 24 UN	4.00	24.0	0.08	6.88	0.6	0.6	1	●								
06IR 20 UN	4.00	20.0	0.09	6.88	0.6	0.6	1	●								
06IL 18 UN	4.00	18.0	0.07	6.88	0.6	0.7	1	●								
06IR 18 UN	4.00	18.0	0.10	6.88	0.6	0.7	1	●								
08IR 32 UN	5.00	32.0	0.04	8.24	0.6	0.5	1	●								
08IL 28 UN	5.00	28.0	0.04	8.24	0.6	0.6	1	●								
08IR 28 UN	5.00	27.0	0.05	8.24	0.5	0.6	1	●								
08IL 24 UN	5.00	24.0	0.08	8.24	0.6	0.6	1	●								
08IR 24 UN	5.00	24.0	0.08	8.24	0.6	0.6	1	●								
08IR/L 20 UN	5.00	20.0	0.08	8.24	0.7	0.7	1	●								
08IR 18 UN	5.00	18.0	0.08	8.24	0.6	0.7	1	●								
08IR 16 UN	5.00	16.0	0.09	8.24	0.6	0.7	1	●								
08IR 14 UN	5.00	14.0	0.10	8.24	0.6	0.8	1	●							●	
08UIRL 13 UN	5.00	13.0	0.10	8.24	1.0	4.0	1								●	
08UIRL 12 UN	5.00	12.0	0.10	8.24	0.9	4.0	1		●							
08UIRL 11 UN	5.00	11.0	0.10	8.24	0.9	4.0	1	●								
11IR 36 UN	6.35	36.0	0.04	11.00	0.6	0.6	1								●	
11IL 32 UN	6.35	32.0	0.04	11.00	0.6	0.6	1								●	
11IR 32 UN	6.35	32.0	0.05	11.00	0.6	0.6	1								●	
11IRB 32 UN	6.35	32.0	0.04	11.00	0.6	0.6	1								●	
11IL 28 UN	6.35	28.0	0.04	11.00	0.6	0.7	1								●	
11IR 28 UN	6.35	28.0	0.05	11.00	0.6	0.6	1								●	
11IRB 28 UN	6.35	28.0	0.05	11.00	0.6	0.6	1								●	
11IR/L 24 UN	6.35	24.0	0.07	11.00	0.8	0.8	1								●	
11IRB 24 UN	6.35	24.0	0.08	11.00	0.6	0.6	1								●	
11IR/L 20 UN	6.35	20.0	0.09	11.00	0.8	0.9	1								●	
11IRB 20 UN	6.35	20.0	0.09	11.00	0.8	0.9	1								●	
11IL 18 UN	6.35	18.0	0.10	11.00	0.9	1.0	1								●	
11IR 18 UN	6.35	18.0	0.07	11.00	0.8	1.0	1				●				●	●
11IRB 18 UN	6.35	18.0	0.10	11.00	0.9	1.0	1								●	
11IL 16 UN	6.35	16.0	0.11	11.00	0.9	1.0	1								●	
11IR 16 UN	6.35	16.0	0.09	11.00	0.9	1.0	1				●				●	●
11IRB 16 UN	6.35	16.0	0.11	11.00	0.9	1.0	1								●	
11IL 14 UN	6.35	14.0	0.10	11.00	0.9	1.1	1				●				●	
11IR 14 UN	6.35	14.0	0.10	11.00	0.9	1.0	1			●	●				●	
11IRB 14 UN	6.35	14.0	0.13	11.00	0.9	1.0	1								●	
11IR 12 UN	6.35	12.0	0.12	11.00	0.9	1.1	1				●				●	
11IRB 12 UN	6.35	12.0	0.13	11.00	0.9	1.0	1								●	
11IR 11 UN	6.35	11.0	0.14	11.00	0.8	1.0	1				●				●	
16IR 32 UN	9.52	32.0	0.04	16.49	0.6	0.6	1				●				●	
16IL 28 UN	9.52	28.0	0.04	16.49	0.6	0.7	1								●	
16IR 28 UN	9.52	28.0	0.05	16.49	0.6	0.6	1								●	
16IR 24 UN	9.52	24.0	0.05	16.49	0.7	0.8	1				●				●	
16IRB 24 UN ⁽¹⁾	9.52	24.0	0.07	16.49	0.7	0.8	1								●	
16IL 20 UN	9.52	20.0	0.06	16.49	0.8	0.9	1				●				●	
16IR 20 UN	9.52	20.0	0.06	16.49	0.8	0.9	1			●	●	●			●	●
16IRB 20 UN ⁽¹⁾	9.52	20.0	0.09	16.49	0.8	0.8	1								●	
16IRM 20 UN ⁽¹⁾	9.52	20.0	0.06	16.49	0.8	0.9	1								●	●
16IL 18 UN	9.52	18.0	0.08	16.49	0.7	0.8	1								●	

• For Insert Identification System, see pages 640-641 • Tolerance: class 2B, ANSI B1, 3M-1986. • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

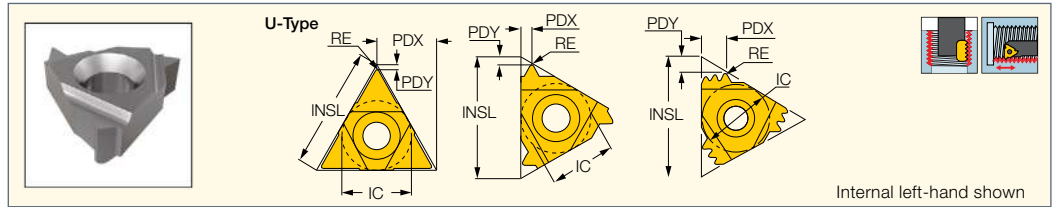
⁽²⁾ Multi-tooth

⁽³⁾ With pressed chipformer.

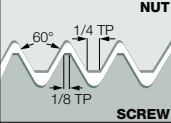
⁽⁴⁾ Threads per inch

⁽⁵⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

IR/L-UN (Continued)
 Internal American UN Full Profile
 (UN, UNC, UNF, UNEF)
 Laydown Threading Inserts
 for General Industry


Internal left-hand shown

	Dimensions							Tough ↔ Hard								
	IC	TPI ⁽⁴⁾	RE	INSL	PDY	PDX	CICT ⁽⁵⁾	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
16IR 18 UN	9.52	18.0	0.08	16.49	0.7	0.8	1				●				●	
16IRB 18 UN ⁽¹⁾	9.52	18.0	0.08	16.49	0.7	0.8	1								●	
16IRM 18 UN ⁽¹⁾	9.52	18.0	0.08	16.49	0.8	1.0	1							●	●	
16IL 16 UN	9.52	16.0	0.11	16.49	1.0	1.1	1								●	
16IR 16 UN	9.52	16.0	0.11	16.49	0.9	1.1	1				●				●	
16IR 16 UN-2M ⁽²⁾	9.52	16.0	0.09	16.49	1.5	2.3	2						●		●	
16IRB 16 UN ⁽³⁾	9.52	16.0	0.11	16.49	0.9	1.1	1								●	
16IRM 16 UN ⁽¹⁾	9.52	16.0	0.09	16.49	0.9	1.1	1				●				●	●
16IL 14 UN	9.52	14.0	0.10	16.49	0.9	1.1	1				●				●	
16IR 14 UN	9.52	14.0	0.13	16.49	0.9	1.1	1				●				●	
16IRB 14 UN ⁽¹⁾	9.52	14.0	0.13	16.49	0.9	1.1	1								●	
16IRM 14 UN ⁽¹⁾	9.52	14.0	0.11	16.49	0.9	1.2	1				●			●	●	●
16IL 12 UN	9.52	12.0	0.12	16.49	1.0	1.1	1				●				●	
16IR 12 UN	9.52	12.0	0.13	16.49	1.0	1.1	1				●	●			●	●
16IRB 12 UN ⁽¹⁾	9.52	12.0	0.13	16.49	1.0	1.1	1								●	
16IRM 12 UN ⁽¹⁾	9.52	12.0	0.12	16.49	1.1	1.4	1				●			●	●	●
16IR 11.5 UN	9.52	11.5	0.14	16.49	1.0	1.1	1								●	
16IR 11 UN	9.52	11.0	0.14	16.49	1.0	1.1	1								●	
16IR/L 10 UN	9.52	10.0	0.15	16.49	1.1	1.5	1				●				●	
16IRB 10 UN ⁽¹⁾	9.52	10.0	0.15	16.49	1.1	1.5	1								●	
16IR 9 UN	9.52	9.0	0.17	16.49	1.2	1.7	1								●	
16IL 8 UN	9.52	8.0	0.23	16.49	1.1	1.5	1				●	●			●	
16IR 8 UN	9.52	8.0	0.23	16.49	1.1	1.5	1				●	●			●	●
16IRB 8 UN ⁽¹⁾	9.52	8.0	0.23	16.49	1.1	1.5	1								●	
16IRM 8 UN ⁽¹⁾	9.52	8.0	0.20	16.49	1.1	1.5	1				●			●	●	●
22IR 16 UN 3M ⁽²⁾	12.70	16.0	0.07	22.00	2.5	4.0	3								●	
22IR 12 UN 2M ⁽²⁾	12.70	12.0	0.09	22.00	2.3	3.4	2								●	
22IR 12 UN 3M ⁽²⁾	12.70	12.0	0.13	22.00	3.2	5.2	3								●	
22IL 7 UN	12.70	7.0	0.22	22.00	1.6	2.3	1								●	
22IR 7 UN	12.70	7.0	0.22	22.00	1.6	2.3	1	●			●				●	
22IR 6 UN	12.70	6.0	0.26	22.00	1.6	2.3	1				●				●	
22IR 5 UN	12.70	5.0	0.32	22.00	1.6	2.3	1				●				●	
22UIRL 4.5 UN	12.70	4.5	0.36	22.00	2.4	11.0	1				●					
27IR 8 UN 2M ⁽²⁾	15.88	8.0	0.19	27.50	3.1	4.9	2								●	
27IR 4.5 UN	15.88	4.5	0.36	27.50	1.7	2.4	1				●				●	
27IR 4 UN	15.88	4.0	0.41	27.50	1.8	2.5	1				●				●	

• For Insert Identification System, see pages 640-641 • Tolerance: class 2B, ANSI B1, 3M-1986. • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ With pressed chipformer.

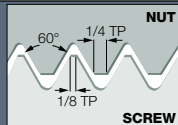
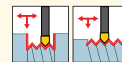
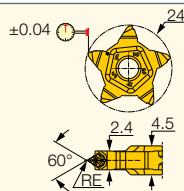
⁽⁴⁾ Threads per inch

⁽⁵⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

PENTACUT

PENTA 24-UN
American UN (UNC, UNF, UNEF)
Precision Ground Full Profile
Pentagonal External Inserts
with a Chipformer



Dimensions

Designation	TPI ⁽¹⁾	RE	IC908
PENTA 24-24-UN	24.0	0.13	•
PENTA 24-20-UN	20.0	0.16	•
PENTA 24-18-UN	18.0	0.18	•
PENTA 24-16-UN	16.0	0.21	•
PENTA 24-14-UN	14.0	0.23	•

• DMN(inch)=5.435/TPI • Tolerance: Class 2A

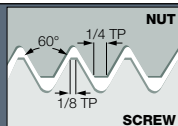
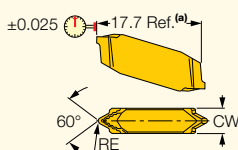
⁽¹⁾ Threads per inch

Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD

CUTGRIP

TIP-P-UN
American UN (UNC, UNF, UNEF)
Precision Ground External
Double-Ended Full Profile Threading
Inserts with a Chipformer



Dimensions

Tough ↔ Hard

Designation	CW	RE	RETOL ⁽¹⁾	TPI ⁽²⁾	IC08	IC808	IC908
TIP 2P32-UN	2.40	0.10	0.030	32.0	•		•
TIP 2P28-UN	2.40	0.11	0.030	28.0	•		•
TIP 2P24-UN	2.40	0.13	0.030	24.0	•		•
TIP 2P20-UN	2.40	0.16	0.030	20.0	•		•
TIP 2P18-UN	2.40	0.18	0.030	18.0	•		•
TIP 2P16-UN	2.40	0.20	0.030	16.0	•		•
TIP 2P14-UN	2.40	0.23	0.030	14.0	•		•
TIP 2P13-UN	2.40	0.25	0.030	13.0	•		•
TIP 2P12-UN	2.40	0.27	0.030	12.0	•		•
TIP 4P11-UN	4.00	0.30	0.030	11.0			•
TIP 4P10-UN	4.00	0.33	0.050	10.0		•	•
TIP 4P08-UN	4.00	0.41	0.050	8.0			•

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

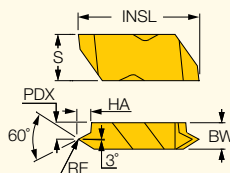
⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Threads per inch

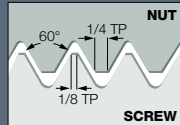
Tools: C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

UN THREADING FLTC-E
Double-Ended, Precision, Flat
Top Full Profile Threading Inserts



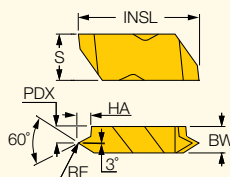
Right-hand shown

	Dimensions							IC908		
	Designation	TPI ⁽¹⁾	RE	HA	PDX	BW	S		INSL	
	FLTC-3R/L7E	7.0	0.43	2.74	2.70	4.95	8.74		22.60	●
	FLTC-3R/L8E	8.0	0.38	2.39	2.70	4.95	8.74		22.60	●
	FLTC-3R/L9E	9.0	0.33	2.13	2.70	4.95	8.74		22.60	●
	FLTC-3R/L10E	10.0	0.30	1.93	2.70	4.95	8.74		22.60	●
	FLTC-3R/L11E	11.0	0.28	1.75	2.70	4.95	8.74		22.60	●
	FLTC-3R/L12E	12.0	0.25	1.30	3.80	4.95	8.74		22.60	●
	FLTC-3R/L14E	14.0	0.23	1.37	3.80	4.95	8.74		22.60	●
	FLTC-3R/L16E	16.0	0.20	1.17	3.80	4.95	8.74		22.60	●
FLTC-3R/L18E	18.0	0.18	1.04	3.80	4.95	8.74	22.60	●		
FLTC-3R/L20E	20.0	0.15	0.94	3.80	4.95	8.74	22.60	●		
FLTC-3R/L24E	24.0	0.13	0.79	3.80	4.95	8.74	22.60	●		
FLTC-3R/L28E	28.0	0.08	0.58	3.80	4.95	8.74	22.60	●		
FLTC-3R/L32E	32.0	0.08	0.53	3.80	4.95	8.74	22.60	●		

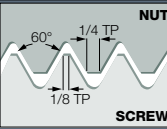
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSPR/L

UN THREADING FLTC-I
Double-Ended, Precision, Flat
Top Full Profile Threading Inserts



Right-hand shown

	Dimensions							IC908		
	Designation	TPI ⁽¹⁾	RE	HA	PDX	BW	S		INSL	
	FLTC-3R/L7I	7.0	0.23	2.34	2.70	4.95	8.74		22.60	●
	FLTC-3R/L8I	8.0	0.18	2.06	2.70	4.95	8.74		22.60	●
	FLTC-3R/L9I	9.0	0.15	1.83	2.70	4.95	8.74		22.60	●
	FLTC-3R/L10I	10.0	0.13	1.65	2.70	4.95	8.74		22.60	●
	FLTC-3R/L11I	11.0	0.13	1.50	2.70	4.95	8.74		22.60	●
	FLTC-3R/L12I	12.0	0.10	1.22	3.80	4.95	8.74		22.60	●
	FLTC-3R/L14I	14.0	0.08	1.12	3.76	4.95	8.74		22.60	●
	FLTC-3R/L16I	16.0	0.08	1.02	3.76	4.95	8.74		22.60	●
	FLTC-3R/L18I	18.0	0.08	0.91	3.76	4.95	8.74		22.60	●
	FLTC-3R/L20I	20.0	0.08	0.79	3.76	4.95	8.74		22.60	●
	FLTC-3R/L24I	24.0	0.08	0.66	3.76	4.95	8.74		22.60	●
FLTC-3R/L28I	28.0	0.08	0.58	3.76	4.95	8.74	22.60	●		

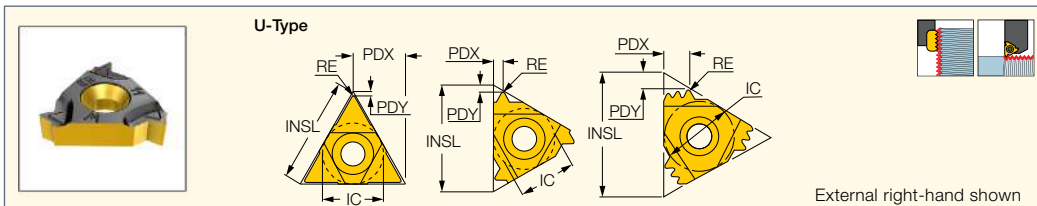
⁽¹⁾ Threads per inch

Full Profile W (Whitworth BSW, BSF, BSP)

ISCAR THREAD

ER/L-W

External Whitworth
(BSW, BSF, BSP)
B.S.84-1956 DIN259
Medium Class Full Profile
Laydown Threading Inserts



Designation	Dimensions							Tough ↔ Hard							
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
11ER/L 19 W	6.35	19.0	0.15	11.00	0.8	1.0	1							•	
11ER 14 W	6.35	14.0	0.21	11.00	0.9	1.1	1							•	
16ER 32 W	9.52	32.0	0.09	16.49	0.6	0.6	1		•					•	
16ER 28 W	9.52	28.0	0.11	16.49	0.6	0.7	1			•				•	•
16ER 26 W	9.52	26.0	0.12	16.49	0.7	0.7	1							•	
16ER 24 W	9.52	24.0	0.14	16.49	0.7	0.8	1							•	
16ER 22 W	9.52	22.0	0.13	16.49	0.8	0.9	1							•	
16ER 20 W	9.52	20.0	0.16	16.49	0.7	0.8	1							•	
16EL 19 W	9.52	19.0	0.17	16.49	0.7	0.8	1							•	
16ER 19 W	9.52	19.0	0.17	16.49	0.7	0.8	1	•		•				•	•
16ERB 19 W ⁽¹⁾	9.52	19.0	0.17	16.49	0.7	0.8	1							•	
16ERM 19 W ⁽¹⁾	9.52	19.0	0.16	16.49	0.8	1.0	1		•	•			•	•	•
16EL 18 W	9.52	18.0	0.17	16.49	0.9	1.2	1							•	
16ER 18 W	9.52	18.0	0.17	16.49	0.9	1.2	1		•					•	
16ER 16 W	9.52	16.0	0.20	16.49	0.9	1.2	1							•	
16ERB 16 W ⁽¹⁾	9.52	16.0	0.20	16.49	0.9	1.2	1							•	
16ERM 16 W ⁽¹⁾	9.52	16.0	0.20	16.49	0.9	1.1	1			•			•	•	•
16EL 14 W	9.52	14.0	0.23	16.49	1.0	1.2	1							•	
16ER 14 W	9.52	14.0	0.23	16.49	1.0	1.2	1	•		•				•	
16ER 14 W 2M ⁽²⁾	9.52	14.0	0.21	16.49	1.7	2.7	2							•	
16ERB 14 W ⁽¹⁾	9.52	14.0	0.23	16.49	1.0	1.2	1							•	
16ERM 14 W ⁽¹⁾	9.52	14.0	0.24	16.49	1.0	1.2	1		•	•			•	•	•
16ER/L 12 W	9.52	12.0	0.27	16.49	1.2	1.4	1							•	
16EL 11 W	9.52	11.0	0.29	16.49	1.1	1.5	1			•				•	
16ER 11 W	9.52	11.0	0.29	16.49	1.1	1.5	1	•	•	•	•	•		•	•
16ERB 11 W ⁽¹⁾	9.52	11.0	0.29	16.49	1.1	1.5	1							•	
16ERM 11 W ⁽¹⁾	9.52	11.0	0.27	16.49	1.1	1.5	1			•		•	•	•	•
16ER 10 W	9.52	10.0	0.32	16.49	1.1	1.5	1			•				•	
16ERB 10 W ⁽¹⁾	9.52	10.0	0.32	16.49	1.1	1.5	1							•	
16ER 9 W	9.52	9.0	0.34	16.49	1.2	1.7	1			•					
16EL 8 W	9.52	8.0	0.39	16.49	1.2	1.5	1							•	
16ER 8 W	9.52	8.0	0.41	16.49	1.2	1.6	1							•	
22ER 14 W 3M ⁽²⁾	12.70	14.0	0.21	22.00	2.8	4.5	3							•	
22ER 11 W 2M ⁽²⁾	12.70	11.0	0.09	22.00	2.2	3.4	2							•	
22ER 7 W	12.70	7.0	0.45	22.00	1.6	2.3	1							•	
22ER 6 W	12.70	6.0	0.52	22.00	1.6	2.3	1							•	
22ER 5 W	12.70	5.0	0.65	22.00	1.7	2.4	1			•					
27ER 4 W	15.88	4.0	0.85	27.50	2.0	2.9	1							•	
27UEIRL 3.5 W	15.88	3.5	0.95	27.50	2.1	13.7	1							•	

• For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type insert TIP-BSW • Tolerance: medium class

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

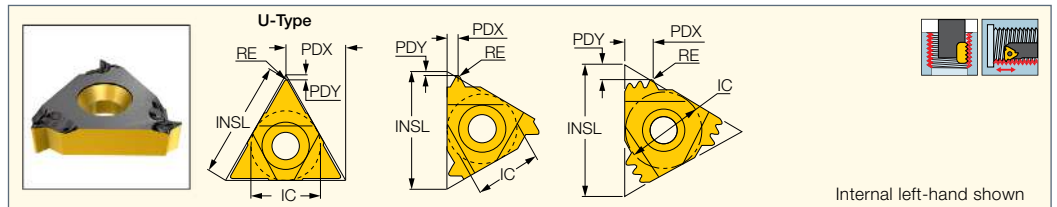
⁽³⁾ Threads per inch

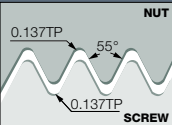
⁽⁴⁾ Number of teeth per corner

Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC

IR/L-W

Internal Whitworth
(BSW, BSF, BSP)
B.S.84-1956 DIN259
Medium Class Full Profile
Laydown Threading Inserts



	Dimensions							Tough ↔ Hard								
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC928	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
06IR 26 W	4.00	26.0	0.10	6.88	0.7	0.6	1	●								
08IR 28 W	5.00	28.0	0.11	8.24	0.5	0.6	1	●								
08IR 19 W	5.00	19.0	0.15	8.24	0.6	0.6	1	●	●						●	
08IR 18 W	5.00	18.0	0.16	8.24	0.6	0.7	1	●								
08IR 16 W	5.00	16.0	0.18	8.24	0.6	0.7	1	●								
11IR 36 W	6.35	36.0	0.07	11.00	0.6	0.6	1					●				
11IR 28 W	6.35	28.0	0.10	11.00	0.6	0.7	1				●					
11IRB 28 W	6.35	28.0	0.10	11.00	0.6	0.6	1								●	
11IR 26 W	6.35	26.0	0.10	11.00	0.7	0.7	1	●								
11IR/L 24 W	6.35	24.0	0.11	11.00	0.7	0.8	1								●	
11IRB 24 W	6.35	24.0	0.11	11.00	0.6	0.6	1								●	
11IR 20 W	6.35	20.0	0.14	11.00	0.8	0.9	1				●				●	
11IRB 20 W	6.35	20.0	0.14	11.00	0.8	0.9	1				●				●	
11IR 19 W	6.35	19.0	0.15	11.00	0.8	1.0	1				●				●	●
11IRB 19 W	6.35	19.0	0.17	11.00	0.7	0.9	1								●	
11IL 18 W	6.35	18.0	0.16	11.00	0.8	1.0	1								●	
11IR 18 W	6.35	18.0	0.18	11.00	0.8	0.9	1								●	
11IRB 18 W	6.35	18.0	0.18	11.00	0.9	0.9	1								●	
11IR 16 W	6.35	16.0	0.18	11.00	0.9	1.1	1								●	
11IRB 16 W	6.35	16.0	0.18	11.00	0.8	0.9	1								●	
11IL 14 W	6.35	14.0	0.23	11.00	0.9	1.1	1								●	
11IR 14 W	6.35	14.0	0.23	11.00	0.9	1.1	1	●			●	●			●	●
11IRB 14 W	6.35	14.0	0.23	11.00	0.9	1.0	1								●	
16IR 32 W	9.52	32.0	0.09	16.49	0.6	0.6	1			●						
16IR 28 W	9.52	28.0	0.09	16.49	0.6	0.7	1				●					
16IR 26 W	9.52	26.0	0.12	16.49	0.8	0.8	1								●	
16IR 24 W	9.52	24.0	0.11	16.49	0.7	0.8	1								●	
16IR 22 W	9.52	22.0	0.13	16.49	0.8	0.9	1								●	
16IL 20 W	9.52	20.0	0.14	16.49	0.8	0.9	1				●				●	
16IR 20 W	9.52	20.0	0.14	16.49	0.7	0.8	1				●				●	
16IRM 20 W ⁽¹⁾	9.52	20.0	0.14	16.49	0.8	0.9	1								●	
16IR 19 W	9.52	19.0	0.17	16.49	0.7	0.8	1				●				●	
16IRB 19 W ⁽¹⁾	9.52	19.0	0.17	16.49	0.7	0.8	1								●	
16IRM 19 W ⁽¹⁾	9.52	19.0	0.15	16.49	0.8	1.0	1				●					
16IR/L 18 W	9.52	18.0	0.18	16.49	0.8	0.8	1								●	
16IR 16 W	9.52	16.0	0.20	16.49	1.0	1.0	1								●	
16IRB 16 W ⁽¹⁾	9.52	16.0	0.20	16.49	1.0	1.2	1								●	
16IRM 16 W ⁽¹⁾	9.52	16.0	0.18	16.49	0.9	1.1	1								●	
16IL 14 W	9.52	14.0	0.23	16.49	1.0	1.2	1								●	
16IR 14 W	9.52	14.0	0.23	16.49	1.0	1.2	1	●			●	●			●	●
16IR 14 W 2M ⁽²⁾	9.52	14.0	0.19	16.49	1.7	2.6	2								●	●
16IRB 14 W ⁽¹⁾	9.52	14.0	0.23	16.49	1.0	1.2	1								●	
16IRM 14 W ⁽¹⁾	9.52	14.0	0.21	16.49	1.0	1.2	1				●			●	●	●
16IR 12 W	9.52	12.0	0.27	16.49	1.2	1.5	1								●	
16IL 11 W	9.52	11.0	0.29	16.49	1.1	1.5	1								●	
16IR 11 W	9.52	11.0	0.29	16.49	1.1	1.5	1	●		●	●	●			●	●
16IRB 11 W ⁽¹⁾	9.52	11.0	0.28	16.49	1.1	1.5	1								●	
16IRM 11 W ⁽¹⁾	9.52	11.0	0.27	16.49	1.1	1.5	1				●		●	●	●	●
16IR 10 W	9.52	10.0	0.32	16.49	1.1	1.1	1								●	
16IRB 10 W ⁽¹⁾	9.52	10.0	0.31	16.49	1.1	1.5	1								●	
16IR 9 W	9.52	9.0	0.34	16.49	1.2	1.7	1				●					
16IL 8 W	9.52	8.0	0.41	16.49	1.1	1.1	1			●					●	
16IR 8 W	9.52	8.0	0.41	16.49	1.1	1.1	1								●	
22IR 14 W 3M ⁽²⁾	12.70	14.0	0.21	22.00	2.8	4.5	3								●	
22IR 11 W 2M ⁽²⁾	12.70	11.0	0.09	22.00	2.3	3.4	2								●	
22IR 7 W	12.70	7.0	0.45	22.00	1.6	2.3	1								●	
22IR 6 W	12.70	6.0	0.52	22.00	1.6	2.3	1				●					
22IR 5 W	12.70	5.0	0.65	22.00	1.7	2.4	1				●					
27IR 4.5 W	15.88	4.5	0.73	27.50	1.8	2.6	1				●					
27IR 4 W	15.88	4.0	0.82	27.50	2.0	2.9	1								●	

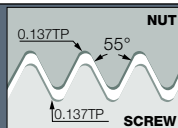
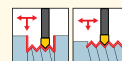
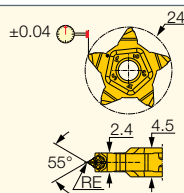
• For Insert Identification System, see pages 640-641 • Tolerance: medium class • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer ⁽²⁾ Multi-tooth ⁽³⁾ Threads per inch ⁽⁴⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

PENTACUT

PENTA 24-W
Whitworth (BSW, BSF, BSP)
B.S.84-1956 DIN 259 Pentagonal
Full Profile External Threading
Inserts with a Chipformer



Dimensions

Designation	TPI ⁽¹⁾	RE	IC908
PENTA 24-28-W	28.0	0.09	•
PENTA 24-19-W	19.0	0.15	•
PENTA 24-14-W	14.0	0.21	•

• DMIN(inch)=5.435/TPI

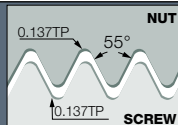
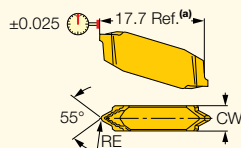
⁽¹⁾ Threads per inch

Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCAR THREAD

CUTGRIP

TIP-P-BSW
American (BSW, BSF, BSP)
Precision Ground External
Double-Ended Full Profile Threading
Inserts with a Chipformer



Dimensions

Tough ↔ Hard

Designation	CW	RE	TPI ⁽¹⁾	IC8	IC908
TIP 2P28-BSW	2.40	0.11	28.0	•	•
TIP 2P26-BSW	2.40	0.12	26.0	•	•
TIP 2P24-BSW	2.40	0.12	24.0	•	•
TIP 2P20-BSW	2.40	0.16	20.0	•	•
TIP 2P19-BSW	2.40	0.16	19.0	•	•
TIP 2P18-BSW	2.40	0.17	18.0	•	•
TIP 2P16-BSW	2.40	0.19	16.0	•	•
TIP 2P14-BSW	2.40	0.22	14.0	•	•
TIP 4P12-BSW	4.00	0.25	12.0	•	•
TIP 4P11-BSW	4.00	0.28	11.0	•	•
TIP 4P10-BSW	4.00	0.31	10.0	•	•

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Threads per inch

Tools: C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

ISCARTHREAD

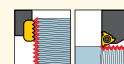
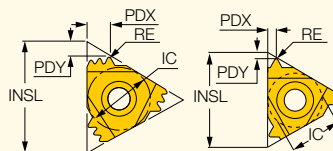
ER/L-NPT

External NPT

(National Pipe Threads)

Full Profile Laydown

Threading Inserts for Steam,
Gas and Water Pipes



External right-hand shown

Designation	Dimensions							Tough ↔ Hard					
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC808	IC908	IC1007
16ER 27 NPT	9.52	27.0	0.04	16.49	0.7	0.8	1	•		•		•	
16ER 18 NPT	9.52	18.0	0.06	16.49	0.8	1.0	1			•		•	•
16ERB 18 NPT ⁽¹⁾	9.52	18.0	0.06	16.49	0.9	1.1	1					•	
16ERM 18 NPT ⁽¹⁾	9.52	18.0	0.05	16.49	0.8	1.0	1				•	•	•
16EL 14 NPT	9.52	14.0	0.07	16.49	0.9	1.2	1					•	
16ER 14 NPT	9.52	14.0	0.07	16.49	0.9	1.2	1	•		•		•	•
16ERB 14 NPT ⁽¹⁾	9.52	14.0	0.07	16.49	0.9	1.2	1					•	
16ERM 14 NPT ⁽¹⁾	9.52	14.0	0.05	16.49	0.9	1.2	1		•	•	•	•	•
16EL 11.5 NPT	9.52	11.5	0.09	16.49	1.1	1.5	1					•	
16ER 11.5 NPT	9.52	11.5	0.09	16.49	1.1	1.5	1		•	•		•	•
16ERB 11.5 NPT ⁽¹⁾	9.52	11.5	0.09	16.49	1.1	1.5	1					•	
16ERM 11.5 NPT ⁽¹⁾	9.52	11.5	0.09	16.49	1.1	1.5	1			•	•	•	•
16ER 8 NPT	9.52	8.0	0.11	16.49	1.4	1.6	1		•	•		•	
16ERB 8 NPT ⁽¹⁾	9.52	8.0	0.11	16.49	1.4	1.7	1					•	
16ERM 8 NPT ⁽¹⁾	9.52	8.0	0.12	16.49	1.3	1.8	1			•	•	•	•
22ER 11.5 NPT 2M ⁽²⁾	12.70	11.5	0.09	22.00	2.3	3.5	2					•	
27ER 11.5 NPT 3M ⁽²⁾	15.88	11.5	0.09	27.50	3.3	5.5	3					•	
27ER 8 NPT 2M ⁽²⁾	15.88	8.0	0.09	27.50	3.3	5.0	2					•	

- For Insert Identification System, see pages 640-641 • For threading between walls use GRIP-type insert TIP-NPT. • National Pipe Threads ANSI/ASME B1.20.1-1983
- For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ Threads per inch

⁽⁴⁾ Number of teeth per corner

Tools: C#-SER/L • SER-D • SER/L



ISCAR THREAD

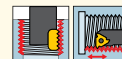
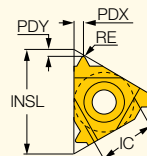
IR/L-NPT

Internal NPT

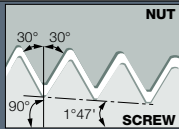
(National Pipe Threads)

Full Profile Laydown

Threading Inserts for Steam,
Gas and Water Pipes



Internal left-hand shown

 NUT SCREW Designation	Dimensions							Tough ↔ Hard							
	IC	TPI ⁽³⁾	RE	INSL	PDY	PDX	CICT ⁽⁴⁾	IC228	IC50M	IC250	IC08	IC508	IC808	IC908	IC1007
06IR 27 NPT	4.00	27.0	0.04	6.88	0.6	0.6	1	•							
08IR 18 NPT	5.00	18.0	0.06	8.24	0.6	0.8	1	•						•	
11IL 18 NPT	6.35	18.0	0.06	11.00	0.8	1.0	1							•	
11IR 18 NPT	6.35	18.0	0.06	11.00	0.8	1.0	1			•				•	
11IRB 18 NPT	6.35	18.0	0.06	11.00	0.8	1.0	1							•	
11IL 14 NPT	6.35	14.0	0.07	11.00	0.8	1.0	1			•				•	
11IR 14 NPT	6.35	14.0	0.07	11.00	0.8	1.0	1			•				•	•
16IR 27 NPT	9.52	27.0	0.04	16.49	0.7	0.8	1							•	
16IR 18 NPT	9.52	18.0	0.06	16.49	0.8	1.0	1							•	
16IRM 14 NPT ⁽¹⁾	9.52	14.0	0.05	16.49	0.9	1.2	1			•			•	•	•
16IRB 14 NPT ⁽¹⁾	9.52	14.0	0.07	16.49	0.9	1.2	1							•	
16IL 14 NPT	9.52	14.0	0.07	16.49	0.9	1.2	1							•	
16IR 14 NPT	9.52	14.0	0.07	16.49	0.9	1.2	1	•		•				•	•
16IRM 11.5 NPT ⁽¹⁾	9.52	11.5	0.09	16.49	1.1	1.5	1					•	•		•
16IRB 11.5 NPT ⁽¹⁾	9.52	11.5	0.09	16.49	1.1	1.5	1							•	
16IL 11.5 NPT	9.52	11.5	0.09	16.49	1.1	1.5	1			•				•	
16IR 11.5 NPT	9.52	11.5	0.09	16.49	1.1	1.5	1		•					•	•
16IRM 8 NPT ⁽¹⁾	9.52	8.0	0.12	16.49	1.3	1.8	1						•	•	•
16IRB 8 NPT ⁽¹⁾	9.52	8.0	0.11	16.49	1.2	1.7	1							•	
16IL 8 NPT	9.52	8.0	0.11	16.49	1.3	1.8	1			•				•	
16IR 8 NPT	9.52	8.0	0.11	16.49	1.2	1.7	1			•	•			•	
22IR 11.5 NPT 2M ⁽²⁾	12.70	11.5	0.09	22.00	2.3	3.5	2							•	
27IR 11.5 NPT 3M ⁽²⁾	15.88	11.5	0.09	27.50	3.3	5.5	3							•	
27IR 8 NPT 2M ⁽²⁾	15.88	8.0	0.12	27.50	3.1	5.0	2							•	

• For Insert Identification System, see pages 640-641 • National Pipe Threads ANSI/ASME B1.20.1-1983

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Multi-tooth

⁽³⁾ Threads per inch

⁽⁴⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

PENTACUT

THREADING LINE

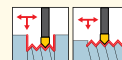
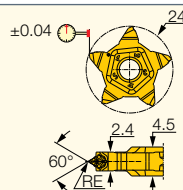
PENTA 24-NPT

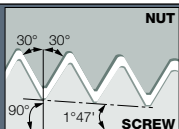
NPT (National Pipe Threads)

Precision Ground Pentagonal

External Full Profile Threading

Inserts with a Chipformer



 NUT SCREW Designation	Dimensions		IC908
	TPI ⁽¹⁾	RE	
PENTA 24-18-NPT	18.0	0.07	•
PENTA 24-14-NPT	14.0	0.09	•

⁽¹⁾ Threads per inch

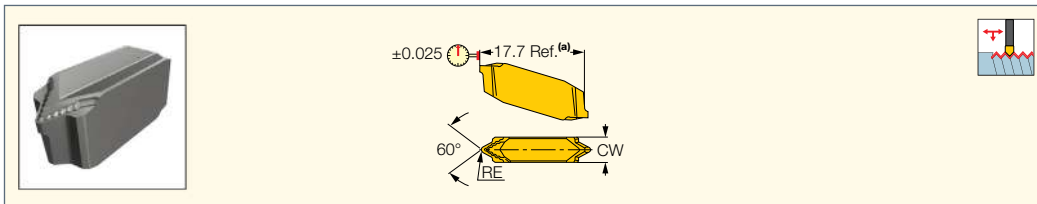
Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

ISCARTHREAD

CUTGRIP

TIP-P-NPT

NPT (National Pipe Threads)
Precision Ground Double-Ended
External Full Profile Threading
Inserts with a Chipformer



Designation	Dimensions				Tough ↔ Hard	
	CW	RE	RETOL ⁽¹⁾	TPI ⁽²⁾	IC08	IC908
TIP 2P27-NPT	2.40	0.05	0.030	27.0	●	●
TIP 2P18-NPT	2.40	0.07	0.030	18.0	●	●
TIP 2P14-NPT	2.40	0.09	0.030	14.0	●	●
TIP 4P11.5-NPT	4.00	0.10	0.030	11.5	●	●
TIP 4P8-NPT	4.00	0.13	0.030	8.0	●	●

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Threads per inch

Tools: C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSR/L-JHP-SL • NQCH-GHSR/L-JHP

NOTCHGRIP

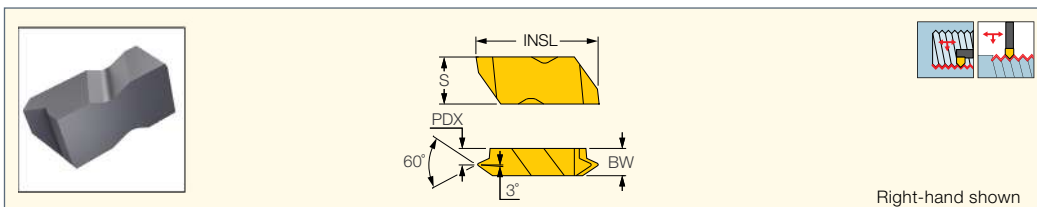
GROOVE-TURN LINE

ISCARTHREAD

NPT THREADING

FLDC-V-75

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown

Designation	Dimensions						IC908
	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	
FLDC-3-8VR/L75	8.0	3/4	2.50	4.95	8.74	22.60	●
FLDC-3-115VR/L75	11.5	3/4	3.70	4.95	8.74	22.60	●
FLDC-3-14VR/L-75	14.0	3/4	3.80	4.95	8.74	22.60	●
FLDC-3-18VR/L-75	18.0	3/4	3.90	4.95	8.74	22.60	●
FLDC-3-27VR/L-75	27.0	3/4	4.10	4.95	8.74	22.60	●

• DMIN according to related boring bar

⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

NOTCHGRIP

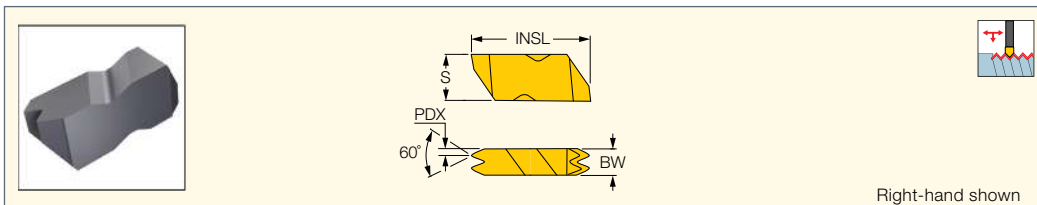
GROOVE-TURN LINE

ISCARTHREAD

NPT THREADING

FLDC-NPT-E

Double-Ended, Precision, Flat Top
Multi-Tooth Threading Inserts



Right-hand shown

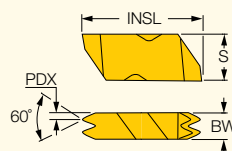
Designation	Dimensions						IC908
	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	
FLDC-3-8NPT 2E	8.0	3/4	1.50	6.35	8.74	22.60	●
FLDC-3-11.5NPT-2E	11.5	3/4	1.20	6.35	8.74	22.60	●

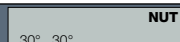
⁽¹⁾ Threads per inch

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

NPT THREADING
FLDC-NPT-I

Double-Ended, Precision, Flat Top
Multi-Tooth Threading Inserts



	Dimensions						IC908		
	Designation	TPI ⁽¹⁾	IPF	PDX	BW	S		INSL	
	FLDC-3-8NPT 2I	8.0	3/4	1.50	6.35	8.74		22.60	●
	FLDC-3-11.5NPT-2I	11.5	3/4	1.20	6.35	8.74		22.60	●

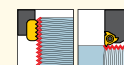
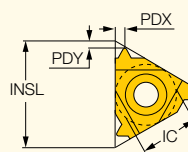
⁽¹⁾ Threads per inch

Full Profile NPTF

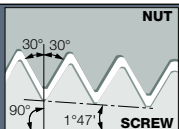
ISCARTHREAD

ER-NPTF

External NPTF
(National Pipe Threads)
Full Profile Laydown
Threading Inserts for Steam,
Gas and Water Pipes



External right-hand shown

	Dimensions						Tough ↔ Hard	
	Designation	IC	TPI ⁽¹⁾	INSL	PDY	PDX	IC250	IC908
	11ER 14 NPTF	6.35	14.0	11.00	0.8	1.0		•
	16ER 27 NPTF	9.52	27.0	16.49	0.7	0.8		•
	16ER 18 NPTF	9.52	18.0	16.49	0.8	0.9		•
	16ER 14 NPTF	9.52	14.0	16.49	0.9	1.1	•	•
	16ER 11.5 NPTF	9.52	11.5	16.49	1.1	1.5		•

- For Insert Identification System, see pages 640-641 • (National Pipe Threads-Dry Seal) ANSI/ASME B1.20.1-1976 full profile
- For technical information and detailed cutting data, see pages 713-729

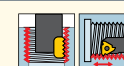
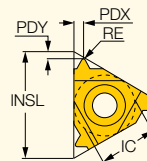
⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

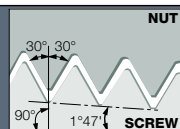
ISCARTHREAD

IR/L-NPTF

Internal NPTF
(National Pipe Threads)
Full Profile Laydown
Threading Inserts for Steam,
Gas and Water Pipes



Internal left-hand shown

	Dimensions						Tough ↔ Hard		
	Designation	IC	TPI ⁽¹⁾	RE	INSL	PDY	PDX	IC228	IC250
06IR 27 NPTF	4.00	27.0	0.04	6.88	0.7	0.6	●		
08IR 27 NPTF	5.00	27.0	0.04	8.24	0.6	0.6	●		
08IL 18 NPTF	5.00	18.0	0.06	8.24	0.6	0.8	●		
08IR 18 NPTF	5.00	18.0	0.04	8.24	0.6	0.8	●		
11IR 18 NPTF	6.35	18.0	0.04	11.00	0.8	1.0			●
11IRB 18 NPTF	6.35	18.0	0.04	11.00	0.8	1.0			●
11IR 14 NPTF	6.35	14.0	0.04	16.49	0.8	1.1			●
16IR 18 NPTF	9.52	18.0	0.06	16.49	0.8	1.0			●
16IL 14 NPTF	9.52	14.0	0.07	16.49	0.9	1.2			●
16IR 14 NPTF	9.52	14.0	0.04	16.49	0.9	1.2		●	●
16IR 11.5 NPTF	9.52	11.5	0.04	16.49	1.1	1.5		●	●

- For Insert Identification System, see pages 640-641 • (National Pipe Threads-Dry seal) ANSI/ASME B1.20.1-1976 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Threads per inch

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

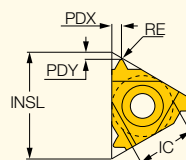
ISCAR THREAD
ER/L-BSPT

External BSPT

(British Standard Pipe)

B.S.21-1957 Full Profile

Laydown Threading Inserts



External right-hand shown

Designation	Dimensions						Tough ↔ Hard			
	IC	INSL	TPI ⁽²⁾	RE	PDY	PDX	IC250	IC808	IC908	IC1007
16ER 28 BSPT	9.52	16.49	28.0	0.11	0.6	0.6			•	
16EL 19 BSPT	9.52	16.49	19.0	0.16	0.7	0.8			•	
16ER 19 BSPT	9.52	16.49	19.0	0.16	0.7	0.8	•			•
16EL 14 BSPT	9.52	16.49	14.0	0.23	1.0	1.1			•	
16ER 14 BSPT	9.52	16.49	14.0	0.23	1.0	1.1	•		•	•
16ERB 14 BSPT ⁽¹⁾	9.52	16.49	14.0	0.23	1.0	1.1			•	
16ERM 14 BSPT ⁽¹⁾	9.52	16.49	14.0	0.24	1.0	1.2		•	•	•
16EL 11 BSPT	9.52	16.49	11.0	0.29	1.1	1.5			•	
16ER 11 BSPT	9.52	16.49	11.0	0.29	1.1	1.5	•		•	
16ERB 11 BSPT ⁽¹⁾	9.52	16.49	11.0	0.29	1.1	1.5			•	
16ERM 11 BSPT ⁽¹⁾	9.52	16.49	11.0	0.31	1.1	1.5			•	•

• For Insert Identification System, see pages 640-641 • For threading between walls use insert TIP-BSPT • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

⁽²⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

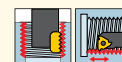
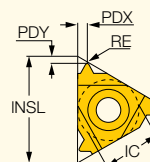
ISCAR THREAD
IR/L-BSPT

Internal BSPT

(British Standard Pipe)

B.S.21-1957 Full Profile

Laydown Threading Inserts



Internal left-hand shown

Designation	Dimensions						Tough ↔ Hard				
	IC	INSL	TPI ⁽²⁾	RE	PDY	PDX	IC228	IC250	IC808	IC908	IC1007
06IR 28 BSPT	4.00	6.88	28.0	0.11	0.7	0.6	•				
08IR 28 BSPT	5.00	8.24	28.0	0.11	0.6	0.6	•				
08IR 19 BSPT	5.00	8.24	19.0	0.16	0.6	0.7	•				
11IR 19 BSPT	6.35	11.00	19.0	0.16	0.8	0.9		•		•	•
11IRB 19 BSPT	6.35	11.00	19.0	0.16	0.8	0.9				•	
11IR/L 14 BSPT	6.35	11.00	14.0	0.23	0.9	1.0				•	
16IR 28 BSPT	9.52	16.49	28.0	0.11	0.6	0.6				•	
16IR 19 BSPT	9.52	16.49	19.0	0.16	0.8	0.9		•			
16IRB 14 BSPT ⁽¹⁾	9.52	16.49	14.0	0.23	1.0	1.1				•	
16IRM 14 BSPT ⁽¹⁾	9.52	16.49	14.0	0.21	1.0	1.2			•	•	•
16IL 14 BSPT	9.52	16.49	14.0	0.21	1.0	1.2				•	
16IR 14 BSPT	9.52	16.49	14.0	0.23	1.0	1.1				•	
16IRM 11 BSPT ⁽¹⁾	9.52	16.49	11.0	0.28	1.1	1.5			•	•	•
16IRB 11 BSPT ⁽¹⁾	9.52	16.49	11.0	0.29	1.1	1.5				•	
16IL 11 BSPT	9.52	16.49	11.0	0.29	1.1	1.5				•	
16IR 11 BSPT	9.52	16.49	11.0	0.29	1.1	1.5	•	•		•	

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

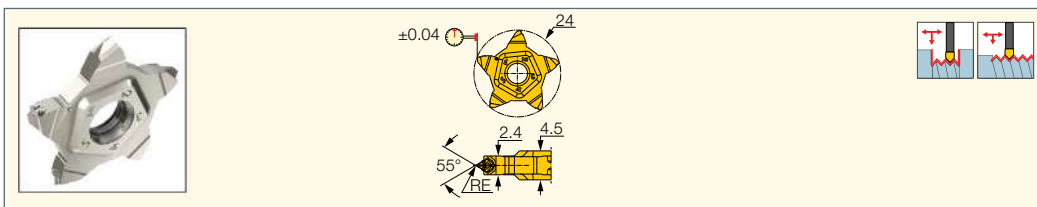
⁽²⁾ Threads per inch

Tools: AVC-D-SIR/L • MGSIR/L • PICIN-MGSIR/L • SIR/L

PENTACUT

PENTA 24-BSPT

BSPT (British Standard Pipe)
Precision Ground External
Pentagonal Full Profile Threading
Inserts with a Chipformer



	Dimensions			IC908
	Designation	TPI ⁽¹⁾	RE	
	PENTA 24-19-BSPT	19.0	0.16	•
	PENTA 24-14-BSPT	14.0	0.22	•

• DMIN(inch)=5.435/TPI

⁽¹⁾ Threads per inch

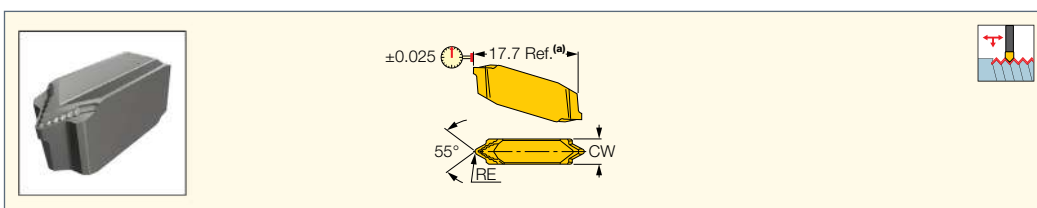
Tools: PCAD RE/LE-JHP • PCADR/L • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-24 • PCHR/L-24-JHP • PCHR/L-24-JHP-MC

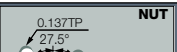
ISCARTHREAD

CUTGRIP

TIP-P-BSPT

Precision Ground BSPT (British
Standard Pipe) External Double-
Ended Full Profile Threading
Inserts with a Chipformer



	Dimensions				Tough ↔ Hard	
	Designation	CW	RE	RETOL ⁽¹⁾	TPI ⁽²⁾	IC08
TIP 2P28-BSPT	2.40	0.11	0.030	28.0	●	●
TIP 2P19-BSPT	2.40	0.16	0.030	19.0	●	●
TIP 2P14-BSPT	2.40	0.22	0.030	14.0	●	●
TIP 4P11-BSPT	4.00	0.28	0.030	11.0	●	●

• (a) TIP inserts are 1.6 mm longer than GIP in the same pocket • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Threads per inch

Tools: C#-GHDR/L • CGHN-D • CGHN-DG • CGHN-S • CGPAD • CGPAD-JHP • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

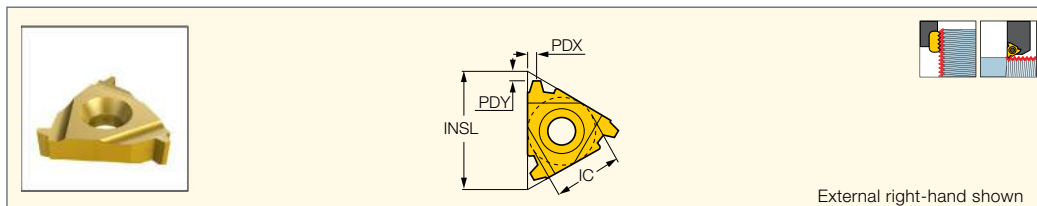
• GHDR/L-JHP-MC (short pocket) • GHGR/L • GHMPR/L • GHMR/L • GHSR/L • GHSLR/L-JHP-SL • NQCH-GHSR/L-JHP



ISCAR THREAD

ER/L-STACME

External STUB ACME Laydown
Threading Inserts with a Shallow
ACME Profile for Control Valves



Designation	Dimensions					Tough ↔ Hard		
	IC	INSL	TPI ⁽¹⁾	PDY	PDX	IC50M	IC250	IC908
16EL 16 STACME	9.52	16.49	16.0	1.0	1.0		•	•
16ER 16 STACME	9.52	16.49	16.0	1.0	1.0			•
16ER 14 STACME	9.52	16.49	14.0	1.1	1.1		•	
16EL 12 STACME	9.52	16.49	12.0	1.2	1.2			•
16ER 12 STACME	9.52	16.49	12.0	1.2	1.2		•	•
16EL 10 STACME	9.52	16.49	10.0	1.3	1.3	•		
16ER 10 STACME	9.52	16.49	10.0	1.3	1.2			•
16EL 8 STACME	9.52	16.49	8.0	1.5	1.5			•
16ER 8 STACME	9.52	16.49	8.0	1.5	1.5	•	•	•
16EL 6 STACME	9.52	16.49	6.0	1.8	1.8			•
16ER 6 STACME	9.52	16.49	6.0	1.7	1.7		•	•
22EL 5 STACME	12.70	22.00	5.0	2.0	2.3	•		
22ER 5 STACME	12.70	22.00	5.0	2.0	2.3			•
27EL 4 STACME	15.88	27.50	4.0	2.3	2.4	•		
27ER 4 STACME	15.88	27.50	4.0	2.3	2.4			•
27EL 3 STACME	15.88	27.50	3.0	2.8	2.9			•
27ER 3 STACME	15.88	27.50	3.0	2.8	2.9		•	

• For Insert Identification System, see pages 640-641 • STUB ACME ASME/ANSI B1.8-1988 Class 2G

• For technical information and detailed cutting data, see pages 713-729

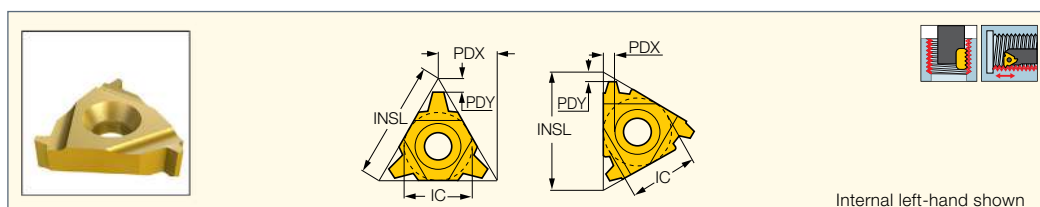
⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

ISCAR THREAD

IR/L-STACME

Internal STUB ACME Laydown
Threading Inserts with a Shallow
ACME Profile for Control Valves



Designation	Dimensions					Tough ↔ Hard		
	IC	INSL	TPI ⁽¹⁾	PDY	PDX	IC50M	IC250	IC908
16IL 16 STACME	9.52	16.49	16.0	1.0	1.0	•		
16IR 16 STACME	9.52	16.49	16.0	1.0	1.0	•		•
16IR 12 STACME	9.52	16.49	12.0	1.2	1.2			•
16IR 10 STACME	9.52	16.49	10.0	1.2	1.2	•		•
16IL 8 STACME	9.52	16.49	8.0	1.5	1.5			•
16IR 8 STACME	9.52	16.49	8.0	1.5	1.5	•		•
16IR 6 STACME	9.52	16.49	6.0	1.6	1.7		•	•
22IR/L 5 STACME	12.70	22.00	5.0	2.0	2.3	•		
22UIR 3 STACME	12.70	22.00	3.0	3.3	11.0		•	
27IL 4 STACME	15.88	27.50	4.0	2.3	2.4	•		
27IR 4 STACME	15.88	27.50	4.0	2.3	2.4			•
27IR/L 3 STACME	15.88	27.50	3.0	2.8	2.9		•	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 2G. • For technical information and detailed cutting data, see pages 713-729

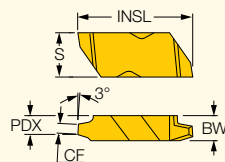
⁽¹⁾ Threads per inch

Tools: AVC-D-SIR/L • SIR/L

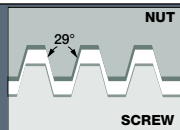
NOTCH-GRIP
GROOVE-TURN LINE
ISCAR THREAD

**STUB ACME THREADING
FLAS-PT-I**

Double-Ended, Precision, Flat Top
on Internal Threading Inserts



Right-hand shown

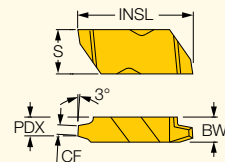
	Dimensions						IC908
Designation	TPI ⁽¹⁾	CF	PDX	BW	S	INSL	
FLAS-6L2-PT-I	2.0	5.23	7.20	9.73	11.51	28.45	●
FLAS-4L3-PT-I	3.0	3.44	5.10	6.48	11.51	28.45	●
FLAS-3L4-PT-I	4.0	2.55	3.80	4.95	8.74	22.60	●
FLAS-3L5-PT-I	5.0	2.01	3.80	4.95	8.74	22.60	●
FLAS-3L6-PT-I	6.0	1.66	3.80	4.95	8.74	22.60	●
FLAS-3L8-PT-I	8.0	1.21	3.80	4.95	8.74	22.60	●
FLAS-3L10-PT-I	10.0	0.94	3.80	4.95	8.74	22.60	●
FLAS-3L12-PT-I	12.0	0.83	3.80	4.95	8.74	22.60	●
FLAS-3L14-PT-I	14.0	0.70	3.80	4.95	8.74	22.60	●
FLAS-3L16-PT-I	16.0	0.60	3.80	4.95	8.74	22.60	●

⁽¹⁾ Threads per inch

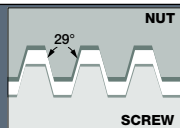
NOTCH-GRIP
GROOVE-TURN LINE
ISCAR THREAD

**STUB ACME THREADING
FLAS-PT-E**

Double-Ended, Precision, Flat
Top External Threading Inserts



Right-hand shown

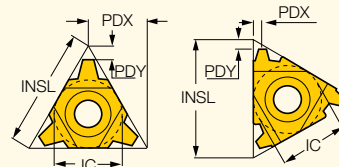
	Dimensions						IC908		
	Designation	TPI ⁽¹⁾	CF	PDX	BW	S		INSL	
	FLAS-3R4-PT-E	4.0	2.55	3.80	4.95	8.74		22.60	●
	FLAS-3R5-PT-E	5.0	2.01	3.80	4.95	8.74		22.60	●
	FLAS-3R6-PT-E	6.0	1.66	3.80	4.95	8.74		22.60	●
	FLAS-3R8-PT-E	8.0	1.21	3.80	4.95	8.74		22.60	●
	FLAS-3R10-PT-E	10.0	0.94	3.80	4.95	8.74		22.60	●
	FLAS-3R12-PT-E	12.0	0.83	3.80	4.95	8.74		22.60	●
	FLAS-3R14-PT-E	14.0	0.70	3.80	4.95	8.74		22.60	●
	FLAS-3R16-PT-E	16.0	0.60	3.80	4.95	8.74		22.60	●
FLAS-4R3-PT-E	3.0	3.44	5.10	6.48	11.51	28.45	●		
FLAS-6R2-PT-E	2.0	5.23	7.20	9.73	11.51	28.45	●		

⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSP/L

ISCARTHREAD**ER/L-ACME**

External ACME Profile Laydown
Threading Inserts for Feed Screws



External right-hand shown

Designation	Dimensions					Tough ↔ Hard				
	IC	INSL	TPI ⁽¹⁾	PDY	PDX	IC50M	IC250	IC08	IC908	IC1007
11ER 16 ACME	6.35	11.00	16.0	0.9	1.0				•	
16ER 16 ACME	9.52	16.49	16.0	1.0	1.0		•		•	
16ER 12 ACME	9.52	16.49	12.0	1.0	1.0				•	
16ER 10 ACME	9.52	16.49	10.0	1.4	1.3		•		•	
16ER/L 8 ACME	9.52	16.49	8.0	1.3	1.5		•		•	
22EL 6 ACME	12.70	22.00	6.0	1.8	2.1				•	
22ER 6 ACME	12.70	22.00	6.0	1.8	2.1	•			•	
22EL 5 ACME	12.70	22.00	5.0	2.0	2.4				•	
22ER 5 ACME	12.70	22.00	5.0	2.0	2.4		•		•	
22ER/L 4 ACME	12.70	22.00	4.0	2.1	2.3				•	
22UERL 4 ACME	12.70	22.00	4.0	2.3	11.0	•			•	
27EL 4 ACME	15.88	27.50	4.0	2.3	2.7				•	
27ER 4 ACME	15.88	27.50	4.0	2.3	2.6		•	•	•	
27UERL 3 ACME	15.88	27.50	3.0	2.8	13.7		•		•	
16EL 6 ACME	9.52	16.49	6.0	1.4	1.6		•			
16ER 14 ACME	9.52	16.49	14.0	1.0	1.0		•			
16ER 6 ACME	9.52	16.49	6.0	1.4	1.6		•			•

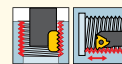
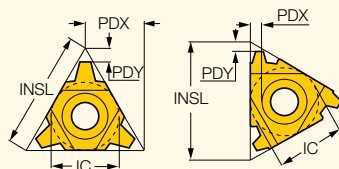
• For Insert Identification System, see pages 640-641 • ACME ASME/ANSI B1.5-1988 Class 3G • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

ISCARTHREAD**IR/L-ACME**

Internal ACME Profile Laydown
Threading Inserts for Feed Screws



Internal left-hand shown

Designation	Dimensions					Tough ↔ Hard				
	IC	INSL	TPI ⁽¹⁾	PDY	PDX	IC50M	IC250	IC08	IC508	IC908
16IL 16 ACME	9.52	16.49	16.0	0.9	1.0	•				
16IR 16 ACME	9.52	16.49	16.0	0.9	1.0	•	•			
16IL 14 ACME	9.52	16.49	14.0	1.0	1.2	•				
16IL 12 ACME	9.52	16.49	12.0	1.1	1.2	•				
16IR 12 ACME	9.52	16.49	12.0	1.1	1.2		•	•		•
16IL 10 ACME	9.52	16.49	10.0	1.3	1.3	•				
16IR 10 ACME	9.52	16.49	10.0	1.3	1.4		•			
16IL 8 ACME	9.52	16.49	8.0	1.5	1.5					•
16IR 8 ACME	9.52	16.49	8.0	1.3	1.5		•			•
22IL 6 ACME	12.70	22.00	6.0	1.9	2.1	•	•			
22IR 6 ACME	12.70	22.00	6.0	1.9	2.1	•	•			•
22IL 5 ACME	12.70	22.00	5.0	2.0	2.1	•			•	•
22IR 5 ACME	12.70	22.00	5.0	2.0	2.1		•			•
22IR 4 ACME	12.70	22.00	4.0	2.1	2.1					•
22UIRL 4 ACME	12.70	22.00	4.0	2.3	11.0			•		
27IL 4 ACME	15.88	27.50	4.0	2.3	2.6					•
27IR 4 ACME	15.88	27.50	4.0	2.3	2.6		•			•
27UIRL 3 ACME	15.88	27.50	3.0	2.8	13.7					•

• For Insert Identification System, see pages 640-641 • ACME ASME/ANSI B1.5-1988 Class 3G • For technical information and detailed cutting data, see pages 713-729

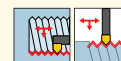
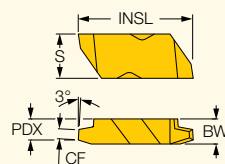
⁽¹⁾ Threads per inch

Tools: AVC-D-SIR/L • SIR/L

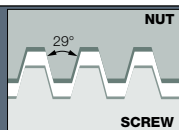
ISCAR THREAD

ACME THREADING FLA

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown



Designation	Dimensions						IC908
	TPI ⁽¹⁾	CF	PDX	BW	S	INSL	
FLA-6R/L2	2.0	4.58	7.20	9.73	11.51	28.45	●
FLA-6R/L2.5	2.5	3.63	7.20	9.73	11.51	28.45	●
FLA-6R/L3	3.0	3.01	7.20	9.73	11.51	28.45	●
FLA-3R/L4	4.0	2.22	3.40	4.95	8.74	22.60	●
FLA-4R/L4	4.0	2.22	5.10	6.48	11.51	28.45	●
FLA-3R/L5	5.0	1.75	3.80	4.95	8.74	22.60	●
FLA-4R/L5	5.0	1.75	5.10	6.48	11.51	28.45	●
FLA-3R/L6	6.0	1.44	3.80	4.95	8.74	22.60	●
FLA-4R/L6	6.0	1.44	5.10	6.48	11.51	28.45	●
FLA-3R/L8	8.0	1.04	3.80	4.95	8.74	22.60	●
FLA-4R/L8	8.0	1.04	5.10	6.48	11.51	28.45	●
FLA-3R/L10	10.0	0.81	3.80	4.95	8.74	22.60	●
FLA-3R/L12	12.0	0.72	3.80	4.95	8.74	22.60	●
FLA-3R/L14	14.0	0.61	3.80	4.95	8.74	22.60	●
FLA-3R/L16	16.0	0.52	3.80	4.95	8.74	22.60	●

• DMIN according to related boring bar

⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSPR/L

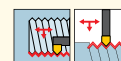
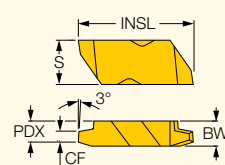
NOTCH GRIP

GROOVE-TURN LINE

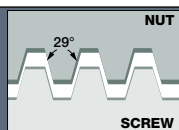
ISCAR THREAD

ACME THREADING FLAS

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown



Designation	Dimensions						IC908
	TPI ⁽¹⁾	CF	PDX	BW	S	INSL	
FLAS-6R/L2	2.0	5.23	7.20	9.73	11.51	28.45	●
FLAS-4R/L3	3.0	3.44	5.10	6.48	11.51	28.45	●
FLAS-3L4	4.0	2.55	3.80	4.95	8.74	22.60	●
FLAS-3R/L5	5.0	2.01	3.80	4.95	8.74	22.60	●
FLAS-3R/L6	6.0	1.66	3.80	4.95	8.74	22.60	●
FLAS-3R/L8	8.0	1.21	3.80	4.95	8.74	22.60	●
FLAS-3R/L10	10.0	0.94	3.80	4.95	8.74	22.60	●
FLAS-3R/L12	12.0	0.83	3.80	4.95	8.74	22.60	●
FLAS-3R/L14	14.0	0.70	3.80	4.95	8.74	22.60	●
FLAS-3R/L16	16.0	0.60	3.80	4.95	8.74	22.60	●

• DMIN according to related boring bar

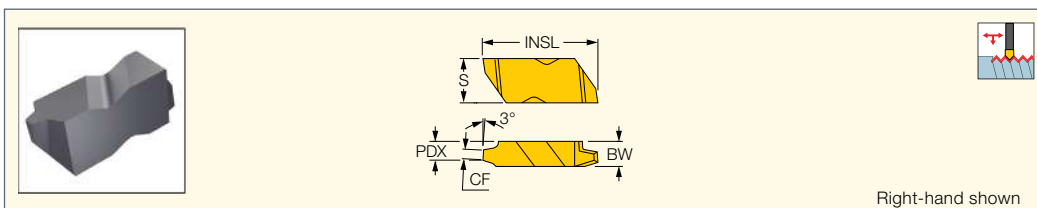
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSPR/L

ACME THREADING

FLA-PT-E

Double-Ended, Precision, Flat
Top External Threading Inserts



Designation	Dimensions						IC908
	TPI ⁽¹⁾	CF	PDX	BW	S	INSL	
FLA-3R4-PT-E	4.0	2.22	3.40	4.95	8.74	28.45	●
FLA-3R5-PT-E	5.0	1.75	3.80	4.95	8.74	28.45	●
FLA-3R6-PT-E	6.0	1.44	3.80	4.95	8.74	22.60	●
FLA-3R8-PT-E	8.0	1.04	3.80	4.95	8.74	28.45	●
FLA-3R10-PT-E	10.0	0.81	3.80	4.95	8.74	22.60	●
FLA-3R12-PT-E	12.0	0.72	3.80	4.95	8.74	22.60	●
FLA-3R14-PT-E	14.0	0.61	3.80	4.95	8.74	22.60	●
FLA-3R16-PT-E	16.0	0.52	3.80	4.95	8.74	22.60	●
FLA-4R4-PT-E	4.0	2.22	5.10	6.48	11.51	28.45	●
FLA-4R5-PT-E	5.0	1.75	5.10	6.48	11.51	22.60	●
FLA-4R6-PT-E	6.0	1.44	5.10	6.48	11.51	28.45	●
FLA-4R8-PT-E	8.0	1.04	5.10	6.48	11.51	22.60	●
FLA-6R2-PT-E	2.0	4.58	7.20	9.73	11.51	28.45	●
FLA-6R2.5-PT-E	2.5	3.63	7.20	9.73	11.51	28.45	●
FLA-6R3-PT-E	3.0	3.01	7.20	9.73	11.51	28.45	●

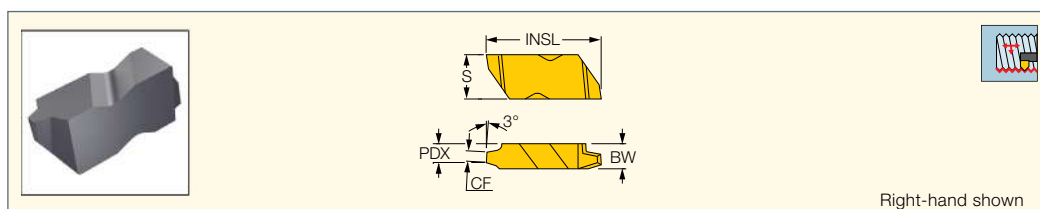
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

ACME THREADING

FLA-PT-I

Double-Ended, Precision, Flat
Top Internal Threading Inserts



Designation	Dimensions						IC908
	TPI ⁽¹⁾	CF	PDX	BW	S	INSL	
FLA-3L16-PT-I	16.0	0.52	3.80	4.95	8.74	22.60	●
FLA-3L14-PT-I	14.0	0.61	3.80	4.95	8.74	22.60	●
FLA-3L12-PT-I	12.0	0.72	3.80	4.95	8.74	22.60	●
FLA-3L10-PT-I	10.0	0.81	3.80	4.95	8.74	22.60	●
FLA-3L8-PT-I	8.0	1.04	3.80	4.95	8.74	22.60	●
FLA-3L6-PT-I	6.0	1.44	3.80	4.95	8.74	22.60	●
FLA-3L5-PT-I	5.0	1.75	3.80	4.95	8.74	22.60	●
FLA-3L4-PT-I	4.0	2.22	3.40	4.95	8.74	22.60	●
FLA-4L8-PT-I	8.0	1.04	5.10	6.48	11.51	28.45	●
FLA-4L6-PT-I	6.0	1.44	5.10	6.48	11.51	28.45	●
FLA-4L5-PT-I	5.0	1.75	5.10	6.48	11.51	28.45	●
FLA-4L4-PT-I	4.0	2.22	5.10	6.48	11.51	28.45	●
FLA-6L3-PT-I	3.0	3.01	7.20	9.73	11.51	28.45	●
FLA-6L2.5-PT-I	2.5	3.63	7.20	9.73	11.51	28.45	●
FLA-6L2-PT-I	2.0	4.58	7.20	9.73	11.51	28.45	●

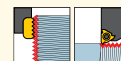
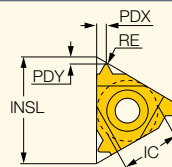
⁽¹⁾ Threads per inch

UNJ

ISCAR THREAD

ER/L-UNJ

External UNJ Profile Laydown
Threading Inserts for the Aviation
and Aerospace Industries



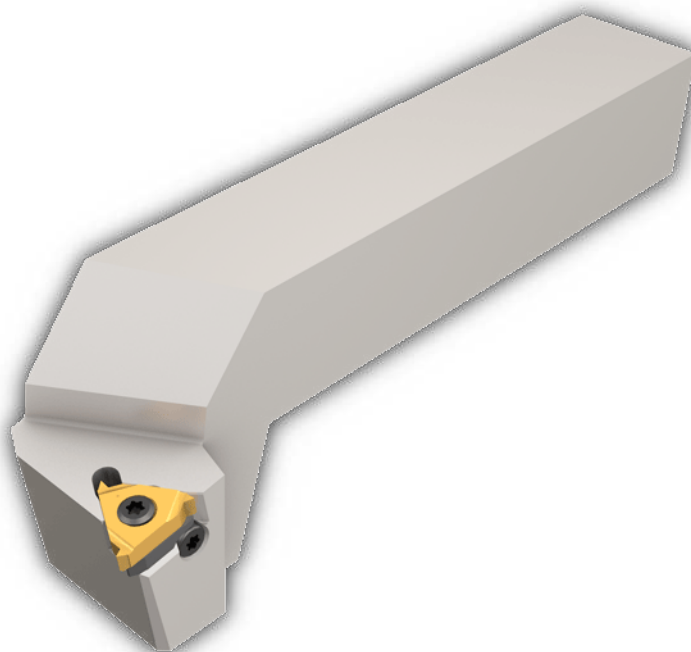
External right-hand shown

Designation	Dimensions						Tough → Hard					
	IC	TPI ⁽¹⁾	RE	INSL	PDY	PDX	IC50M	IC250	IC08	IC908	IC806	IC1007
11ER 28 UNJ	6.35	28.0	0.14	11.00	0.6	0.6				•		
11ER 24 UNJ	6.35	24.0	0.16	11.00	0.7	0.8				•		
11ER 20 UNJ	6.35	20.0	0.19	11.00	0.8	0.9				•		
16ER 40 UNJ	9.52	40.0	0.10	16.49	0.6	0.6				•		
16ER 36 UNJ	9.52	36.0	0.11	16.49	0.6	0.6				•		
16ER 32 UNJ	9.52	32.0	0.13	16.49	0.6	0.6				•	•	
16EL 28 UNJ	9.52	28.0	0.15	16.49	0.6	0.6				•		
16ER 28 UNJ	9.52	28.0	0.15	16.49	0.6	0.6				•	•	
16EL 24 UNJ	9.52	24.0	0.16	16.49	0.7	0.8		•		•		
16ER 24 UNJ	9.52	24.0	0.18	16.49	0.7	0.8				•	•	
16EL 20 UNJ	9.52	20.0	0.21	16.49	0.8	0.9				•		
16ER 20 UNJ	9.52	20.0	0.21	16.49	0.8	0.9		•		•	•	•
16EL 18 UNJ	9.52	18.0	0.23	16.49	0.7	0.8			•			
16ER 18 UNJ	9.52	18.0	0.23	16.49	0.7	0.8				•	•	•
16EL 16 UNJ	9.52	16.0	0.26	16.49	0.9	1.2				•		
16ER 16 UNJ	9.52	16.0	0.26	16.49	0.9	1.2	•			•	•	•
16EL 14 UNJ	9.52	14.0	0.30	16.49	1.1	1.2				•		
16ER 14 UNJ	9.52	14.0	0.30	16.49	1.0	1.2		•		•	•	
16ER 13 UNJ	9.52	13.0	0.29	16.49	1.1	1.3				•		
16EL 12 UNJ	9.52	12.0	0.35	16.49	1.1	1.2				•		
16ER 12 UNJ	9.52	12.0	0.35	16.49	1.0	1.2				•	•	
16ER 11 UNJ	9.52	11.0	0.32	16.49	1.1	1.5				•		
16ER 10 UNJ	9.52	10.0	0.38	16.49	1.1	1.5				•	•	
16EL 8 UNJ	9.52	8.0	0.48	16.49	1.2	1.6		•				
16ER 8 UNJ	9.52	8.0	0.48	16.49	1.2	1.6				•		

- UNJ MIL-S-8879C 9-1992 Class 3A • Only right-hand inserts are available in grade IC806 and IC1007 • Thread milling application available only for inserts size 06, 08, 11
- For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

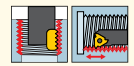
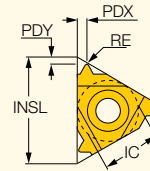
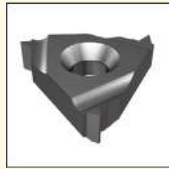
⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L • SER/L-JHP • SER/L-JHP-MC



IR/L-UNJ

Internal UNJ Profile Laydown
Threading Inserts for the Aviation
and Aerospace Industries



Internal left-hand shown

Designation	Dimensions						Tough ↔ Hard					
	IC	TPI ⁽¹⁾	RE	INSL	PDY	PDX	IC228	IC50M	IC250	IC08	IC908	IC806
08IR 20 UNJ	5.00	20.0	0.09	8.24	0.6	0.7	•					
08IR 18 UNJ	5.00	18.0	0.10	8.24	0.6	0.7	•					
11IR 32 UNJ	6.35	32.0	0.04	11.00	0.6	0.6					•	
11IRB 32 UNJ	6.35	32.0	0.04	11.00	0.6	0.6					•	
11IR 28 UNJ	6.35	28.0	0.05	11.00	0.6	0.6					•	
11IRB 28 UNJ	6.35	28.0	0.05	11.00	0.6	0.6					•	
11IR 24 UNJ	6.35	24.0	0.05	11.00	0.7	0.8				•	•	
11IRB 24 UNJ	6.35	24.0	0.05	11.00	0.6	0.6					•	
11IR 20 UNJ	6.35	20.0	0.07	11.00	0.8	0.9					•	
11IRB 20 UNJ	6.35	20.0	0.07	11.00	0.8	0.9					•	
11IR 18 UNJ	6.35	18.0	0.08	11.00	0.8	0.9					•	•
11IRB 18 UNJ	6.35	18.0	0.08	11.00	0.9	1.0					•	
11IR 16 UNJ	6.35	16.0	0.09	11.00	0.8	0.9					•	•
11IRB 16 UNJ	6.35	16.0	0.09	11.00	0.8	0.9					•	
11IRB 14 UNJ	6.35	14.0	0.10	11.00	0.8	0.9					•	
16IR 32 UNJ	9.52	32.0	0.04	16.49	0.6	0.6					•	
16IR 24 UNJ	9.52	24.0	0.05	16.49	0.7	0.8		•			•	
16IR 20 UNJ	9.52	20.0	0.07	16.49	0.8	0.8					•	
16IR 18 UNJ	9.52	18.0	0.07	16.49	0.7	0.8					•	•
16IL 16 UNJ	9.52	16.0	0.09	16.49	1.0	1.2					•	
16IR 16 UNJ	9.52	16.0	0.09	16.49	1.0	1.2			•		•	•
16IR 14 UNJ	9.52	14.0	0.10	16.49	1.0	1.1					•	•
16IL 12 UNJ	9.52	12.0	0.12	16.49	1.1	1.0					•	
16IR 12 UNJ	9.52	12.0	0.12	16.49	1.1	1.0					•	•
16IR 10 UNJ	9.52	10.0	0.14	16.49	1.1	1.5					•	
16IR/L 8 UNJ	9.52	8.0	0.19	16.49	1.2	1.6					•	

- Thread milling application available only for inserts size 06, 08, 11
- For Insert Identification System, see pages 640-641
- For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Threads per inch

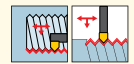
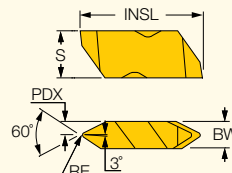
Tools: AVC-D-SIR/L • SIR/L

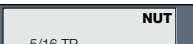
NOTCHGRIP

GROOVE-TURN LINE

ISCARTHREAD

UNJ THREADING FLJ
Double-Ended, Precision,
Flat Top Threading Inserts



	Dimensions						IC908	
	Designation	TPI ⁽¹⁾	RE	PDX	BW	S		INSL
	FLJ-3020R/L8	8.0	0.48	2.49	4.95	8.74		22.60
	FLJ-3014R/L12	12.0	0.32	2.49	4.95	8.74		22.60
	FLJ-3010R/L16	16.0	0.24	2.49	4.95	8.74		22.60

- DMN according to related boring bar

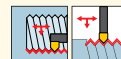
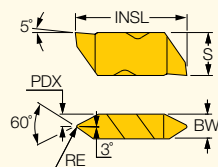
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

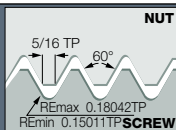
NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

UNJ THREADING FLJP

Double-Ended, Precision
Threading Inserts with
a Positive Rake



Right-hand shown



Designation

FLJP-3020R/L8

FLJP-3014R/L12

FLJP-3010R/L16

TPI⁽¹⁾

RE

PDX

BW

S

INSL

IC908

• DMIN according to related boring bar

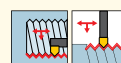
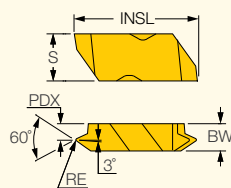
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

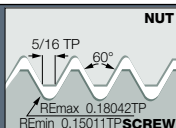
NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

UNJ THREADING FLJF

Double-Ended, Precision
Flat Top Threading Inserts



Right-hand shown



Designation

FLJF-3012R/L14

FLJF-3010R/L16

FLJF-3009R/L18

FLJF-3008R/L20

FLJF-3007R/L24

FLJF-3006R/L28

FLJF-3005R/L32

TPI⁽¹⁾

RE

PDX

BW

S

INSL

IC908

• DMIN according to related boring bar

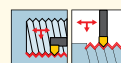
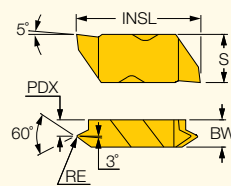
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

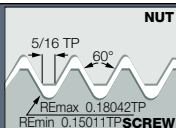
NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

UNJ THREADING FLJK

Double-Ended, Precision
Threading Inserts with
a Positive Rake



Right-hand shown



Designation

FLJK-3012R/L14

FLJK-3010R/L16

FLJK-3009R/L18

FLJK-3008R/L20

FLJK-3007R/L24

FLJK-3006R/L28

FLJK-3005R/L32

TPI⁽¹⁾

RE

PDX

BW

S

INSL

IC908

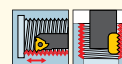
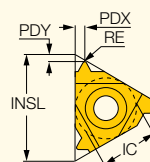
• DMIN according to related boring bar

⁽¹⁾ Threads per inch

Tools: FLASR/L • FLSSR/L

ISCARTHREAD**IR-MJ**

Internal MJ ISO 5855 Metric
Full Profile Laydown Threading
Inserts for the Aviation and
Aerospace Industries



Internal left-hand shown

Designation	Dimensions						Tough ↔ Hard	
	IC	TP ⁽¹⁾	INSL	RE	PDY	PDX	IC908	IC806
11IR 1.00 MJ	6.35	1.000	11.00	0.05	0.6	0.6	●	●
11IRB 1.00 MJ	6.35	1.000	11.00	0.05	0.6	0.6	●	●
11IR 1.25 MJ	6.35	1.250	11.00	0.07	0.8	0.9	●	●
11IR 1.50 MJ	6.35	1.500	11.00	0.08	0.8	1.0	●	●
11IRB 1.50 MJ	6.35	1.500	11.00	0.08	0.8	0.9	●	●
11IR 2.00 MJ	6.35	2.000	11.00	0.12	0.9	1.0	●	●
16IR 1.00 MJ	9.52	1.000	16.49	0.05	0.7	0.8	●	●
16IR 1.25 MJ	9.52	1.250	16.49	0.07	0.8	0.9	●	●
16IR 1.50 MJ	9.52	1.500	16.49	0.08	1.1	1.1	●	●

• Thread milling application available only for inserts size 06, 08, 11 • For Insert Identification System, see pages 640-641

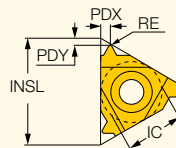
• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Thread pitch

Tools: AVC-D-SIR/L • SIR/L

ISCARTHREAD**ER-MJ**

External MJ ISO 5855 Metric
Full Profile Laydown Threading
Inserts for the Aviation and
Aerospace Industries



External right-hand shown

Designation	Dimensions						Tough ↔ Hard		
	IC	TP ⁽¹⁾	INSL	RE	PDY	PDX	IC250	IC908	IC806
16ER 1.00 MJ	9.52	1.000	16.49	0.17	0.7	0.8		●	●
16ER 1.25 MJ	9.52	1.250	16.49	0.21	0.8	0.8		●	●
16ER 1.50 MJ	9.52	1.500	16.49	0.25	0.9	1.1	●	●	●
16ER 2.00 MJ	9.52	2.000	16.49	0.33	1.0	1.1		●	●

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Thread pitch

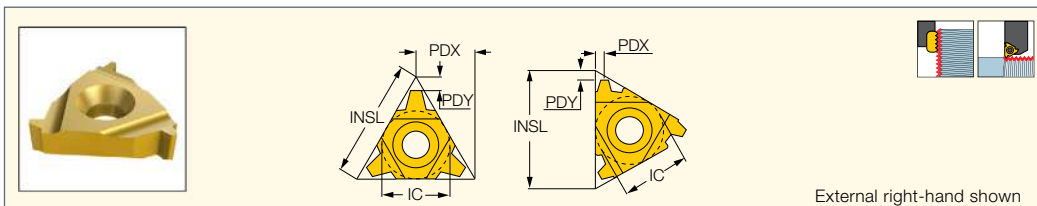
Tools: C#-SER/L • SER-D • SER/L

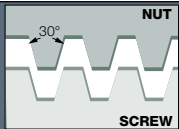
TR Trapez

ISCAR THREAD

ER/L-TR

External Trapeze Shaped
DIN 103 Laydown Threading
Inserts for Feed Screws



 Designation	Dimensions					Tough ↔ Hard				
	IC	TP ⁽²⁾	INSL	PDY	PDX	IC228	IC50M	IC250	IC908	IC1007
16EL 1.5 TR	9.52	1.500	16.49	1.0	1.0			•		
16ER 1.5 TR	9.52	1.500	16.49	1.0	1.0			•	•	
16EL 2 TR	9.52	2.000	16.49	1.0	1.0			•		
16ER 2 TR	9.52	2.000	16.49	1.0	1.0			•	•	
16EL 3 TR	9.52	3.000	16.49	1.4	1.6				•	
16ER 3 TR	9.52	3.000	16.49	1.4	1.6	•		•	•	•
16ER 4 TR	9.52	4.000	16.49	1.8	1.9			•	•	
22EL 4 TR	12.70	4.000	22.00	1.8	1.9				•	
22ER 4 TR	12.70	4.000	22.00	1.8	1.9			•	•	
22EL 5 TR	12.70	5.000	22.00	2.0	2.4			•	•	
22ER 5 TR	12.70	5.000	22.00	2.0	2.4		•	•	•	
22ER/L 6 TR	12.70	6.000	22.00	2.0	2.4				•	
22UERL 6 TR	12.70	6.000	22.00	2.0	11.0		•	•	•	
22UERL 7 TR	12.70	7.000	22.00	2.3	11.0			•		
22UERL 8 TR	12.70	8.000	22.00	2.5	11.0			•		
27EL 6 TR	15.88	6.000	27.50	2.3	2.6				•	
27ER 6 TR	15.88	6.000	27.50	2.3	2.6			•	•	
27EL 7 TR	15.88	7.000	27.50	2.2	2.6			•		
27ER 7 TR	15.88	7.000	27.50	2.3	2.6			•	•	
27UERL 8 TR	15.88	8.000	27.50	2.5	13.7			•	•	
27UERL 9 TR	15.88	9.000	27.50	3.0	13.7			•	•	
27UERL 10 TR ⁽¹⁾	15.88	10.000	27.50	3.2	13.7			•	•	

• For Insert Identification System, see pages 640-641 • DIN 103 04/1977, 1502901/1977 Class 7e • For technical information and detailed cutting data, see pages 713-729

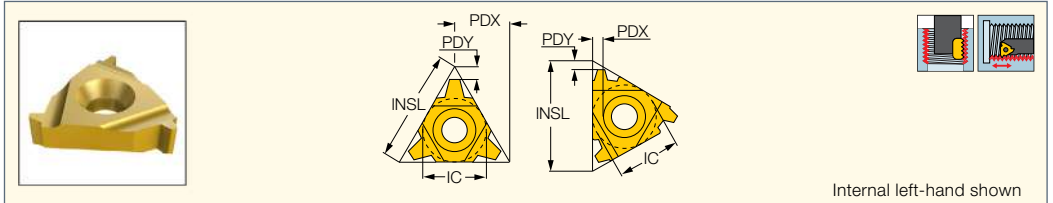
⁽¹⁾ One cutting edge only

⁽²⁾ Thread pitch

Tools: C#-SER/L • SER-D • SER/L

IR/L-TR

Internal Trapeze Shaped
DIN 103 Laydown Threading
Inserts for Feed Screws



Internal left-hand shown

Designation	Dimensions					Tough ↔ Hard			
	IC	TP ⁽²⁾	INSL	PDY	PDX	IC228	IC50M	IC250	IC908
08IR 1.5 TR ⁽¹⁾	5.00	1.500	8.24	0.60	0.6	•			
08UIRL 2 TR	5.00	2.000	8.24	0.90	4.0	•			
16IR 1.5 TR	9.52	1.500	16.49	1.00	1.0			•	•
16IL 2 TR	9.52	2.000	16.49	1.00	1.3			•	•
16IR 2 TR	9.52	2.000	16.49	1.00	1.1			•	•
16IL 3 TR	9.52	3.000	16.49	1.30	1.5				•
16IR 3 TR	9.52	3.000	16.49	1.30	1.5	•			•
22IL 4 TR	12.70	4.000	22.00	1.90	2.0				•
22IR 4 TR	12.70	4.000	22.00	1.90	2.0			•	•
22IL 5 TR	12.70	5.000	22.00	2.00	2.3				•
22IR 5 TR	12.70	5.000	22.00	2.00	2.3			•	•
22IL 6 TR	12.70	6.000	22.00	2.00	2.3				•
22IR 6 TR	12.70	6.000	22.00	2.00	2.2		•	•	•
22UIRL 6 TR	12.70	6.000	22.00	2.00	11.0			•	•
22UIRL 7 TR	12.70	7.000	22.00	2.30	11.0			•	•
27IL 6 TR	15.88	6.000	27.50	2.30	2.7				•
27IR 6 TR	15.88	6.000	27.50	2.30	2.6			•	•
27IR 7 TR	15.88	7.000	27.50	2.20	2.6			•	•
27UIRL 8 TR	15.88	8.000	27.50	2.50	13.7	•		•	•
27UIRL 9 TR	15.88	9.000	27.50	3.00	13.7			•	•
27UIRL 10 TR ⁽¹⁾	15.88	10.000	27.50	3.20	2.5				•

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ A single threading corner

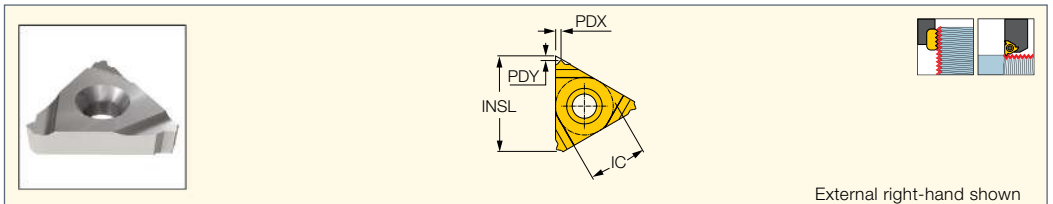
⁽²⁾ Thread pitch

Tools: AVC-D-SIR/L • SIR/L

PG (Panzergerwinde)

ER-PG

External Threading Inserts
for the Electrical Industry



External right-hand shown

Designation	Dimensions						Tough ↔ Hard	
	IC	TPI ⁽¹⁾	INSL	PDY	PDX	RE	IC08	IC908
16ER 16 PG	9.52	16.0	16.49	0.8	1.0	0.17		•
16ER 18 PG	9.52	18.0	16.49	0.8	0.9	0.15	•	•
16ER 20 PG	9.52	20.0	16.49	0.7	0.8	0.13		•

• For Insert Identification System, see pages 640-641

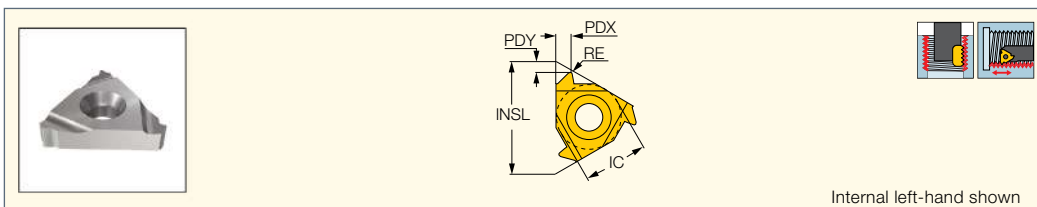
⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

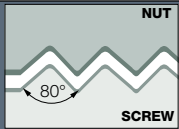
ISCAR THREAD

IR/L-PG

Internal Thread Profile Inserts
for the Electrical Industry



Internal left-hand shown

 Designation	Dimensions						IC908
	IC	TP ⁽¹⁾	RE	INSL	PDY	PDX	
11IR 18 PG	6.35	18.0	0.15	11.00	0.8	0.9	●
16IR 18 PG	9.52	18.0	0.15	16.49	0.8	0.9	●
16IR 16 PG	9.52	16.0	0.17	16.49	0.7	0.9	●

• For Insert Identification System, see pages 640-641

⁽¹⁾ Threads per inch

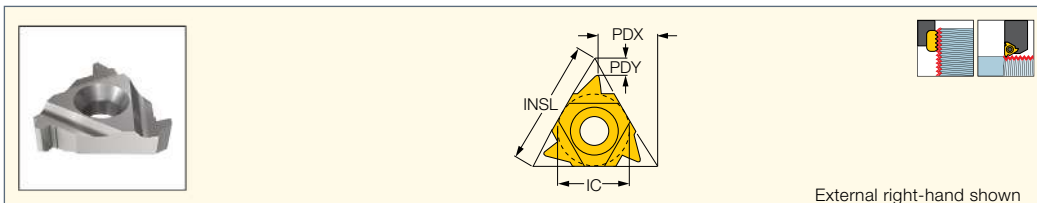
Tools: AVC-D-SIR/L • SIR/L

SAGE (Sagengengwide) Metric Buttress DIN 513

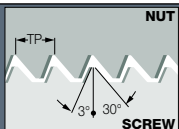
ISCAR THREAD

ER/L-SAGE

External Buttress Thread
(DIN 513) for High Force in
One Direction Applications



External right-hand shown

 Designation	Dimensions					Tough ↔ Hard	
	IC	INSL	TP ⁽²⁾	PDY	PDX	IC250	IC908
16ER/L 2 SAGE	9.52	16.49	2.000	1.1	1.6		●
22ER 3 SAGE	12.70	22.00	3.000	1.5	2.4		●
22EL 4 SAGE	12.70	22.00	4.000	1.9	3.1		●
22ER 4 SAGE	12.70	22.00	4.000	1.9	3.1	●	●
22UER 5 SAGE ⁽¹⁾	12.70	22.00	5.000	1.2	11.6		●
22UER/L 6 SAGE ⁽¹⁾	12.70	22.00	6.000	1.2	11.7		●

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Requires special anvil

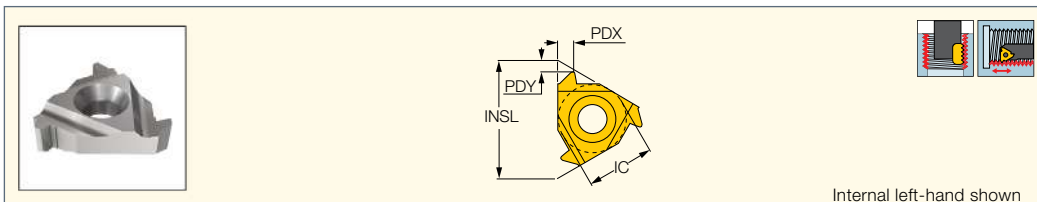
⁽²⁾ Thread pitch

Tools: C#-SER/L • SER-D • SER/L

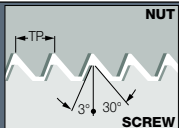
ISCAR THREAD

IR/L-SAGE

Internal Sagengengwinde
(DIN 513) Thread Application for
High Force in One Direction



Internal left-hand shown

 Designation	Dimensions					IC908
	IC	TP ⁽²⁾	INSL	PDY	PDX	
16IR/L 2 SAGE	9.52	2.000	16.49	1.2	1.7	●
22IR 3 SAGE	12.70	3.000	22.00	1.9	2.9	●
22IR 4 SAGE	12.70	4.000	22.00	2.2	3.3	●
22UIR 5 SAGE	12.70	5.000	22.00	1.9	11.7	●
22UIR 6 SAGE ⁽¹⁾	12.70	6.000	22.00	2.1	11.9	●

• For Insert Identification System, see pages 640-641 • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Requires special anvil

⁽²⁾ Thread pitch

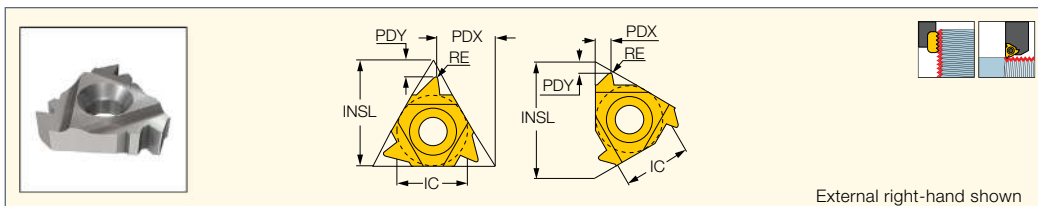
Tools: AVC-D-SIR/L • SIR/L

ABUT (American Buttress)

ISCAR THREAD

ER/L-ABUT

External American Buttress
Laydown Threading Inserts
for High Force Transmission
in One Direction



External right-hand shown

Designation	Dimensions						Tough ↔ Hard	
	IC	TPI ⁽¹⁾	RE	INSL	PDY	PDX	IC250	IC908
16ER 20 ABUT	9.52	20.0	0.07	16.49	1.0	1.3		•
16EL 16 ABUT	9.52	16.0	0.09	16.49	1.1	1.5		•
16ER 16 ABUT	9.52	16.0	0.09	16.49	1.1	1.5	•	•
16EL 12 ABUT	9.52	12.0	0.12	16.49	1.4	2.0		•
16ER 12 ABUT	9.52	12.0	0.12	16.49	1.4	2.0	•	•
16ER/L 10 ABUT	9.52	10.0	0.15	16.49	1.5	2.3		•
22ER 8 ABUT	12.70	8.0	0.18	22.00	2.1	3.3	•	•
22ER 6 ABUT	12.70	6.0	0.25	22.00	2.1	3.4		•
22UER 4 ABUT	12.70	4.0	0.41	22.00	2.3	9.5	•	•
27UEL 3 ABUT	15.88	3.0	0.56	27.50	3.1	11.7		•
27UER 3 ABUT	15.88	3.0	-	27.50	3.1	11.7	•	•

• For Insert Identification System, see pages 640-641 • ANSI B1.9-1973 Class 2 • For technical information and detailed cutting data, see pages 713-729

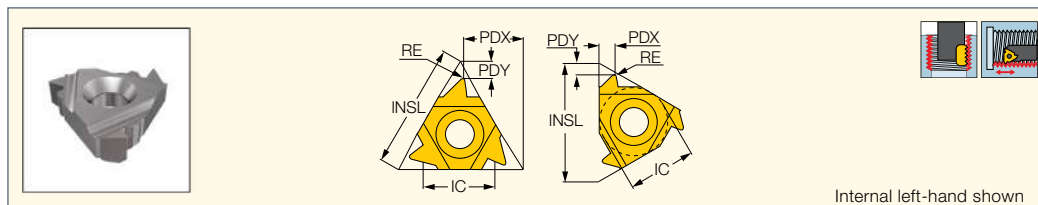
⁽¹⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

ISCAR THREAD

IR/L-ABUT

Internal American Buttress
Laydown Threading Inserts
for High Force Transmission
in One Direction



Internal left-hand shown

Designation	Dimensions						Tough ↔ Hard		
	IC	TPI ⁽¹⁾	RE	INSL	PDY	PDX	IC50M	IC250	IC908
11IR 20 ABUT	6.35	20.0	0.07	11.00	1.0	1.3			•
11IL 16 ABUT	6.35	16.0	0.09	11.00	1.0	1.5		•	
11IR 16 ABUT	6.35	16.0	0.09	11.00	1.0	1.5			•
16IR 20 ABUT	9.52	20.0	0.07	16.49	1.0	1.3		•	•
16IR/L 16 ABUT	9.52	16.0	0.09	16.49	1.0	1.5			•
16IL 12 ABUT	9.52	12.0	0.12	16.49	1.4	2.0			•
16IR 12 ABUT	9.52	12.0	0.12	16.49	1.4	2.0		•	•
16IL 10 ABUT	9.52	10.0	0.15	16.49	1.5	2.3			•
16IR 10 ABUT	9.52	10.0	0.15	16.49	1.5	2.3		•	•
22IR 8 ABUT	12.70	8.0	0.18	22.00	2.2	3.3			•
22IR 6 ABUT	12.70	6.0	0.25	22.00	2.2	3.4			•
22UIR 4 ABUT	12.70	4.0	0.41	22.00	2.3	9.5	•	•	
27UIR 3 ABUT	15.88	3.0	0.60	27.50	3.1	11.7			•

• For Insert Identification System, see pages 640-641 • ANSI B1.9-1973 Class 2 • For technical information and detailed cutting data, see pages 713-729

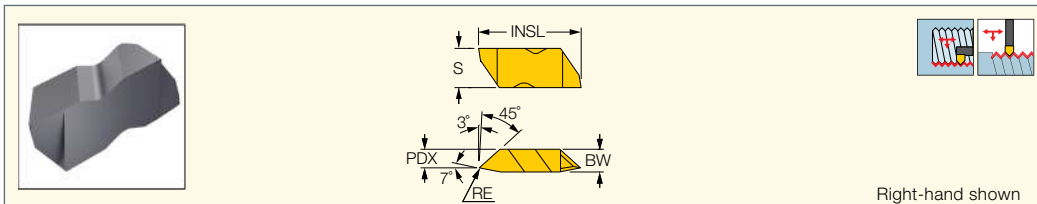
⁽¹⁾ Threads per inch

Tools: SIR/L

NOTCH GRIP
GROOVE-TURN LINE
ISCARTHREAD

**AMERICAN STANDARD
BUTTRESS THREADING
FLT-B-A**

Double-Ended, Precision, Flat Top
Threading Inserts for 7° Lead



Right-hand shown

	Dimensions							IC908
Designation	TPIN ⁽¹⁾	TPIX ⁽²⁾	RE	PDX	BW	S	INSL	
FLTB-4R/LA	4.00	6.00	0.20	5.20	6.48	11.51	28.45	
FLTB-3R/LA	8.00	16.00	0.13	4.20	4.95	8.74	22.60	
FLTB-2R/LA	16.00	20.00	0.05	3.20	3.81	5.56	12.95	

• DMIN according to related boring bar

⁽¹⁾ TPI min.

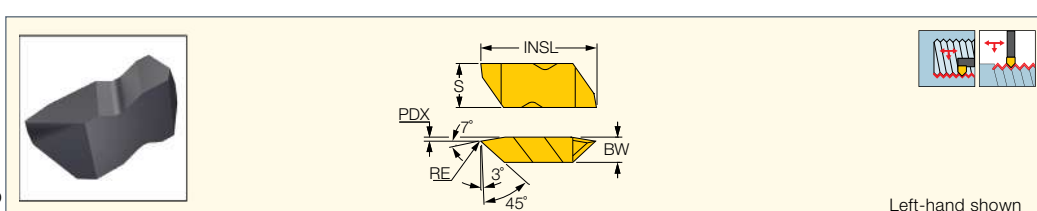
⁽²⁾ TPI max.

Tools: FLASR/L • FLSP/L

NOTCH GRIP
GROOVE-TURN LINE
ISCARTHREAD

**AMERICAN STANDARD
BUTTRESS THREADING
FLT-B-B**

Double-Ended, Precision, Flat Top
Threading Inserts for 45° Lead



Left-hand shown

Dimensions								IC908
Designation	TPIN ⁽¹⁾	TPIX ⁽²⁾	RE	PDX	BW	S	INSL	
FLTB-4R/LB	4.00	6.00	0.20	0.40	6.48	11.51	28.45	
FLTB-3R/LB	8.00	16.00	0.13	0.30	4.95	8.74	22.60	
FLTB-2R/LB	16.00	20.00	0.05	0.30	3.81	5.56	12.95	

• DMIN according to related boring bar

⁽¹⁾ TPI min.

⁽²⁾ TPI max.

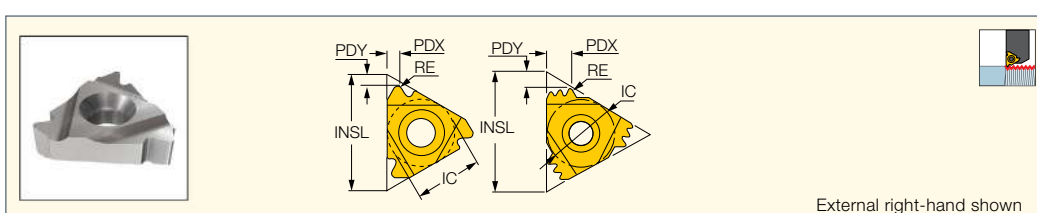
Tools: FLASR/L • FLSP/L

API RD (API ROUND)

ISCARTHREAD

ER/L-API RD

External API - Oil Thread Round
Profile Laydown Threading Inserts



External right-hand shown

Designation	Dimensions								Tough ↔ Hard	
	IC	TPI ⁽²⁾	RE	INSL	IPF	PDY	PDX	CICT ⁽³⁾	IC250	IC908
16ER 10 API RD	9.52	10.0	0.36	16.49	0.75	1.2	1.5	1	•	•
16EL 8 API RD	9.52	8.0	0.43	16.49	0.75	1.3	1.6	1	•	•
16ER 8 API RD	9.52	8.0	0.43	16.49	0.75	1.3	1.6	1	•	•
22ER 10 API RD 2M ⁽¹⁾	12.70	10.0	0.36	22.00	0.75	2.4	3.7	2	•	•
27ER 8 API RD 2M ⁽¹⁾	15.88	8.0	0.43	27.50	0.75	3.0	4.5	2	•	•

• For Insert Identification System, see pages 640-641 • API Spec 5B8-1996. • For technical information and detailed cutting data, see pages 713-729

• For recommended number of passes for multi-tooth inserts, see page 726

⁽¹⁾ Multi-tooth

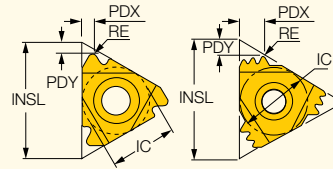
⁽²⁾ Threads per inch

⁽³⁾ Number of teeth per corner

Tools: C#-SER/L • SER-D • SER/L

IR/L-API RD

Internal API - Oil Thread Round
Profile Laydown Threading Inserts



Internal left-hand shown

 Designation	Dimensions								Tough ↔ Hard	
	IC	TPI ⁽²⁾	RE	INSL	IPF	PDY	PDX	CICT ⁽³⁾	IC250	IC908
16IL 10 API RD	9.52	10.0	0.36	16.49	0.75	1.5	1.4	1	•	•
16IR 10 API RD	9.52	10.0	0.36	16.49	0.75	1.3	1.5	1	•	•
16IL 8 API RD	9.52	8.0	0.43	16.49	0.75	1.3	1.6	1	•	•
16IR 8 API RD	9.52	8.0	0.43	16.49	0.75	1.1	1.5	1	•	•
22IR 10 API RD 2M ⁽¹⁾	12.70	10.0	0.36	22.00	0.75	2.4	3.7	2	•	•
27IR 8 API RD 2M ⁽¹⁾	15.88	8.0	0.43	27.50	0.75	3.0	4.5	2	•	•

• For Insert Identification System, see pages 640-641 • API Spec 5B8-1996 • For technical information and detailed cutting data, see pages 713-729

• For recommended number of passes for multi-tooth inserts see page 726

⁽¹⁾ Multi-tooth

⁽²⁾ Threads per inch

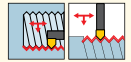
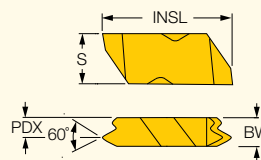
⁽³⁾ Number of teeth per corner

Tools: AVC-D-SIR/L • SIR/L

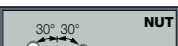
NOTCHGRIP
GROOVE-TURN LINE
ISCARTHREAD

API ROUND THREADING
FLDC-RD-75

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown

 Designation	Dimensions						IC908	
	TPJ ⁽¹⁾	IPF	PDX	BW	S	INSL		
	FLDC-3-8RDR/L75	8.0	3/4	5.00	3.18	8.74		22.60
	FLDC-3-10RDR/L75	10.0	3/4	5.00	3.18	8.74		22.60

• DMIN according to related boring bar

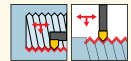
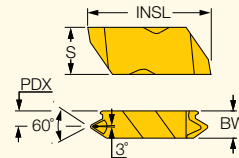
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLASR/L

NOTCHGRIP
GROOVE-TURN LINE
ISCARTHREAD

API ROUND THREADING
FLDC-RD-75-CB

Double-Ended, Precision,
Threading Inserts with
a Chipbreaker



Right-hand shown

Designation	Dimensions						IC908
	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	
	FLDC-3-8RDR/L75-CB	8.0	3/4	4.95	3.18	8.74	
							●

• DMIN according to related boring bar

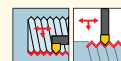
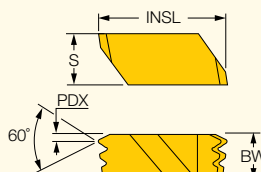
⁽¹⁾ Threads per inch

Tools: FLASR/L • FLASR/L

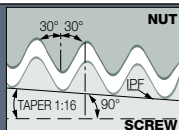
NOTCH GRIP
GROOVE-TURN LINE
ISCARTHREAD

API ROUND THREADING
FLDC-RD-75M

Double-Ended Precision, Flat Top
Multi-Tooth Threading Inserts



Left-hand shown



Dimensions

Designation	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	IC908
FLDC-6-8RDR75	8.0	3/4	1.80	9.73	11.51	28.45	•
FLDC-6-10RDR75	10.0	3/4	3.40	9.73	11.51	28.45	•

• DMIN according to related boring bar

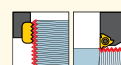
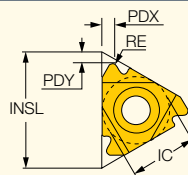
⁽¹⁾ Threads per inch

API

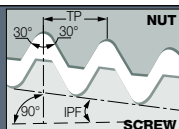
ISCARTHREAD

ER/L-API

External API - Oil Thread Profile
Laydown Threading Inserts



External right-hand shown



Dimensions

Tough ↔ Hard

Designation	IC	RE	INSL	TPI ⁽⁴⁾	IPF	PDX	PDY	Size ⁽⁵⁾	IC250	IC908
22ER 5 API 403 ⁽¹⁾	12.70	0.49	22.00	5.0	3	1.8	2.5	2.375"-4.5"REG	•	•
27ER 4 API 382 ⁽²⁾	15.88	0.96	27.50	4.0	2	2.1	2.8	NC23-NC50	•	•
27ER 4 API 383 ⁽²⁾	15.88	0.96	27.50	4.0	3	2.1	2.8	NC56-NC77	•	•
27EL 4 API 502 ⁽³⁾	15.88	0.64	27.50	4.0	2	2.0	3.0	6-5/8" REG	•	•
27ER 4 API 502 ⁽³⁾	15.88	0.64	27.50	4.0	2	2.0	3.0	6-5/8" REG	•	•
27ER 4 API 503 ⁽³⁾	15.88	0.64	27.50	4.0	3	2.0	3.0	5-1/2,7-5/8,8-5/8REG	•	•

• For Insert Identification System, see pages 640-641

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ V-0.040

⁽²⁾ V-0.050

⁽³⁾ V-0.038R

⁽⁴⁾ Threads per inch

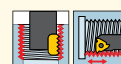
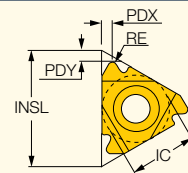
⁽⁵⁾ Connection no. or size

Tools: C#-SER/L • SER-D • SER/L

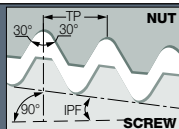
ISCARTHREAD

IR/L-API

Internal API - Oil Thread Profile
Laydown Threading Inserts



Internal left-hand shown



Dimensions

Tough ↔ Hard

Designation	IC	INSL	TPI ⁽⁴⁾	RE	PDY	PDX	Size ⁽⁵⁾	IC250	IC908
22IR 5 API 403 ⁽¹⁾	12.70	22.00	5.0	0.51	1.8	2.5	2.375"-4.5"REG	•	•
27IR 4 API 382 ⁽²⁾	15.88	27.50	4.0	0.96	2.1	2.8	NC23-NC50	•	•
27IR 4 API 383 ⁽²⁾	15.88	27.50	4.0	0.96	2.1	2.8	NC56-NC77	•	•
27IR/L 4 API 502 ⁽³⁾	15.88	27.50	4.0	0.64	2.0	3.0	6-5/8" REG	•	•
27IR 4 API 503 ⁽³⁾	15.88	27.50	4.0	0.64	2.0	3.0	5-1/2,7-5/8,8-5/8REG	•	•

• For Insert Identification System, see pages 640-641

• 0.050, API Spec 74-1994

• For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ V-0.040

⁽²⁾ V-0.050

⁽³⁾ V-0.038R

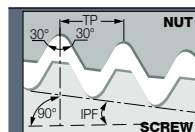
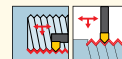
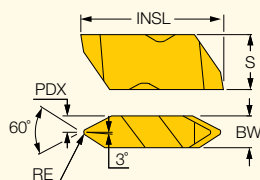
⁽⁴⁾ Threads per inch

⁽⁵⁾ Connection no. or size

Tools: AVC-D-SIR/L • SIR/L

API PARTIAL PROFILE THREADING FLD

Double-Ended, Precision, Flat Top
Partial Profile Threading Inserts



Dimensions

Designation	TPI ⁽¹⁾	RE	PDX	BW	S	INSL	IC908
FLD-4050R/L	4.0	0.51	3.25	6.48	11.51	28.45	•
FLD-3038R/L	4.0	0.84	2.08	4.95	8.74	22.60	•
FLD-4038R/L	4.0	0.84	3.25	6.48	11.51	28.45	•
FLD-3040R/L	5.0	0.38	2.08	4.95	8.74	22.60	•
FLD-4040R/L	5.0	0.38	3.25	6.48	11.51	28.45	•

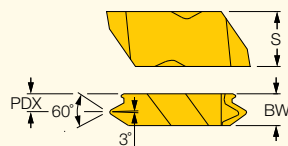
• DMIN according to related boring bar

⁽¹⁾ Threads per inch

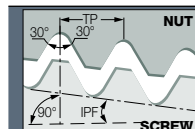
Tools: FLASR/L • FLISR/L

API THREADING FLDC-E

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown



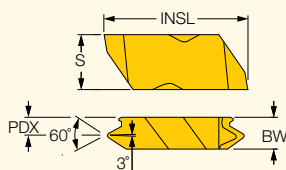
Dimensions

Designation	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	IC908
FLDC-4-425E	4.0	2	4.65	7.92	11.51	28.45	•
FLDC-4-428E	4.0	2	4.65	7.92	11.51	28.45	•
FLDC-4-435E	4.0	3	4.65	7.92	11.51	28.45	•
FLDC-4-438E	4.0	3	4.65	7.92	11.51	28.45	•
FLDC-3-530E	5.0	3	3.73	6.35	8.74	22.60	•

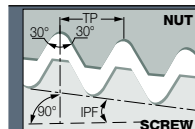
⁽¹⁾ Threads per inch

API THREADING FLDC-I

Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown



Dimensions

Designation	TPI ⁽¹⁾	IPF	PDX	BW	S	INSL	IC908
FLDC-4-425I	4.0	2	4.65	7.92	11.51	28.45	•
FLDC-4-428I	4.0	2	4.65	7.92	11.51	28.45	•
FLDC-4-435I	4.0	3	4.65	7.92	11.51	28.45	•
FLDC-4-438I	4.0	3	4.65	7.92	11.51	28.45	•
FLDC-3-530I	5.0	3	3.73	6.35	8.74	22.60	•

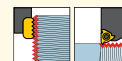
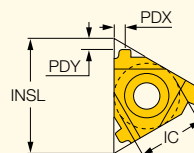
⁽¹⁾ Threads per inch

BUT (API BUTRESS CASING)

ISCAR THREAD

ER-BUT

External BUT - Oil Thread
Profile Laydown Threading
Inserts for Butress Casing



External right-hand shown

Designation	Dimensions							Tough ↔ Hard	
	IC	TPI ⁽¹⁾	INSL	IPF	PDY	PDX	Size ⁽²⁾	IC250	IC908
22ER 5 BUT 0.75	12.70	5.0	22.00	0.75	2.2	2.4	4-1/2" - 13-3/8"	●	●
22ER 5 BUT 1.00	12.70	5.0	22.00	1.0	2.3	2.4	16" - 20"	●	●

• For Insert Identification System, see pages 640-641 • API STD.5B • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Threads per inch

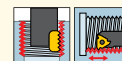
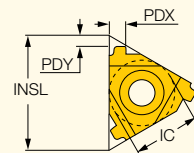
⁽²⁾ Connection no. or size

Tools: C#-SER/L • SER-D • SER/L

ISCAR THREAD

IR-BUT

Internal BUT - Oil Thread
Profile Laydown Threading
Inserts for Butress Casing



Internal left-hand shown

Designation	Dimensions							Tough ↔ Hard	
	IC	TPI ⁽¹⁾	INSL	IPF	PDY	PDX	Size ⁽²⁾	IC250	IC908
22IR 5 BUT 0.75	12.70	5.0	22.00	0.75	2.2	2.4	4-1/2" - 13-3/8"	●	●
22IR 5 BUT 1.00	12.70	5.0	22.00	1.00	2.3	2.4	16" - 20"	●	●

• For Insert Identification System, see pages 640-641 • API STD.5B • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ Threads per inch

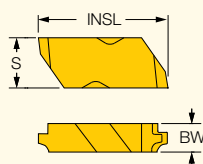
⁽²⁾ Connection no. or size

Tools: AVC-D-SIR/L • SIR/L

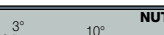
NOTCH GRIP

ISCAR THREAD

API BUTRESS
THREADING FLDC-B-E
Double-Ended, Precision,
Flat Top Threading Inserts

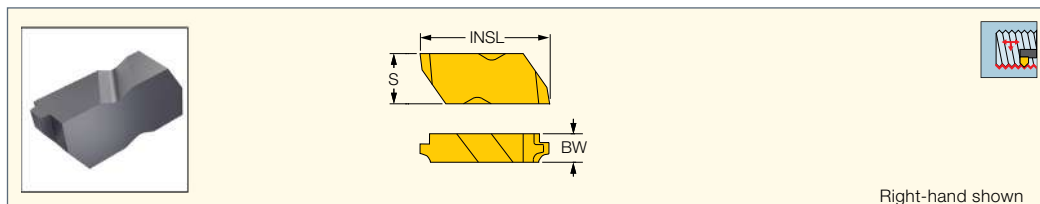


Right-hand shown

	Dimensions					IC908	
Designation	TPI ⁽¹⁾	IPF	BW	S	INSL		
FLDC-3-5B1E	5.0	1	6.35	8.74	22.60		●
FLDC-4-5B1E	5.0	1	6.48	11.51	28.45		●
FLDC-3-5B75E	5.0	3/4	6.35	8.74	22.60		●
FLDC-4-5B75E	5.0	3/4	6.48	11.51	28.45		●

⁽¹⁾ Threads per inch

**API BUTTRESS
THREADING FLDC-B-I**
Double-Ended, Precision,
Flat Top Threading Inserts



Right-hand shown

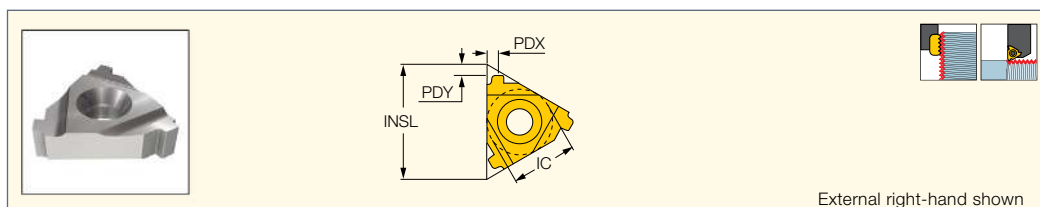
Designation	Dimensions						IC908
	TPI ⁽¹⁾	IPF	BW	PDX	S	INSL	
FLDC-3-5B1I	5.0	1	6.35	10.22	8.74	22.60	•
FLDC-4-5B1I	5.0	1	6.48	16.05	11.51	28.45	•
FLDC-3-5B75I	5.0	3/4	6.35	10.22	8.74	22.60	•
FLDC-4-5B75I	5.0	3/4	6.48	16.05	11.51	28.45	•

⁽¹⁾ Threads per inch

Extreme Line Casing

ISCARTHREAD

ER-EL
External EL - Extreme Line
Oil Thread Profile Laydown
Threading Inserts



External right-hand shown

Designation	Dimensions							Tough ↔ Hard	
	IC	TPI ⁽¹⁾	INSL	IPF	PDY	PDX	Size ⁽²⁾	IC250	IC908
22ER 6 EL 1.5	12.70	6.0	22.00	1.5	1.9	1.9	5" - 7-5/8"	•	•
22ER 5 EL 1.25	12.70	5.0	22.00	1.25	2.1	2.0	8-5/8" - 10-3/4"	•	•

• For Insert Identification System, see pages 640-641 • ANSI B1.9.1973 Class 2

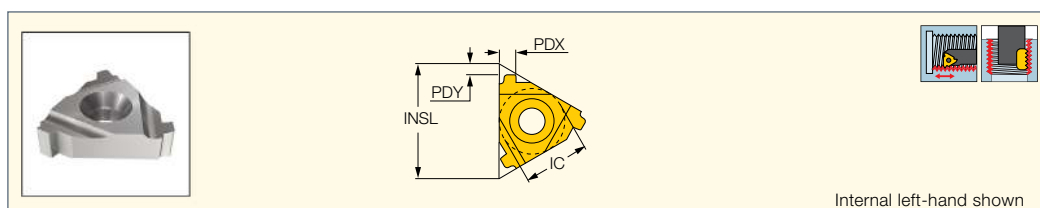
⁽¹⁾ Threads per inch

⁽²⁾ Connection no. or size

Tools: C#-SER/L • SER-D • SER/L

ISCARTHREAD

IR-EL
Internal EL - Extreme Line
Oil Thread Profile Laydown
Threading Inserts



Internal left-hand shown

Designation	Dimensions							IC908
	IC	TPI ⁽¹⁾	INSL	IPF	PDY	PDX	Size ⁽²⁾	
22IR 6 EL 1.5	12.70	6.0	22.00	1.5	1.9	1.9	5" - 7-5/8"	•

• For Insert Identification System, see pages 640-641 • ANSI B1.9.1973 Class 2

⁽¹⁾ Threads per inch

⁽²⁾ Connection no. or size

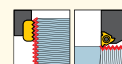
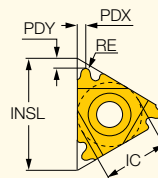
Tools: AVC-D-SIR/L • SIR/L

RND DIN 405 Round

ISCAR THREAD

ER/L-RND

External DIN 405 Round Laydown Threading Inserts for Fire Fighting and Food Industry Pipe Couplings



External right-hand shown

Designation	Dimensions						Tough ↔ Hard			
	IC	TPI ⁽²⁾	RE	INSL	PDY	PDX	IC228	IC250	IC508	IC908
16EL 10 RND	9.52	10.0	0.61	16.49	1.1	1.2		•		•
16ER 10 RND	9.52	10.0	0.61	16.49	1.1	1.2		•		•
16ER/L 8 RND	9.52	8.0	0.76	16.49	1.4	1.3		•		•
16ERM 8 RND ⁽¹⁾	9.52	8.0	0.75	16.49	1.4	1.3				•
16EL 6 RND	9.52	6.0	1.01	16.49	1.5	1.7		•		•
16ER 6 RND	9.52	6.0	1.01	16.49	1.5	1.6		•		•
16ERM 6 RND ⁽¹⁾	9.52	6.0	1.01	16.49	1.5	1.7			•	•
22EL 6 RND	12.70	6.0	1.01	22.00	1.5	1.7		•		•
22ER 6 RND	12.70	6.0	1.01	22.00	1.5	1.7	•			•
22EL 4 RND	12.70	4.0	1.51	22.00	2.2	2.3				•
22ER 4 RND	12.70	4.0	1.51	22.00	2.2	2.3		•		•
27ER 4 RND	15.88	4.0	1.51	27.50	2.2	2.3		•		

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

⁽¹⁾ With pressed chipformer

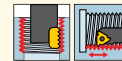
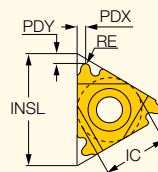
⁽²⁾ Threads per inch

Tools: C#-SER/L • SER-D • SER/L

ISCAR THREAD

IR/L-RND

Internal DIN 405 Round Laydown Threading Inserts for Fire Fighting and Food Industry Pipe Couplings



Internal left-hand shown

Designation	Dimensions						Tough ↔ Hard	
	IC	TPI ⁽²⁾	RE	INSL	PDY	PDX	IC250	IC908
16IR 10 RND	9.52	10.0	0.36	16.49	1.1	1.2		•
16IR/L 8 RND	9.52	8.0	0.70	16.49	1.4	1.4		•
16IL 6 RND	9.52	6.0	0.94	16.49	1.4	1.5		•
16IR 6 RND	9.52	6.0	0.94	16.49	1.4	1.4	•	•
16IRM 6 RND ⁽¹⁾	9.52	6.0	0.94	16.49	1.4	1.5		•
22IR 6 RND	12.70	6.0	0.94	22.00	1.5	1.7		•
22IR 4 RND	12.70	4.0	1.40	22.00	2.2	2.3		•
27IR 4 RND	15.88	4.0	1.40	27.50	2.2	2.3	•	

• For Insert Identification System, see pages 640-641 • Tolerance: Class 7H • For technical information and detailed cutting data, see pages 713-729

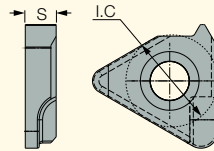
⁽¹⁾ With pressed chipformer

⁽²⁾ Threads per inch

Tools: AVC-D-SIR/L • SIR/L

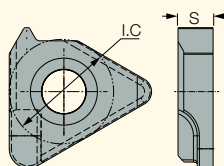
Thread anvils EL/IR

Thread Anvils for External
Left & Internal Right



Designation	IC	α°	S
AI16 -0	9.52	0	3.20
AI16M-0	9.52	0	3.20
AI16 -0.50	9.52	-0.5	3.20
AI16 +0.5	9.52	0.5	3.20
AI16M+0.5	9.52	0.5	3.20
AI16 -1.50	9.52	-1.5	3.20
AI16	9.52	1.5	3.20
AI16M	9.52	1.5	3.20
AI16 +2.5	9.52	2.5	3.20
AI16M+2.5	9.52	2.5	3.20
AI16 +3.5	9.52	3.5	3.20
AI16 +4.5	9.52	4.5	3.20
AI22-0	12.70	0	4.00
AI22M-0	12.70	0	4.00
AI22U-0	12.70	0	4.00
AI22 -0.5	12.70	-0.5	4.00
AI22U -0.5	12.70	-0.5	4.00
AI22 +0.50	12.70	0.5	4.00
AI22M+0.5	12.70	0.5	4.00
AI22 -1.50	12.70	-1.5	4.00
AI22U -1.5	12.70	-1.5	4.00
AI22	12.70	1.5	4.00
AI22M	12.70	1.5	4.00
AI22U	12.70	1.5	4.00
AI22 +2.5	12.70	2.5	4.00
AI22M+2.5	12.70	2.5	4.00
AI22U +2.50	12.70	2.5	4.00
AI22 +3.5	12.70	3.5	4.00
AI22U +3.5	12.70	3.5	4.00
AI22 +4.5	12.70	4.5	4.00
AI22U +4.5	12.70	4.5	4.00
AI27-0	15.88	0	5.50
AI27M-0	15.88	0	5.50
AI27U-0	15.88	0	5.50
AI27 -0.5	15.88	-0.5	3.20
AI27U-0.50	15.88	-0.5	5.50
AI27 +0.5-P	15.88	0.5	5.50
AI27M+0.5	15.88	0.5	4.00
AI27U +0.50	15.88	0.5	5.50
AI27 -1.5	15.88	-1.5	5.50
AI27U -1.5	15.88	-1.5	5.50
AI27	15.88	1.5	5.50
AI27M	15.88	1.5	5.50
AI27U	15.88	1.5	5.50
AI27 +2.5	15.88	2.5	5.50
AI27U +2.5	15.88	2.5	5.50
AI27U +2.5TR	15.88	2.5	5.50
AI27 +3.5	15.88	3.5	5.50
AI27U +3.5	15.88	3.5	5.50
AI27U +3.5TR	15.88	3.5	5.50
AI27 +4.5	15.88	4.5	5.50
AI27U +4.5	15.88	4.5	5.50
AI27U +4.5TR	15.88	4.5	5.50

Thread anvils ER/IL
Thread Anvils for External
Right & Internal Left



Designation	IC	a°	S
AE16 -0	9.52	0	3.20
AE16M -0	9.52	0	3.20
AE16 -0.5	9.52	-0.5	3.20
AE16M -0.5	9.52	-0.5	3.20
AE16 +0.5	9.52	0.5	3.20
AE16M +0.5	9.52	0.5	3.20
AE16 -1.5	9.52	-1.5	3.20
AE16M -1.5	9.52	-1.5	3.20
AE16	9.52	1.5	3.20
AE16M	9.52	1.5	3.20
AE16 +2.5	9.52	2.5	3.20
AE16M +2.5	9.52	2.5	3.20
AE16 +3.5	9.52	3.5	3.20
AE16 +4.5	9.52	4.5	3.20
AE22 -0	12.70	0	4.00
AE22M -0	12.70	0	4.00
AE22U -0	12.70	0	4.00
AE22 -0.5	12.70	-0.5	4.00
AE22M -0.5	12.70	-0.5	4.00
AE22U -0.5	12.70	-0.5	4.00
AE22 +0.5	12.70	0.5	4.00
AE22M +0.5	12.70	0.5	4.00
AE22U +0.5	12.70	0.5	4.00
AE22 -1.5	12.70	-1.5	4.00
AE22U -1.5	12.70	-1.5	4.00
AE22	12.70	1.5	4.00
AE22M	12.70	1.5	4.00
AE22U	12.70	1.5	4.00
AE22 +2.5	12.70	2.5	4.00
AE22M +2.5	12.70	2.5	4.00
AE22U +2.5	12.70	2.5	4.00
AE22 +3.5	12.70	3.5	4.00
AE22U +3.5	12.70	3.5	4.00
AE22 +4.5	12.70	4.5	4.00
AE22U +4.5	12.70	4.5	4.00
AE27 -0	15.88	0	5.50
AE27M -0	15.88	0	5.50
AE27U -0	15.88	0	5.50
AE27 -0.5	15.88	-0.5	5.50
AE27U -0.5	15.88	-0.5	5.50
AE27 +0.5	15.88	0.5	5.50
AE27M +0.5	15.88	0.5	5.50
AE27U +0.5	15.88	0.5	5.50
AE27 -1.5	15.88	-1.5	5.50
AE27U -1.5	15.88	-1.5	5.50
AE27	15.88	1.5	5.50
AE27M	15.88	1.5	5.50
AE27U	15.88	1.5	5.50
AE27 +2.5	15.88	2.5	5.50
AE27U +2.5	15.88	2.5	5.50
AE27U +2.5TR	15.88	2.5	5.50
AE27 +3.5	15.88	3.5	5.50
AE27U +3.5	15.88	3.5	5.50
AE27U +3.5TR	15.88	3.5	5.50
AE27 +4.5	15.88	4.5	5.50
AE27U +4.5	15.88	4.5	5.50
AE27U +4.5TR	15.88	4.5	5.50

THREADING TOOLS



Toolholder Identification System

S	E	R	2020	K	16	
1	2	3	4	5	6	7

1 Clamping System

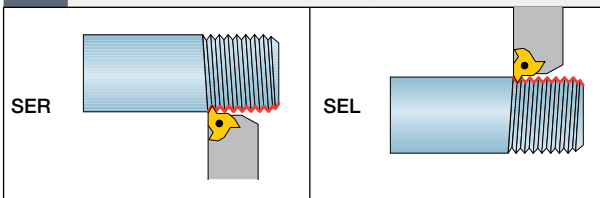
S	Screw Clamping
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2 Application

E	External
I	Internal

3 Hand of Tool

R	Right-hand
L	Left-hand



4 Type

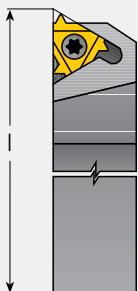
External Toolholders
Shank: hxb
2020-20x20 mm

* Optional Prefix

C	] Exchangeable Adaptation System
HSK	
KM	

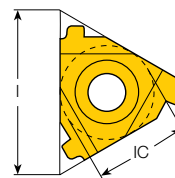
5 Tool Length

	mm
D	60
F	80
H	100
K	125
L	140
M	150
P	170
R	200
S	250
T	300
U	350
V	400



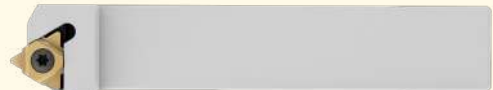
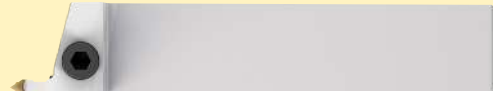
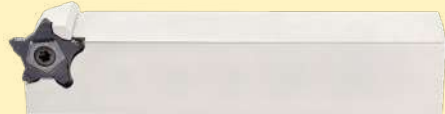
6 Insert Size

I (mm)	IC
06	5/32"
08	3/16"
08U	3/16"
11	1/4"
16	3/8"
22	1/2"
22U	1/2"
27	5/8"
27U	5/8"



7 Optional Specifications

U	For U-type inserts
B	Bore for coolant
C	Carbide shank
O	Offset style
D	Drop head
G	Gang tool
SP	Special

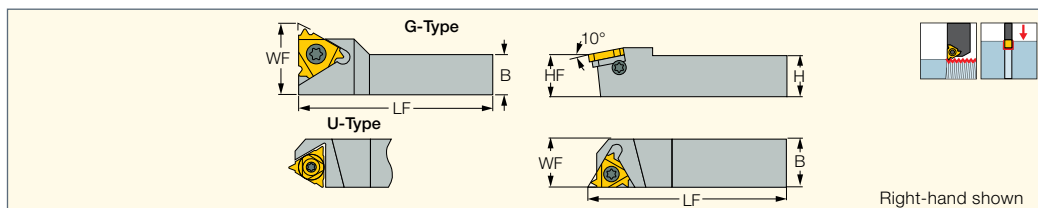
Tool Types		
C#-SER/L HSK-SEL	Standard	
	U-Type	
ISCAR GROOVE-TURN TOOLS		
PENTACUT Carrying Inserts with 5 Threading Corners. For tool information, refer to the section on GROOVE-TURN.		
Boring Bars		
E-SIR-HEAD	Standard	
	U-Type	
GROOVE-TURN Boring Bars		
CHAMGROOVE Holder and Carbide Bar		
CHAMGROOVE Integral		
PICCOCUT Holders and Carbide Bars		

External Threading Toolholders

ISCAR **THREAD**

SER/L

External Threading Toolholders



Designation	H	HF	B	LF	WF	Insert ⁽²⁾
SER 0808 H11 ⁽¹⁾	8.0	8.0	8.0	100.00	11.00	11 ER..
SER/L 1010 H11 ⁽¹⁾	10.0	10.0	10.0	100.00	11.00	11 ER/L..
SER/L 1212 F16	12.0	12.0	12.0	80.00	12.00	16 ER/L..
SER 1212 X16	12.0	12.0	12.0	120.00	12.00	16 ER/L..
SER/L 1616 H16	16.0	16.0	16.0	100.00	16.00	16 ER/L..
SER 1616 K16G	16.0	16.0	16.0	125.00	21.70	16 ER..
SER/L 2020-16-AD	20.0	20.0	20.0	67.00	20.00	16 ER/L..
SER/L 2020 K16	20.0	20.0	20.0	125.00	20.00	16 ER/L..
SER/L 2525 M16	25.0	25.0	25.0	150.00	25.00	16 ER/L..
SER/L 3232 P16	32.0	32.0	32.0	170.00	32.00	16 ER/L..
SER/L 2525 M22	25.0	25.0	25.0	150.00	25.00	22 ER/L..
SER/L 3232 P22	32.0	32.0	32.0	170.00	32.00	22 ER/L..
SER 4040 R22	40.0	40.0	40.0	200.00	40.00	22 ER/L..
SER/L 2525 M22U	25.0	25.0	25.0	150.00	28.00	22 UER/L..
SER/L 3232 P22U	32.0	32.0	32.0	170.00	32.00	22 UER/L..
SEL 4040 R22U	40.0	40.0	40.0	200.00	40.00	22 UER/L..
SER/L 2525 M27	25.0	25.0	25.0	150.00	25.00	27 ER/L..
SER/L 3232 P27	32.0	32.0	32.0	170.00	32.00	27 ER/L..
SER 4040 R27	40.0	40.0	40.0	200.00	40.00	27 ER/L..
SER/L 2525 M27U	25.0	25.0	25.0	150.00	32.00	27 UER/L..
SER/L 3232 P27U	32.0	32.0	32.0	170.00	32.00	27 UER/L..
SER/L 4040 R27U	40.0	40.0	40.0	200.00	40.00	27 UER/L..

• All tools are made for 1.5 helix angle • For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M

• For GTGA inserts, use anvil AE 16-0

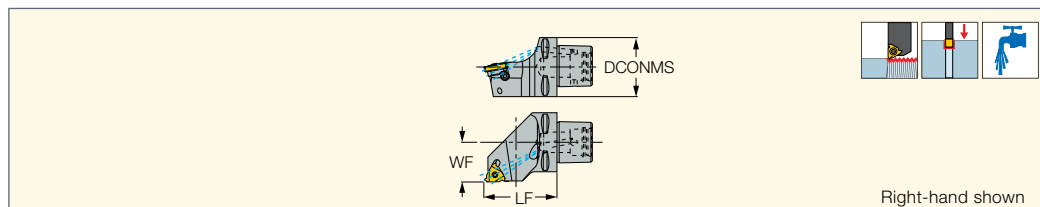
⁽¹⁾ Toolholder without anvil ⁽²⁾ Right-hand inserts (ER) for right-hand tools (SER)

Spare Parts

Designation					
SER 0808 H11	SR M2.6-L6.7-S11				T-8/5
SER/L 1010 H11	SR M2.6-L6.7-S11				T-8/5
SEL 1212 F16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 1212 F16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SER 1212 X16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 1616 H16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 1616 H16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SER 1616 K16G	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 2020-16-AD	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 2020-16-AD	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 2020 K16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 2020 K16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 2525 M16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 2525 M16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 3232 P16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16		AI16	T-10/5
SER 3232 P16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	AE16		T-10/5
SEL 2525 M22	SR 8-32-L15-S22	SR 8-32-L5.8-A22		AI22	T-20/5
SER 2525 M22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	AE22		T-20/5
SEL 3232 P22	SR 8-32-L15-S22	SR 8-32-L5.8-A22		AI22	T-20/5
SER 3232 P22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	AE22		T-20/5
SER 4040 R22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	AE22		T-20/5
SEL 2525 M22U	SR 8-32-L15-S22	SR 8-32-L5.8-A22		AI22U	T-20/5
SER 2525 M22U	SR 8-32-L15-S22	SR 8-32-L5.8-A22	AE22U		T-20/5
SEL 3232 P22U	SR 8-32-L15-S22	SR 8-32-L5.8-A22		AI22U	T-20/5
SER 3232 P22U	SR 8-32-L15-S22	SR 8-32-L5.8-A22	AE22U		T-20/5
SEL 4040 R22U	SR 8-32-L15-S22	SR 8-32-L5.8-A22		AI22U	T-20/5
SEL 2525 M27	SR M5-L22-S40	SR M5-L5.8-A27		AI27	T-25/3
SER 2525 M27	SR M5-L22-S40	SR M5-L5.8-A27	AE27		T-25/3
SEL 3232 P27	SR M5-L22-S40	SR M5-L5.8-A27		AI27	T-25/3
SER 3232 P27	SR M5-L22-S40	SR M5-L5.8-A27	AE27		T-25/3
SER 4040 R27	SR M5-L22-S40	SR M5-L5.8-A27	AE27		T-25/3
SEL 2525 M27U	SR M5-L22-S40	SR M5-L5.8-A27		AI27U	T-25/3
SER 2525 M27U	SR M5-L22-S40	SR M5-L5.8-A27	AE27U		T-25/3
SEL 3232 P27U	SR M5-L22-S40	SR M5-L5.8-A27		AI27U	T-25/3
SER 3232 P27U	SR M5-L22-S40	SR M5-L5.8-A27	AE27U		T-25/3
SEL 4040 R27U	SR M5-L22-S40	SR M5-L5.8-A27		AI27U	T-25/3
SER 4040 R27U	SR M5-L22-S40	SR M5-L5.8-A27	AE27U		T-25/3

C#-SER/L

External Threading Tools with
CAMFIX Exchangeable Shanks



Designation	DCONMS	WF	LF	Insert ⁽¹⁾	CP ⁽²⁾	CDI ⁽³⁾
C4 SEL-27050-16	40.00	27.00	50.00	16ER/L...	200	1
C4 SER-27050-16	40.00	27.00	50.00	16ER/L...	0	1
C5 SEL-35060-16	50.00	35.00	60.00	16ER/L...	200	1
C5 SER-35060-16	50.00	35.00	60.00	16ER/L...	0	1
C6 SEL-45065-16	63.00	45.00	65.00	16ER/L...	200	1
C6 SER-45065-16	63.00	45.00	65.00	16ER/L...	0	1
C4 SER/L-27050-22	40.00	27.00	50.00	22ER/L...	200	1
C5 SER/L-35060-22	50.00	35.00	60.00	22ER/L...	200	1
C6 SER/L-45065-22	63.00	45.00	65.00	22ER/L...	200	1
C8 SER/L-55080-22	80.00	55.00	80.00	22ER/L...	200	1

⁽¹⁾ Right-hand inserts for right-hand tools and vice versa

⁽²⁾ Coolant pressure (Bar)

⁽³⁾ 1 - Hole for data chip, 0 - Without hole for data chip

Inserts: ER-BUT • ER-EL • ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API • ER/L-API RD

• ER/L-BSPT • ER/L-ISO • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W

• GTGA • GTMA

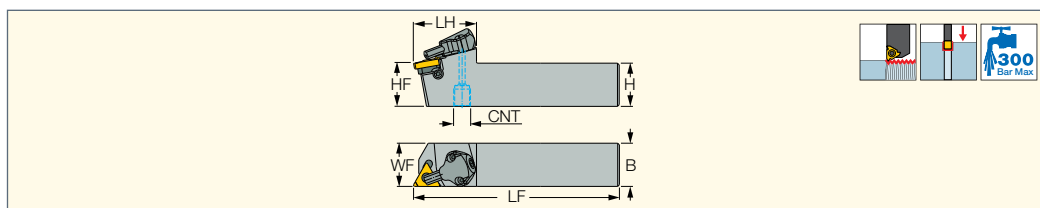
Holders: HSK-C#

Spare Parts

Designation					
C4 SEL-27050-16	AI16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
C4 SER-27050-16	AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	EZ 83
C5 SEL-35060-16	AI16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	EZ 104
C5 SER-35060-16	AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	EZ 104
C6 SEL-45065-16	AI16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
C6 SER-45065-16	AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
C4 SER-27050-22	AI22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C4 SER-27050-22	AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C5 SER-35060-22	AI22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C5 SER-35060-22	AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C6 SER-45065-22	AI22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C6 SER-45065-22	AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C8 SER-55080-22	AI22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
C8 SER-55080-22	AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	

SER/L-JHP

External Threading Tools
with Coolant Channels



Designation	H	B	HF	LF	LH	WF	CNT	Insert ⁽¹⁾
SER/L 2020 K16-JHP	20.0	20.0	20.0	125.00	37.0	20.00	G1/8-28	16 ER/L..
SER/L 2525 M16-JHP	25.0	25.0	25.0	150.00	37.0	25.00	G1/8-28	16 ER/L..
SER/L 3232 P16-JHP	32.0	32.0	32.0	170.00	37.0	32.00	G1/8-28	16 ER/L..

• All tools are made for 1.5 helix angle • For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M

• For GTGA inserts, use anvil AE 16-0

⁽¹⁾ Right-hand inserts (ER) for right-hand tools (SER)

Inserts: ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO

• ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

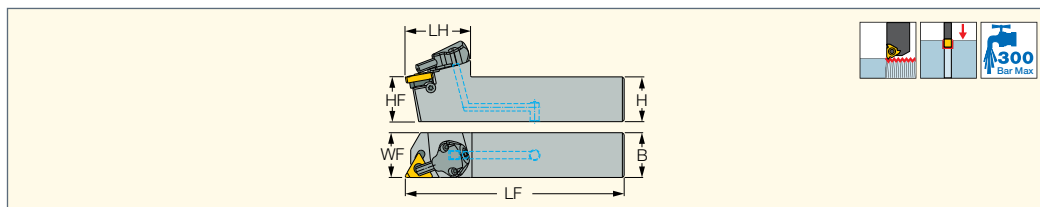
Spare Parts

Designation					
SEL 2020 K16-JHP	SR 5-40-L12.2-S16	AI16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP
SER 2020 K16-JHP	SR 5-40-L12.2-S16	AE16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP
SEL 2525 M16-JHP	SR 5-40-L12.2-S16	AI16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP
SER 2525 M16-JHP	SR 5-40-L12.2-S16	AE16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP
SEL 3232 P16-JHP	SR 5-40-L12.2-S16	AI16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP
SER 3232 P16-JHP	SR 5-40-L12.2-S16	AE16	T-8/5	SR 5-40-L6.8-A16	CU-V-JHP

ISCAR THREAD JETCUT

SER/L-JHP-MC

External Threading Tools with Bottom Inlet Coolant Channels



Designation	H	HF	B	LF	LH	WF	Insert ⁽¹⁾
SER/L 2020X16 JHP-MC	20.0	20.0	20.0	107.00	36.2	20.00	16 ER/L...
SER/L 2525X16 JHP-MC	25.0	25.0	25.0	122.00	36.2	25.00	16 ER/L...

- All tools are made for 1.5 helix angle
- For multi-tooth inserts use anvils AE16M / AI16M; AE22M / AI22M; AE27M / AI27M
- For GTGA inserts, use anvil AE 16-0

⁽¹⁾ Right-hand inserts (ER) for right-hand tools (SER)

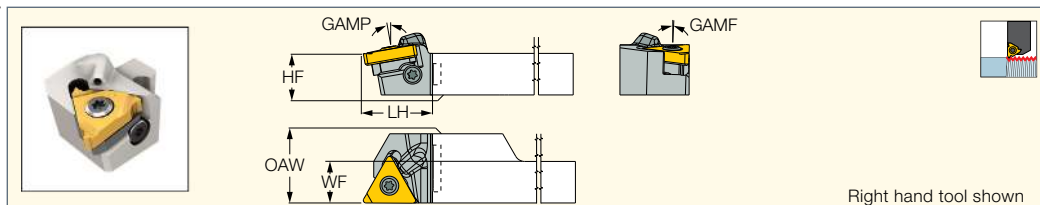
Inserts: ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO
 • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

Spare Parts

Designation						
SEL 2020X16 JHP-MC	SR 5-40-L12.2-S16	AI16	T-8/5	SR 5-40-L6.8-A16	T-10/5	CU-V-JHP
SER 2020X16 JHP-MC	SR 5-40-L12.2-S16	AE16	T-8/5	SR 5-40-L6.8-A16	T-10/5	CU-V-JHP
SEL 2525X16 JHP-MC	SR 5-40-L12.2-S16	AI16	T-8/5	SR 5-40-L6.8-A16	T-10/5	CU-V-JHP
SER 2525X16 JHP-MC	SR 5-40-L12.2-S16	AE16	T-8/5	SR 5-40-L6.8-A16	T-10/5	CU-V-JHP

NEOSWISS JETCUT

NQCH-SER/L-JHP
 Screw Lock JETCUT Modular Heads which Mount ISO Laydown Threading Inserts for Swiss-Type Machines



Designation	WF	HF	LH	OAW	GAMP	GAMF	Insert
NQCH12-SEL-16-JHP	12.00	11.8	20.6	20.00	10.0	1.5	16EL..
NQCH12-SER-16-JHP	12.00	11.8	20.6	20.00	10.0	1.5	16ER..
NQCH16-SEL-16-JHP	16.00	15.8	20.6	20.00	10.0	1.5	16EL..
NQCH16-SER-16-JHP	16.00	15.8	20.6	20.00	10.0	1.5	16ER..

Inserts: ER-MJ • ER-NPTF • ER-PG • ER/L-55° • ER/L-60° • ER/L-ABUT • ER/L-ACME • ER/L-API RD • ER/L-BSPT • ER/L-ISO
 • ER/L-NPT • ER/L-RND • ER/L-SAGE • ER/L-STACME • ER/L-TR • ER/L-UN • ER/L-UNJ • ER/L-W • GTGA • GTMA

Holders: NQCH-JHP

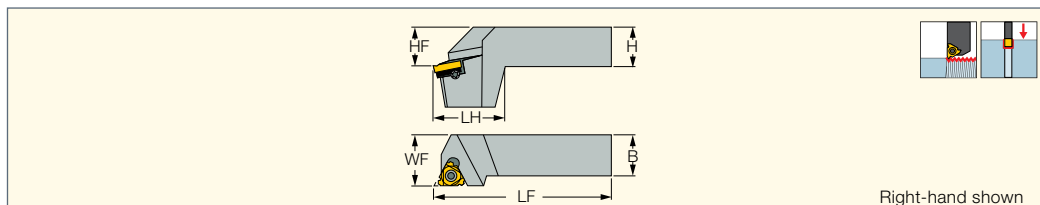
Spare Parts

Designation				
NQCH12-SEL-16-JHP	AI16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
NQCH12-SER-16-JHP	AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
NQCH16-SEL-16-JHP	AI16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
NQCH16-SER-16-JHP	AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5

ISCAR THREAD

SER-D

External Threading Drophead Toolholders



Designation	H	HF	B	LF	WF	LH	Insert				
SER 2525 M16D	25.0	25.0	25.0	150.00	32.00	38.0	16 ER..	SR 5-40-L12.2-S16	T-10/5	AE16	SR 5-40-L6.8-A16
SER 2525 M22D	25.0	25.0	25.0	150.00	32.00	38.0	22 ER..	SR 8-32-L15-S22	T-20/5	AE22	SR 8-32-L5.8-A22

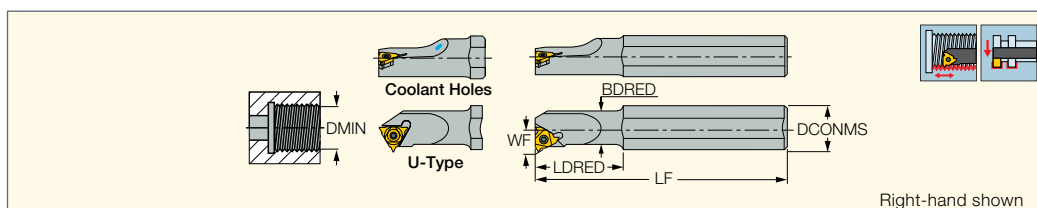
- All toolholders are made for 1.5 helix angle.
- For GTGA inserts, use anvil AE 16-0

Inserts: GTMA

Internal Threading Toolholders

ISCARTHREAD

SIR/L
Internal Threading Bars



Designation	DMIN	DCONMS	BDRED	LF	LDRED	WF	CSP ⁽⁴⁾	Shank m. ⁽⁵⁾	Insert ⁽⁶⁾
SIR/L 0005 H06CB ⁽¹⁾	6.40	6.00	5.10	100.00	25.0	4.30	1	C	06 IR/L...
SIR/L 0005 H06 ⁽²⁾	6.40	12.00	5.10	100.00	12.0	4.30	0	S	06 IR/L...
SIR 0005 H06-W ⁽²⁾	6.40	12.00	5.10	100.00	12.0	4.30	0	S	06 IR/L...
SIR/L 0007 K08CB ⁽¹⁾	9.00	8.00	6.60	125.00	30.0	5.30	1	C	08 IR/L...
SIR/L 0008 K08UCB	9.00	8.00	7.30	125.00	35.0	6.40	1	C	08 UIRL...
SIR/L 0007 K08 ⁽²⁾	9.00	16.00	6.60	125.00	18.0	5.30	0	S	08 IR/L...
SIR/L 0008 K08U ⁽²⁾	9.00	16.00	7.30	125.00	21.0	6.60	0	S	08 UIRL...
SIR/L 0010 H11 ⁽²⁾	12.00	10.00	10.00	100.00	-	7.40	0	S	11 IR/L...
SIR/L 0010 M11CB ⁽¹⁾	12.00	10.00	10.00	150.00	-	7.40	1	C	11 IR/L...
SIR 0010 H11B ⁽²⁾	12.00	10.00	10.00	100.00	-	7.40	1	S	11 IR/L...
SIR/L 0010 K11 ⁽²⁾	12.00	16.00	10.00	125.00	25.0	6.50	0	S	11 IR/L...
SIR/L 0010 K11B ⁽²⁾	12.00	16.00	10.00	125.00	25.0	7.40	1	S	11 IR/L...
SIR/L 0012 P11CB ⁽¹⁾	15.00	12.00	12.00	170.00	-	8.40	1	C	11 IR/L...
SIL 0013 L11 ⁽²⁾	15.00	16.00	13.00	140.00	32.0	8.90	0	S	11 IR/L...
SIR 0013 L11 ⁽²⁾	15.00	16.00	13.00	140.00	32.0	8.90	0	S	11 IR/L...
SIR/L 0013 M16 ⁽²⁾	16.00	16.00	13.00	150.00	32.0	10.00	0	S	16 IR/L...
SIL 0013 M16B ⁽²⁾	16.00	16.00	13.00	150.00	32.0	10.20	1	S	16 IR/L...
SIR 0013 M16B ⁽²⁾	16.00	16.00	13.00	150.00	32.0	10.00	1	S	16 IR/L...
SIR 0016 R16CB ⁽¹⁾	19.00	16.00	16.00	200.00	-	11.70	1	C	16 IR/L...
SIR/L 0016 P16 ⁽²⁾	19.00	20.00	16.00	170.00	40.0	11.40	0	S	16 IR/L...
SIR/L 0016 P16B ⁽²⁾	19.00	20.00	16.00	170.00	40.0	11.70	1	S	16 IR/L...
SIR/L 0020 P16	24.00	20.00	20.00	170.00	-	13.70	0	S	16 IR/L...
SIR/L 0020 P16B	24.00	20.00	20.00	170.00	-	13.70	1	S	16 IR/L...
SIR/L 0020 P22 ⁽²⁾	24.00	20.00	20.00	170.00	-	15.60	0	S	22 IR/L...
SIR/L 0020-16-AD	24.00	20.00	20.00	80.00	-	13.70	0	S	16 IR/L...
SIR 0020 S16CB	24.00	20.00	20.00	250.00	-	13.70	1	C	16 IR/L...
SIR 0025 S16CB	28.00	25.00	25.00	250.00	-	16.20	1	C	16 IR/L...
SIR/L 0025 R16	29.00	25.00	25.00	200.00	-	16.30	0	S	16 IR/L...
SIL 0025 R16B	29.00	25.00	25.00	200.00	-	16.20	1	S	16 IR/L...
SIR/L 0025 R22	29.00	25.00	25.00	200.00	-	17.20	0	S	22 IR/L...
SIR/L 0025 R22B	29.00	25.00	25.00	200.00	-	18.10	1	S	22 IR/L...
SIL 0025-16-AD	29.00	25.00	25.00	100.00	-	16.30	0	S	16 IR/L...
SIR 0025 R16B	29.00	25.00	25.00	200.00	-	16.30	1	S	16 IR/L...
SIR 0025-16-AD	29.00	25.00	25.00	100.00	-	16.20	0	S	16 IR/L...
SIR/L 0032 S16	36.00	32.00	32.00	250.00	-	19.70	0	S	16 IR/L...
SIR/L 0032 S22	38.00	32.00	32.00	250.00	-	21.50	0	S	22 IR/L...
SIR/L 0032 S22U	38.00	32.00	32.00	250.00	-	25.50	0	S	22 UIRL...
SIL 0032 S27	40.00	32.00	32.00	250.00	-	22.40	0	S	27 IR/L...
SIR/L 0032 S27U ⁽³⁾	40.00	32.00	32.00	250.00	-	24.70	0	S	27 UIRL...
SIR 0032 S27	40.00	32.00	32.00	250.00	-	22.40	0	S	27 IR/L...
SIR/L 0040 T16	44.00	40.00	40.00	300.00	-	23.70	0	S	16 IR/L...
SIR/L 0040 T22	46.00	40.00	40.00	300.00	-	25.80	0	S	22 IR/L...
SIR 0040 T22U	46.00	40.00	40.00	300.00	-	29.50	0	S	22 UIRL...
SIR/L 0040 T27	48.00	40.00	40.00	300.00	-	26.60	0	S	27 IR/L...
SIR 0040 T27U ⁽³⁾	48.00	40.00	40.00	300.00	-	29.40	0	S	27 UIRL...
SIR/L 0050 U16	54.00	50.00	50.00	350.00	-	28.70	0	S	16 IR/L...
SIR/L 0050 U22	56.00	50.00	50.00	350.00	-	30.60	0	S	22 IR/L...
SIR/L 0050 U27	58.00	50.00	50.00	350.00	-	31.60	0	S	27 IR/L...
SIR 0050 U27U ⁽³⁾	58.00	50.00	50.00	350.00	-	34.30	0	S	27 UIRL...
SIR/L 0060 V27	68.00	60.00	60.00	400.00	-	36.60	0	S	27 IR/L...
SIR/L 0060 V27U ⁽³⁾	68.00	60.00	60.00	400.00	-	39.30	0	S	27 UIRL...

• B-steel shank with coolant hole, CB-carbide shank with coolant hole • All toolholders provide 1.5° helix angle, either via the pocket or the anvil supplied

• For GTGA inserts, use anvil AL 16-0

⁽¹⁾ Carbide shank without anvil

⁽²⁾ Toolholder without anvil

⁽³⁾ For ACME, STUB ACME, TRAPEZ (DIN 103) and ROUND (DIN 405) thread profiles check in user guide for anvil information

⁽⁴⁾ 0 - Without coolant supply, 1 - With coolant supply

⁽⁵⁾ C-carbide, S-steel

⁽⁶⁾ Right-hand inserts (IR) for right-hand tools (SIR)

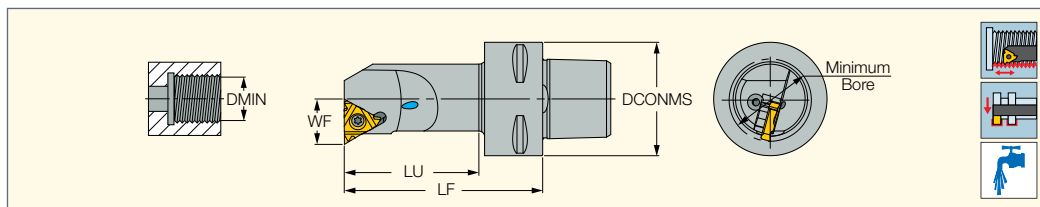
Holders: DT30/2 #L70WN • DT30/2 ADR-#-20-55

Spare Parts

Designation						
SIR/L 0005 H06CB				SR 14-552	T-6/5	
SIR/L 0005 H06				SR 14-552	T-6/5	
SIR 0005 H06-W				SR 14-552	T-6/5	
SIR/L 0007 K08CB				SR 14-558	T-6/5	
SIR/L 0008 K08UCB				SR 14-558	T-6/5	
SIR/L 0007 K08				SR 14-558	T-6/5	
SIR/L 0008 K08U				SR 14-558	T-6/5	
SIR/L 0010 H11				SR M2.6-L6.7-S11	T-8/5	
SIR/L 0010 M11CB				SR M2.6-L6.7-S11	T-8/5	
SIR 0010 H11B				SR M2.6-L6.7-S11	T-8/5	
SIR/L 0010 K11				SR M2.6-L6.7-S11	T-8/5	
SIR/L 0010 K11B				SR M2.6-L6.7-S11	T-8/5	PL 16
SIR/L 0012 P11CB				SR M2.6-L6.7-S11	T-8/5	
SIR/L 0013 L11				SR M2.6-L6.7-S11	T-8/5	
SIR/L 0013 M16				SR 5-40-L9.7-S16S	T-10/5	
SIR/L 0013 M16B				SR 5-40-L9.7-S16S	T-10/5	PL 16
SIR 0016 R16CB				SR 5-40-L9.7-S16S	T-10/5	
SIR/L 0016 P16				SR 5-40-L9.7-S16S	T-10/5	
SIR/L 0016 P16B				SR 5-40-L9.7-S16S	T-10/5	PL 20
SIL 0020 P16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0020 P16B		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	PL 20
SIR/L 0020 P22				SR 8-32-L12-S22S	T-20/5	
SIL 0020-16-AD		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0020 P16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0020 P16B	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	PL 20
SIR 0020 S16CB	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0020-16-AD	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0025 S16CB	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0025 R16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0025 R16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0025 R16B		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	PL 25
SIR 0025 R16B	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	PL 25
SIL 0025 R22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0025 R22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIL 0025 R22B		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	PL 25
SIR 0025 R22B	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	PL 25
SIL 0025-16-AD		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0025-16-AD	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0032 S16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0032 S16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0032 S22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIL 0032 S22U		AE22U	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0032 S22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0032 S22U	AI22U		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIL 0032 S27		AE27	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIL 0032 S27U		AE27U	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0032 S27	AI27		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0032 S27U	AI27U		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIL 0040 T16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0040 T16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0040 T22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0040 T22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0040 T22U	AI22U		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIL 0040 T27		AE27	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0040 T27	AI27		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0040 T27U	AI27U		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIL 0050 U16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIR 0050 U16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5	
SIL 0050 U22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIR 0050 U22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5	
SIL 0050 U27		AE27	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0050 U27	AI27		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0050 U27U	AI27U		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIL 0060 V27		AE27	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIL 0060 V27U		AE27U	SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0060 V27	AI27		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	
SIR 0060 V27U	AI27U		SR M5-L5.8-A27	SR M5-L22-S40	T-25/3	

C#-SIR/L

Internal Threading Bars with
CAMFIX Exchangeable Shanks



Designation	DCONMS	DMIN	WF	LU	LF	Insert	CP ⁽¹⁾	CDI ⁽²⁾
C4 SIR/L-12060-16	40.00	20.00	11.70	37.0	60.00	16 IR/L..	300	1
C4 SIR/L-14060-16	40.00	25.00	13.50	38.0	60.00	16 IR/L..	300	1
C4 SIR-15065-22	40.00	25.00	15.40	42.0	65.00	22 IR/L..	300	1
C4 SIR/L-17070-16	40.00	29.00	16.00	48.0	70.00	16 IR/L..	300	1
C4 SIR/L-19070-22	40.00	29.00	17.90	48.0	70.00	22 IR/L..	300	1
C4 SIR-17070-16	40.00	29.00	16.00	48.0	70.00	16 IR/L..	300	1
C4 SIR-19070-22	40.00	29.00	17.90	48.0	70.00	22 IR/L..	300	1
C4 SIR/L-22090-16	40.00	36.00	19.50	69.0	90.00	16 IR/L..	300	1
C4 SIR/L-22090-22	40.00	38.00	21.40	69.0	90.00	22 IR/L..	300	1
C4 SIR/L-27080-16	40.00	44.00	23.50	60.0	80.00	16 IR/L..	300	1
C4 SIR/L-27080-22	40.00	46.00	25.40	60.0	80.00	22 IR/L..	300	1
C5 SIR/L-12060-16	50.00	20.00	11.70	35.0	60.00	16 IR/L..	300	1
C5 SIR/L-14060-16	50.00	25.00	13.50	36.0	60.00	16 IR/L..	300	1
C5 SIR/L-15065-22	50.00	25.00	15.40	41.0	65.00	22 IR/L..	300	1
C5 SIR/L-17070-16	50.00	29.00	16.00	47.0	70.00	16 IR/L..	300	1
C5 SIR/L-19070-22	50.00	29.00	17.90	47.0	70.00	22 IR/L..	300	1
C5 SIR/L-22090-16	50.00	36.00	19.50	68.0	90.00	16 IR/L..	300	1
C5 SIR/L-22090-22	50.00	38.00	21.40	68.0	90.00	22 IR/L..	300	1
C5 SIR/L-27105-16	50.00	44.00	23.50	84.0	105.00	16 IR/L..	300	1
C5 SIR/L-27105-22	50.00	46.00	25.40	84.0	105.00	22 IR/L..	300	1
C6 SIR/L-14070-16	63.00	25.00	13.50	42.0	70.00	16 IR/L..	300	1
C6 SIR/L-17075-16	63.00	29.00	16.00	48.0	75.00	16 IR/L..	300	1
C6 SIR/L-19075-22	63.00	29.00	17.90	48.0	75.00	22 IR/L..	300	1
C6 SIR/L-22090-16	63.00	36.00	19.50	64.0	90.00	16 IR/L..	300	1
C6 SIR/L-22090-22	63.00	38.00	21.40	64.0	90.00	22 IR/L..	300	1
C6 SIR/L-27105-16	63.00	44.00	23.50	80.0	105.00	16 IR/L..	300	1
C6 SIR-27105-22	63.00	46.00	25.40	80.0	105.00	22 IR/L..	300	1
C6 SIR-27105-22	63.00	46.00	25.40	8.0	105.00	22 IR/L..	300	1

⁽¹⁾ Coolant pressure (Bar)

⁽²⁾ 1 - Hole for data chip, 0 - Without hole for data chip

Inserts: GTMA • IR-BUT • IR-EL • IR-MJ • IR/L-55° • IR/L-60° • IR/L-ACME • IR/L-API • IR/L-API RD • IR/L-BSPT • IR/L-ISO
• IR/L-NPT • IR/L-NPTF • IR/L-PG • IR/L-RND • IR/L-SAGE • IR/L-STACME • IR/L-TR • IR/L-UN • IR/L-UNJ • IR/L-W • GTGA

Spare Parts

Designation					
C4 SIR-12060-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-12060-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-14060-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-14060-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-15065-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-17070-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-19070-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-17070-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-19070-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-22090-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-22090-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-22090-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-22090-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-27080-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-27080-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C4 SIR-27080-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C4 SIR-27080-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-12060-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-12060-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-14060-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-14060-16	AI16	AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-15065-22			SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-15065-22	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-15065-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-17070-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-19070-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-17070-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-19070-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-22090-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-22090-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-22090-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5

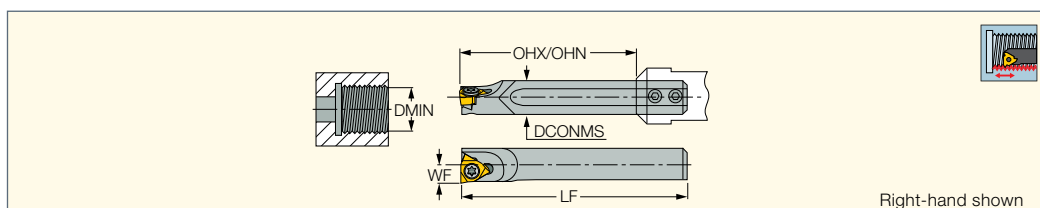
Spare Parts

C5 SIR-22090-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIL-27105-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIR-27105-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C5 SIL-27105-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C5 SIR-27105-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIL-14070-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIR-14070-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIL-17075-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIR-17075-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIL-19075-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIR-19075-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIL-22090-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIR-22090-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIL-22090-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIR-22090-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIL-27105-16		AE16	SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIR-27105-16	AI16		SR 5-40-L6.8-A16	SR 5-40-L12.2-S16	T-10/5
C6 SIL-27105-22		AE22	SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5
C6 SIR-27105-22	AI22		SR 8-32-L5.8-A22	SR 8-32-L15-S22	T-20/5

ISCAR THREAD

MGSIR/L

Solid Carbide Bars for Internal Turning and Threading



Designation	DCONMS	LF	OHN ⁽¹⁾	OHX ⁽²⁾	WF	DMIN		
MGSIR/L 06-06	6.00	59.00	16.0	42.0	3.90	7.00	SR 14-552	T-6/5
MGSIR/L 08-06	8.00	72.00	20.0	56.0	5.00	9.20	SR 14-552	T-6/5

• In order to maintain high machining reliability, we strongly recommend replacing the clamping screw every 10 insert indexes

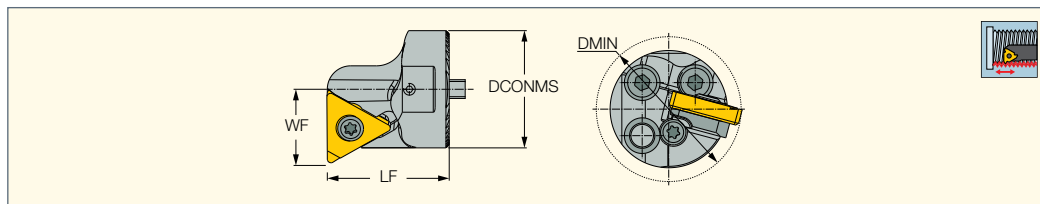
⁽¹⁾ Minimum overhang in adjustment range

⁽²⁾ Maximum overhang in adjustment range

Inserts: IR/L-55° • IR/L-60° • IR/L-BSPT • IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-UN • IR/L-W

Holders: SBB



FLASHTURN
ECO LINE**WHISPERLINE**
ANTI-VIBRATION**AVC-D-SIR/L**Interchangeable Boring Heads
for Threading Inserts

Designation	WF	DCONMS	DMIN	LF	CSP ⁽²⁾
AVC-D25-SIR/L-16	16.20	25.00	29.00	26.00	1
AVC-D32-SIR/L-16	19.70	32.00	36.00	27.00	1
AVC-D40-SIR/L-16 ⁽¹⁾	23.70	40.00	44.00	30.00	1
AVC-D32-SIR/L-22	21.60	32.00	38.00	32.00	1
AVC-D40-SIR/L-22 ⁽¹⁾	25.60	40.00	46.00	38.00	1

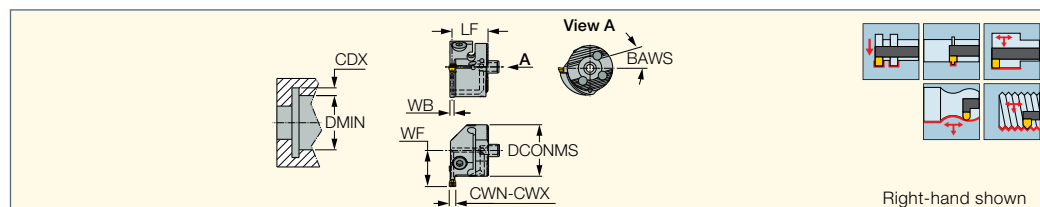
⁽¹⁾ DMIN of 50mm shank is DMIN of requested head + 10mm • DMIN of 60mm shanks is DMIN of requested head + 20mm⁽²⁾ 0 - Without coolant supply, 1 - With coolant supply**Inserts:** GTGA • GTMA • IR-BUT • IR-EL • IR-MJ • IR/L-55° • IR/L-60° • IR/L-ACME • IR/L-API • IR/L-API RD • IR/L-BSPT

• IR/L-ISO • IR/L-NPT • IR/L-NPTF • IR/L-PG • IR/L-RND • IR/L-SAGE • IR/L-STACME • IR/L-TR • IR/L-UN • IR/L-UNJ

• IR/L-W

Holders: AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D**Spare Parts**

Designation				
AVC-D25-SIL-16	AE16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D25-SIR-16	AI16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D32-SIL-16	AE16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D32-SIR-16	AI16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D40-SIL-16	AE16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D40-SIR-16	AI16	SR 5-40-L12.2-S16	SR 5-40-L6.8-A16	T-10/5
AVC-D32-SIL-22	AE22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	T-20/5
AVC-D32-SIR-22	AI22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	T-20/5
AVC-D40-SIL-22	AE22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	T-20/5
AVC-D40-SIR-22	AI22	SR 8-32-L15-S22	SR 8-32-L5.8-A22	T-20/5

CUTGRIP**AVC-GEAIR/L**Internal Grooving Turning
and Threading Adapters

Right-hand shown

Designation	DMIN	CWN ⁽¹⁾	CWX ⁽²⁾	DCONMS	CDX ⁽³⁾	WF	LF	WB	BAWS	MID ⁽⁴⁾
AVC-D16-GEAIR/L-2	21.00	1.90	2.40	16.00	3.00	12.00	14.50	1.60	45	GEPI 2.00-0.10
AVC-D16-GEAIR/L-3	21.00	2.40	2.70	16.00	3.00	12.00	14.50	2.00	45	GEPI 3.00-0.20
AVC-D20-GEAIR/L-2	26.00	1.90	2.40	20.00	3.00	14.70	13.50	1.60	15	GEPI 2.00-0.10
AVC-D20-GEAIR/L-3	26.00	2.40	3.18	20.00	3.00	14.70	13.50	2.00	15	GEPI 3.00-0.20
AVC-D25-GEAIR/L-2	31.00	1.90	2.40	25.00	4.00	17.50	17.50	1.60	15	GEPI 2.00-0.10
AVC-D25-GEAIR/L-3	31.00	2.40	3.18	25.00	4.00	17.50	17.50	2.00	15	GEPI 3.00-0.20

• Using the adapters with CAMFIX holders is only possible in case the machine has an option for rotating the CAMFIX Axis.

• For user guide, see pages 713-729

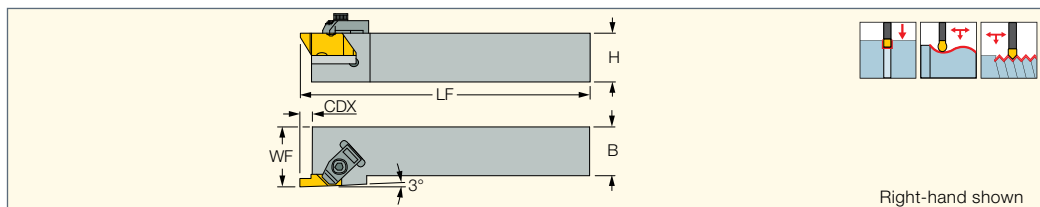
⁽¹⁾ Minimum cutting width⁽²⁾ Maximum cutting width⁽³⁾ Cutting depth maximum⁽⁴⁾ Master insert identification**Inserts:** GEMI • GEMI (full radius) • GEPI • GEPI (full radius) • GEPI-MT • GEPI-WT**Holders:** AV-D • C#-SH-E-JHP • C#-SH-JHP • SH-D • SH-S#-N-AVC**Spare Parts**

Designation					
AVC-D16-GEAIR/L-2	SR 14-551				T-9/5
AVC-D16-GEAIR/L-3	SR 14-551				T-9/5
AVC-D20-GEAIR/L-2	SR 34-510		SW6-SD	BLD T15/M7	
AVC-D20-GEAIR/L-3	SR 34-510		SW6-SD	BLD T15/M7	
AVC-D25-GEAIR/L-2	SR M4X14 DIN912	HW 3.0			
AVC-D25-GEAIR/L-3	SR M4X14 DIN912	HW 3.0			

NOTCH-GRIP
GROOVE-TURN LINE

FLSR/L

Tools for External Grooving
and Threading Inserts



Right-hand shown

Designation	SSC ⁽¹⁾	B	CDX	WF	LF	Insert
FLSR/L-2020M2	2.0	20.0	3.00	25.00	125.00	FL/IN_-2
FLSR/L-2020M3	3.0	20.0	5.00	25.00	125.00	FL/IN_-3
FLSR/L-2525M2	2.0	25.0	3.00	32.00	150.00	FL/IN_-2
FLSR/L-2525M3	3.0	25.0	5.00	32.00	150.00	FL/IN_-3

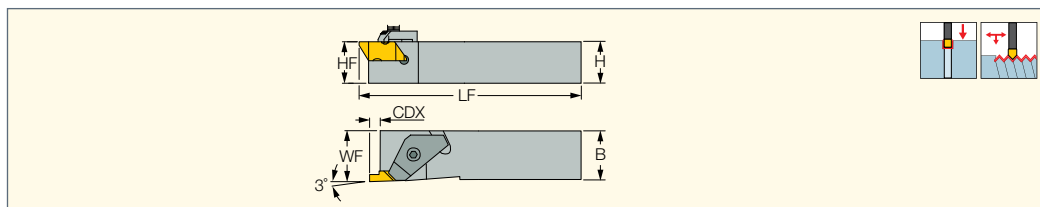
⁽¹⁾ Seat size code

Inserts: 60° PARTIAL PROFILE THREADING FLT • 60° PARTIAL PROFILE THREADING FLT-CB • 60° PARTIAL PROFILE THREADING FLT-F
 • 60° PARTIAL PROFILE THREADING FLT-K • 60° PARTIAL PROFILE THREADING FLT-P • ACME THREADING FLA • ACME THREADING FLA-PT-E
 • ACME THREADING FLAS • AMERICAN STANDARD BUTTRESS THREADING FLTB-A • AMERICAN STANDARD BUTTRESS THREADING FLTB-B • API PARTIAL PROFILE
 THREADING FLD
 • API ROUND THREADING FLDC-RD-75 • API ROUND THREADING FLDC-RD-75-CB • NPT THREADING FLDC-V-75 • STUB ACME THREADING FLAS-PT-E
 • UN THREADING FLTC-E • UNJ THREADING FLJ • UNJ THREADING FLJ-F • UNJ THREADING FLJ-K • UNJ THREADING FLJ-P

NOTCH-GRIP
GROOVE-TURN LINE
ISCARTHREAD

FLASR/L

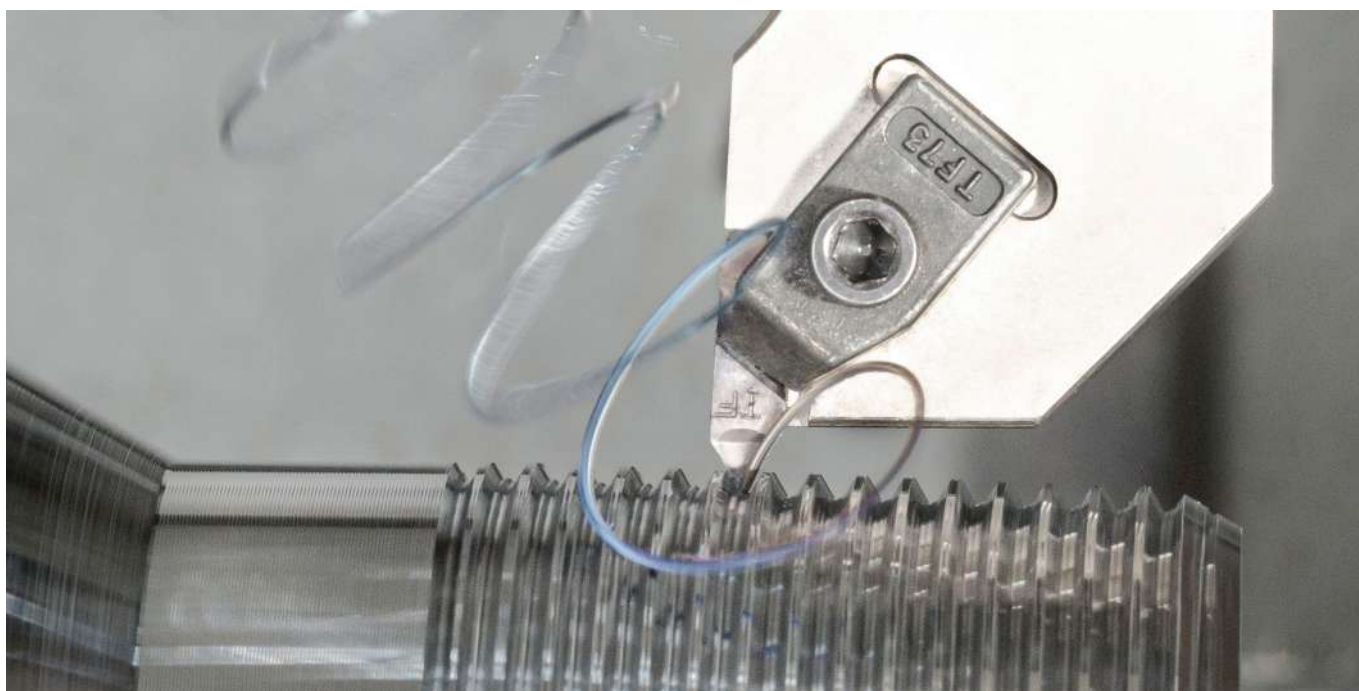
External Tools for Grooving
and Threading for Swiss-type
Machines



Designation	SSC ⁽¹⁾	H	HF	B	CDX	WF	LF	Insert
FLASR/L-1010M2	2.0	10.0	10.0	10.0	3.51	10.00	150.00	FL/IN_-2
FLASR/L-1212M2	2.0	12.0	12.0	12.0	3.51	12.00	150.00	FL/IN_-2
FLASR-1616M2	2.0	16.0	16.0	16.0	3.51	16.00	150.00	FL/IN_-2
FLASR/L-1616M3	3.0	16.0	16.0	16.0	5.31	16.00	125.00	FL/IN_-3

⁽¹⁾ Seat size code

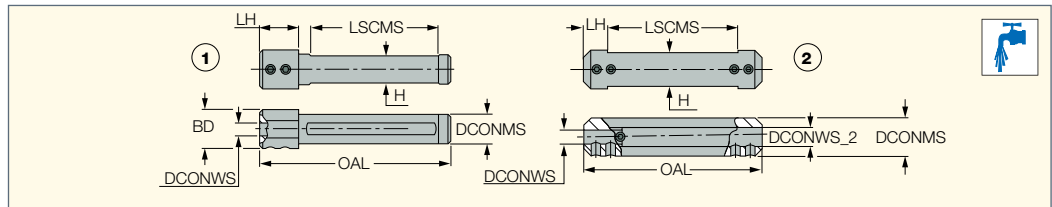
Inserts: 60° PARTIAL PROFILE THREADING FLT • 60° PARTIAL PROFILE THREADING FLT-CB • 60° PARTIAL PROFILE THREADING FLT-F
 • 60° PARTIAL PROFILE THREADING FLT-K • 60° PARTIAL PROFILE THREADING FLT-P • ACME THREADING FLA • ACME THREADING FLA-PT-E
 • ACME THREADING FLAS • AMERICAN STANDARD BUTTRESS THREADING FLTB-A • AMERICAN STANDARD BUTTRESS THREADING FLTB-B • API PARTIAL PROFILE
 THREADING FLD
 • API ROUND THREADING FLDC-RD-75 • API ROUND THREADING FLDC-RD-75-CB • NPT THREADING FLDC-V-75 • STUB ACME THREADING FLAS-PT-E
 • UN THREADING FLTC-E • UNJ THREADING FLJ • UNJ THREADING FLJ-F • UNJ THREADING FLJ-K • UNJ THREADING FLJ-P



PICCOCUT

PICCO/MG PCO (holder)

Holders for PICCO Inserts and Small Diameter Boring Bars

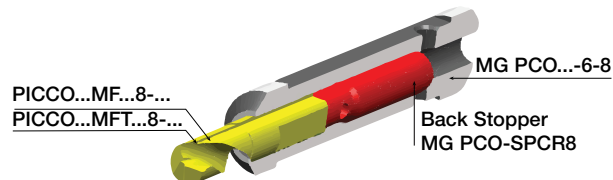


Designation	DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	H	BD	Fig.				
PICCO 12-4-5	12.00	4.00	5.00	75.00	10.00	55.00	10.3	-	2	SR M5X4-PF	HW 2.5		
PICCO 16-4-5	16.00	4.00	5.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 20-4-5	20.00	4.00	5.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 22-4-5 ⁽¹⁾	22.00	4.00	5.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 16-6-7	16.00	6.00	7.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 20-6-7	20.00	6.00	7.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 22-6-7 ⁽¹⁾	22.00	6.00	7.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		
MG PCO-12-6	12.00	6.00	-	75.00	15.00	50.80	11.0	18.00	1	SR M5X6-PF	HW 2.5		
MG PCO-16-6-8	16.00	6.00	8.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-20-6-8	20.00	6.00	8.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-22-6-8 ⁽¹⁾	22.00	6.00	8.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-25-6-8	25.00	6.00	8.00	90.00	10.00	70.00	23.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-16-9	16.00	9.00	-	75.00	15.00	53.00	15.0	20.00	1	SR M5X6-PF	HW 2.5	PL 16	

• Holders are suitable for right- and left-hand inserts, and boring bars

⁽¹⁾ Tools for Swiss-type CNC

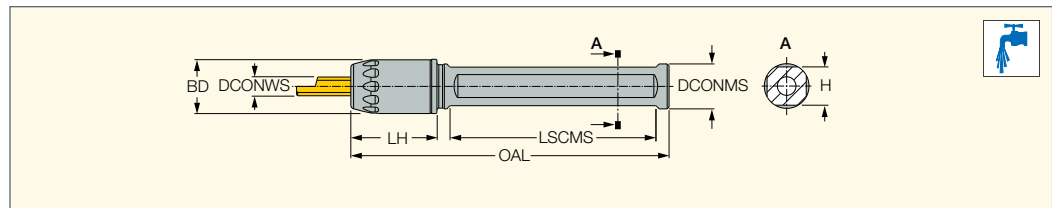
Tools: PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L



PICCOACE

PICCO ACE

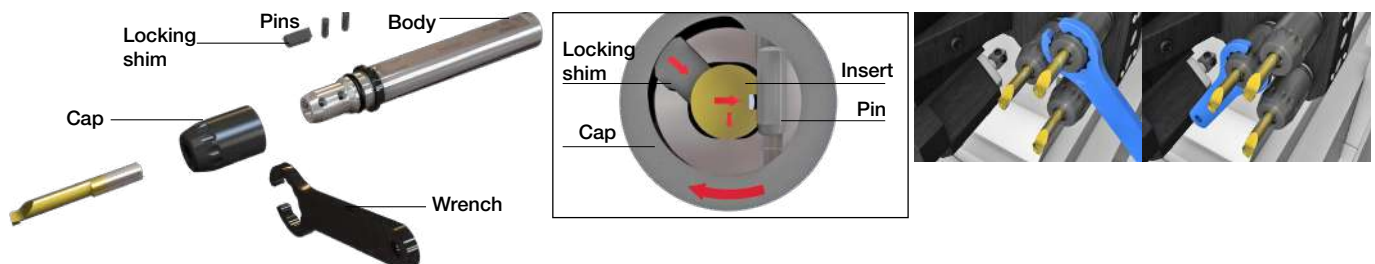
Holders for PICCOCUT Inserts



Designation	DCONMS	DCONWS	BD	OAL	LH	LSCMS	H		
PICCO ACE 12-4	12.00	4.00	14.50	85.00	23.00	53.00	10.3	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 12-5	12.00	5.00	14.50	85.00	23.00	53.00	10.3	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-4	16.00	4.00	14.50	85.00	21.50	53.50	14.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-5	16.00	5.00	14.50	85.00	21.50	53.00	14.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-6	16.00	6.00	19.90	85.00	23.00	53.50	14.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 16-7	16.00	7.00	19.90	85.00	23.00	53.50	14.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 20-4	20.00	4.00	14.50	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 20-5	20.00	5.00	14.50	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 20-6	20.00	6.00	19.90	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 20-7	20.00	7.00	19.90	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 22-4	22.00	4.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 22-5	22.00	5.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 22-6	22.00	6.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 22-7	22.00	7.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25-4	25.00	4.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25-5	25.00	5.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25-6	25.00	6.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25-7	25.00	7.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7

• Holders are suitable for right- and left-hand PICCO inserts

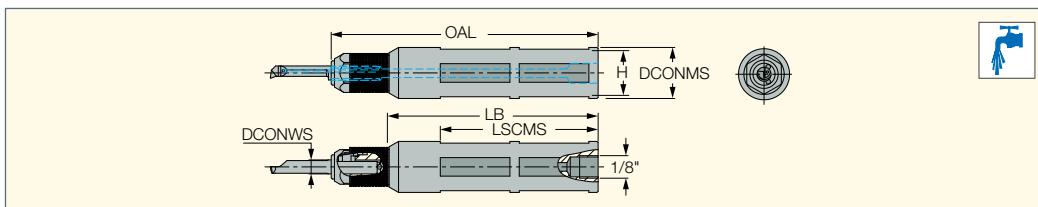
Tools: PICIN-MGSIR/L • PICIN-SCLCR/L • PICIN-SWUBR/L



PICCOACE JETCUT

PICCO ACE-N

Holders for PICCO-JETCUT
Inserts with Internal Coolant
Channels



Designation	DCONMS	DCONWS	OAL	LSCMS	LB	H
PICCO ACE 16-4N	16.00	4.05	115.00	68.00	90.00	14.0
PICCO ACE 16-5N	16.00	5.05	115.00	68.00	90.00	14.0
PICCO ACE 16-6N	16.00	6.05	115.00	68.00	90.00	14.0
PICCO ACE 16-7N	16.00	7.05	115.00	68.00	90.00	14.0
PICCO ACE 20-4N	20.00	4.05	115.00	68.00	90.00	18.0
PICCO ACE 20-5N	20.00	5.05	115.00	68.00	90.00	18.0
PICCO ACE 20-6N	20.00	6.05	115.00	68.00	90.00	18.0
PICCO ACE 20-7N	20.00	7.05	115.00	68.00	90.00	18.0
PICCO ACE 22-4N	22.00	4.05	115.00	68.00	90.00	20.0
PICCO ACE 22-6N	22.00	6.05	115.00	68.00	90.00	20.0
PICCO ACE 25-4N	25.00	4.05	115.00	68.00	90.00	23.0
PICCO ACE 25-5N	25.00	5.05	115.00	68.00	90.00	23.0
PICCO ACE 25-6N	25.00	6.05	115.00	68.00	90.00	23.0
PICCO ACE 25-7N	25.00	7.05	115.00	68.00	90.00	23.0

- Holders are suitable for right and left-hand PICCO...-N type solid tools only

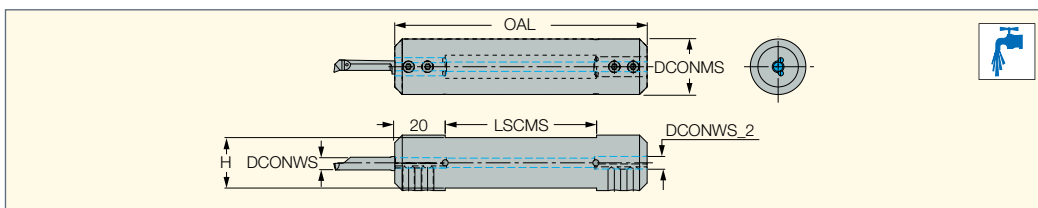
Spare Parts

Designation			
PICCO ACE 16-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 16-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 16-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 16-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 20-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 20-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 20-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 20-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 22-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 22-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 25-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 25-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 25-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 25-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6

JETCUT PICCO CUT

PICCO-N (holder)

Holders for PICCO-JETCUT
Inserts with Internal Coolant
Channels



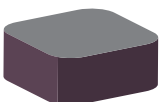
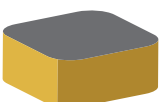
Designation	DCONMS	DCONWS	DCONWS_2	OAL	LSCMS	H	
PICCO 16-4-5N	16.00	4.05	5.05	85.00	45.00	14.0	SR M5X0.5X8 T10
PICCO 20-4-5N	20.00	4.05	5.05	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 22-4-5N	22.00	4.05	5.05	100.00	60.00	20.0	SR M5X0.5X8 T10
PICCO 16-6-7N	16.00	6.05	7.05	85.00	45.00	14.0	SR M5X0.5X6 T10
PICCO 16-6-8N	16.00	6.05	8.00	85.00	45.00	14.0	SR M5X0.5X6 T10
PICCO 20-6-7N	20.00	6.05	7.05	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 20-6-8N	20.00	6.05	8.00	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 22-6-7N	22.00	6.05	7.05	100.00	60.00	20.0	SR M5X0.5X8 T10

- Holders are suitable for right- and left-hand inserts, and boring bars

Machining Data for Threading

ISO	Material		Condition	Tensile Strength (N/mm²)	Hardness HB	Material Group No.	Coated			
							IC228	IC908	IC808	IC1007
							Cutting Speed (m/min)			
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1	60-100	115-190	125-205	135-230
		>= 0.25 %C	Annealed	650	190	2	60-95	110-180	120-195	130-220
		< 0.55 %C	Quenched and tempered	850	250	3	50-90	100-175	105-185	120-210
		>= 0.55 %C	Annealed	750	220	4	45-85	90-165	95-175	110-200
			Quenched and tempered	1000	300	5	45-85	90-165	95-175	110-200
	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	Quenched and tempered	600	200	6	50-95	100-180	105-195	120-215
				930	275	7	40-75	75-140	80-150	90-170
				1000	300	8	35-70	70-135	75-145	85-160
				1200	350	9	35-70	70-135	75-145	85-160
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	40-65	80-120	85-130	95-145	
		Quenched and tempered	1100	325	11	25-50	50-100	55-105	60-120	
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	35-70	70-130	75-140	85-155	
		Martensitic	820	240	13	45-60	85-110	90-120	100-130	
M	Stainless steel and cast steel		Austenitic, duplex	600	180	14	45-75	90-140	95-150	110-170
K	Gray cast iron (GG)		Ferritic/pearlitic		180	15	65-85	125-160	135-170	150-190
			Pearlitic /martensitic		260	16	45-65	90-120	95-130	110-145
	Nodular cast iron (GGG)		Ferritic		160	17	35-70	70-130	75-140	85-155
			Pearlitic		250	18	30-60	60-115	65-125	70-140
	Malleable cast iron		Ferritic		130	19	30-35	60-70	65-75	70-85
			Pearlitic		230	20	30-75	60-145	65-155	70-175
N	Aluminum-wrought alloys		Not hardenable		60	21	50-195	100-365	105-390	120-440
			Hardenable		100	22	40-115	80-220	85-235	95-265
	Aluminum-cast alloys	<=12% Si	Not hardenable	75	23	105-215	200-400	215-430	240-480	
			Hardenable	90	24	105-150	200-280	215-300	240-335	
		>12% Si	High temperature	130	25	105-150	200-280	215-300	240-335	
	Copper alloys	>1% Pb	Free cutting	110	26	40-135	80-255	85-275	95-305	
			Brass	90	27	40-135	80-255	85-275	95-305	
			Electrolytic copper	100	28	40-130	80-255	85-275	95-305	
	Non metallic	Duroplastics, fiber plastics				29	40-130	80-250	85-265	95-300
Hard rubber				30	40-130	80-250	85-265	95-300		
S	High temperature alloys	Fe based	Annealed		200	31	25-30	45-60	50-65	55-70
			Hardened		280	32	15-25	35-50	35-55	40-60
		Ni or Co based	Annealed		250	33	10-15	20-30	20-30	25-35
			Hardened		350	34	5-10	15-25	15-25	18-30
			Cast		320	35	5-10	15-25	15-25	18-30
	Titanium alloys	Pure	400		36	75-90	140-170	150-180	170-205	
		Alpha+beta alloys hardened	1050		37	25-35	50-70	55-75	60-85	
H	Hardened steel		Hardened		55 HRC	38	25-30	45-60	50-65	55-70
			Hardened		60 HRC	39	25-30	45-60	50-65	55-70
	Chilled cast iron		Cast		400	40	25-30	45-60	50-65	55-70
	Cast iron		Hardened		55 HRC	41	25-30	45-60	50-65	55-70

ISCAR Threading Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*
PVD COATED	IC228	P30-P45	A very substrate with PVD coating, suitable for machining steels and stainless steel at low to medium cutting speeds.	TiN TiCN Base	
		M25-M40			
	IC250	P15-P35	A tough substrate with PVD coating. Suitable for machining steels and alloy steels at low to medium cutting speeds.	TiN TiCN Base	
		M20-M40			
	IC806		A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability.	TiAlN AlTiN Base	
		M05-M15			
		S10-S20			
	IC808	P15-P30	A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability.	TiN TiAlN Base	
		M20-M30			
		K20-K40			
		S15-S30			
	IC908	H20-H30	A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability.	TiAlN Base	
		P15-P30			
		M20-M30			
		K20-K40			
	IC1007	S15-S30	A hard submicron grain size substrate with PVD coating, suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to high speeds under stable conditions. Features high wear resistance and plastic deformation durability. Good choice for non-ferrous materials and cast iron.	TiN TiAlN Base	
		H20-H30			
		P10-P20			
		M05-M15			
		K15-K30			

* For coated grades

	Grade	ISO	Grade Description	Coating Layers	Uncoated
UNCOATED	IC08		A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials.	Base	
		M15-M30			
		N10-N25			
		S20-S30			

User Guide and Cutting Data

Types and Profiles of Threading Inserts

Partial Profile

- Performs different thread standards and is suitable for a wide range of pitches that have a common angle (60° or 55°)
- Inserts with a small root-corner radius suitable for the smallest pitch of the range
- Additional operations to complete the outer/ internal diameter are necessary
- Not recommended for mass production
- Eliminates the need for different inserts

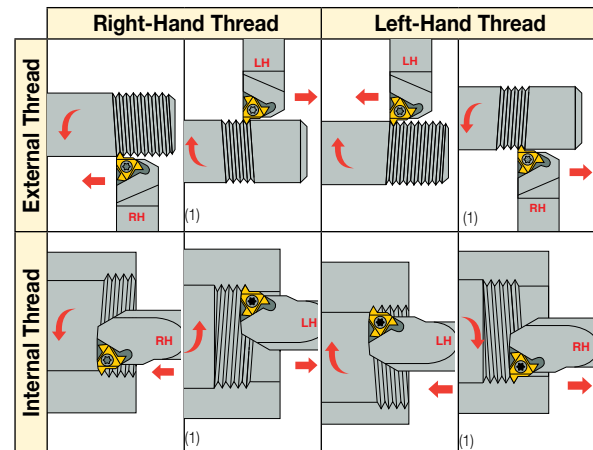


Full Profile

- Performs a complete thread profile
- Root corner radius is only suitable for the relevant pitch
- Recommended for mass production
- Suitable for one profile only



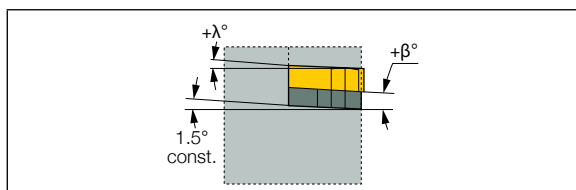
Thread Turning Methods



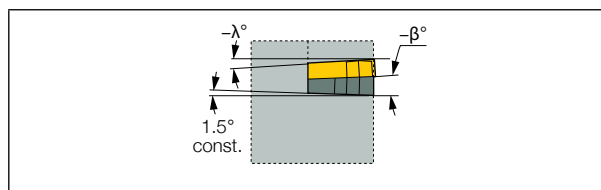
(1) Change anvil to negative

Anvil Selection According to Thread Helix Angle λ

		Standard						
Thread Helix Angle λ		$>4^\circ$	$3^\circ-4^\circ$	$2^\circ-3^\circ$	$1^\circ-2^\circ$	$0^\circ-1^\circ$	Negative Anvils	
Inclination Angle β		4.5°	3.5°	2.5°	1.5°	0.5°	-0.5°	-1.5°
I (d)	Toolholder	Anvil Designation						
16	EX RH OR IN LH	AE16+4.5	AE16+3.5	AE16+2.5	AE16	AE16+0.5	AE16-0.5	AE16-1.5
(3/8)	EX LH OR IN RH	AI16+4.5	AI16+3.5	AI16+2.5	AI16	AI16+0.5	AI16-0.5	AI16-1.5
22	EX RH OR IN LH	AE22+4.5	AE22+3.5	AE22+2.5	AE22	AE22+0.5	AE22-0.5	AE22-1.5
(1/2)	EX LH OR IN RH	AI22+4.5	AI22+3.5	AI22+2.5	AI22	AI22+0.5	AI22-0.5	AI22-1.5
27	EX RH OR IN LH	AE27+4.5	AE27+3.5	AE27+2.5	AE27	AE27+0.5	AE27-0.5	AE27-1.5
(5/8)	EX LH OR IN RH	AI27+4.5	AI27+3.5	AI27+2.5	AI27	AI27+0.5	AI27-0.5	AI27-1.5
22U	EX RH OR IN LH	AE22U+4.5	AE22U+3.5	AE22U+2.5	AE22U	AE22U+0.5	AE22U-0.5	AE22U-1.5
(1/2U)	EX LH OR IN RH	AI22U+4.5	AI22U+3.5	AI22U+2.5	AI22U	AI22U+0.5	AI22U-0.5	AI22U-1.5
27U	EX RH OR IN LH	AE27U+4.5	AE27U+3.5	AE27U+2.5	AE27U	AE27U+0.5	AE27U-0.5	AE27U-1.5
(5/8U)	EX LH OR IN RH	AI27U+4.5	AI27U+3.5	AI27U+2.5	AI27U	AI27U+0.5	AI27U-0.5	AI27U-1.5



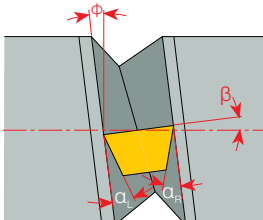
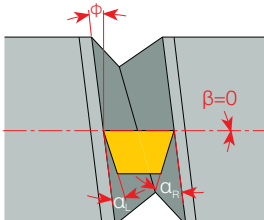
Anvils for positive inclination angle applicable when turning RH thread with RH holders or LH thread with LH toolholders.



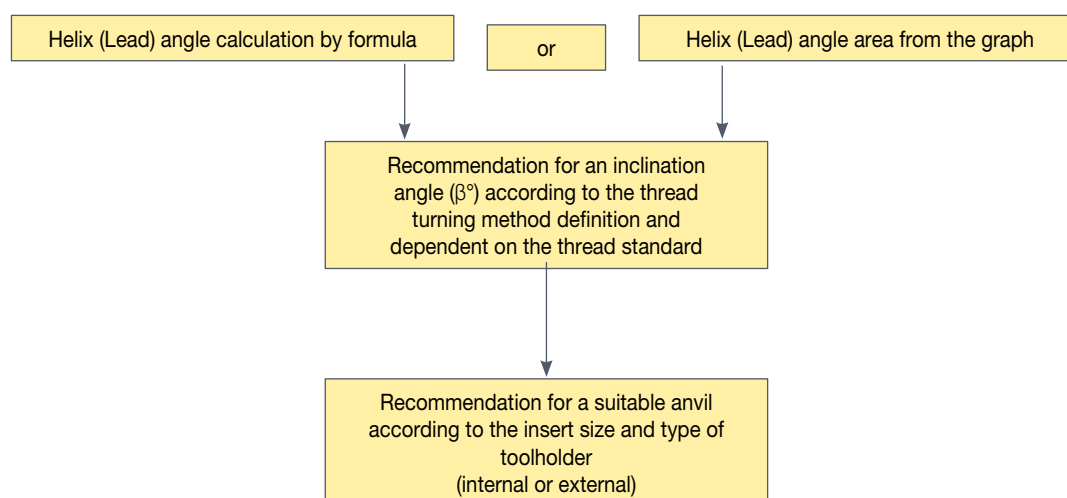
Anvils for negative inclination used when turning RH thread with LH holder or LH thread with RH toolholder.

Anvils for Laydown Inserts

The parameter for tilting the threading insert relative to the helix angle of threading is of great importance when threading is produced. This parameter ensures proper operation of the insert during threading production in terms of equal load distribution applied to the insert, equal distribution of forces operating on the insert, development of uniform wear on both sides of the cutting edge, and avoiding friction of the insert with the side of the threading profile. If the side clearance insert angles (α) are not equal in relation to the helix angle (ϕ), the insert must be tilted. This is performed by using anvils.

Recommended	Less Recommended
$\alpha_L = \alpha_R$	$\alpha_L \neq \alpha_R$
	

Quick and easy way to select a correct anvil



The anvil should be selected from the table according to the threading standard. The correct anvil depends on the right inclination angle (β) and insert size. The inclination angle (β) is obtained by selecting the thread turning method and finding the helix angle (φ) for single-start threading, or lead angle (φ_L) for the multi-start threading.
The helix angle (φ) and the lead angle (φ_L) are determined as exact values by using the formula below or as a graph area (see below: Helix (Lead) angle area by using graph, depending on the threading diameter and lead.

Helix angle (φ) calculation by using the Single-Start Threading Formula	Lead angle (φ _L) calculation by using the Single-Start Threading Formula
$\phi = \arctan\left(\frac{P}{\pi \times D_{pitch}}\right)$	$\phi_L = \arctan\left(\frac{Lead}{\pi \times D_{pitch}}\right)$ Lead = n × P
When: φ = Helix angle D_{pitch} = Pitch diameter* * effective diameter of threading P = Threading pitch π ≈ 3.142	When: φ_L = Lead angle D_{pitch} = Pitch diameter* * effective diameter of threading P = Threading pitch n = number of threading starts π ≈ 3.142

Usable formulas

Lead (inch)= $\frac{1 \text{ inch}}{TPI} \times \text{No. of starts}$

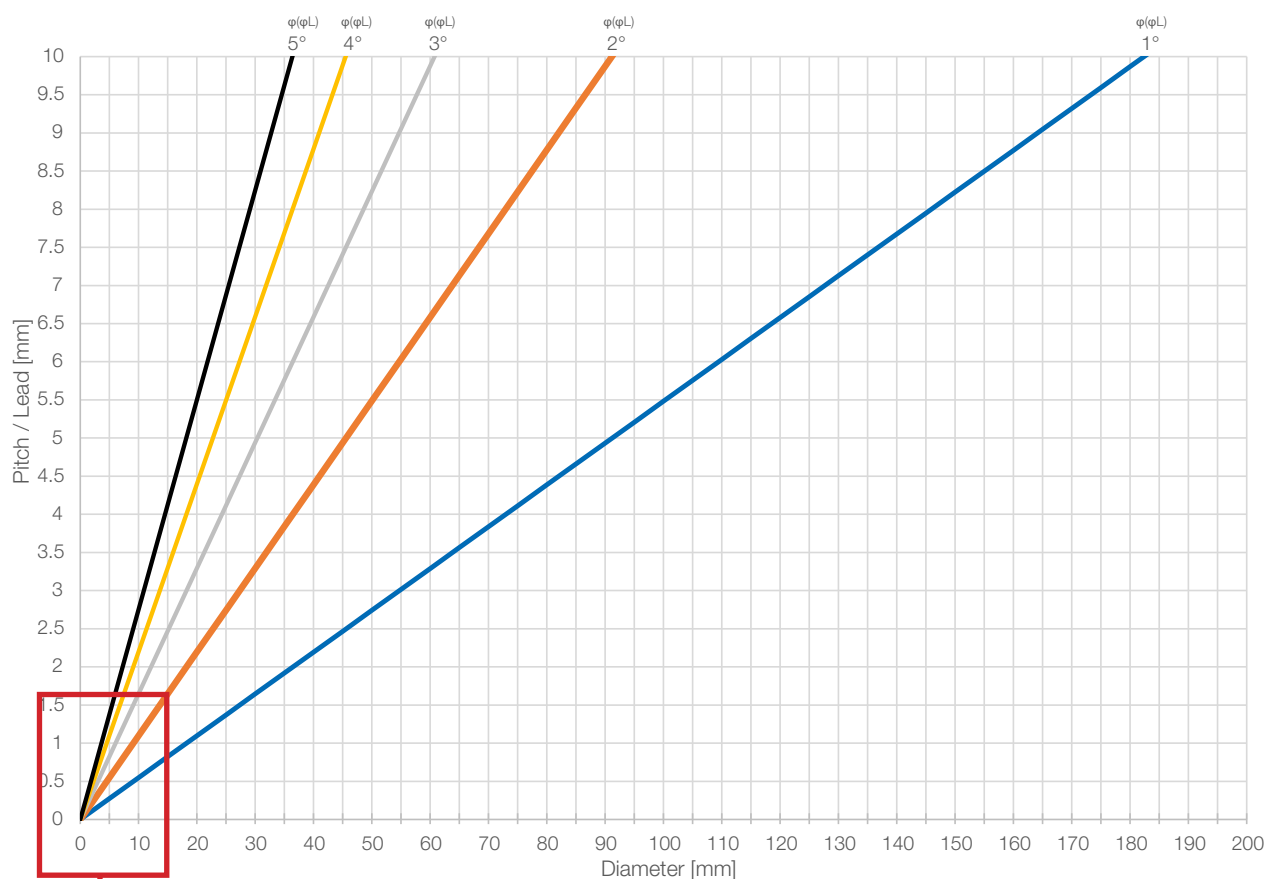
TPI = No. of threading per inch

1 inch = 25.4 mm

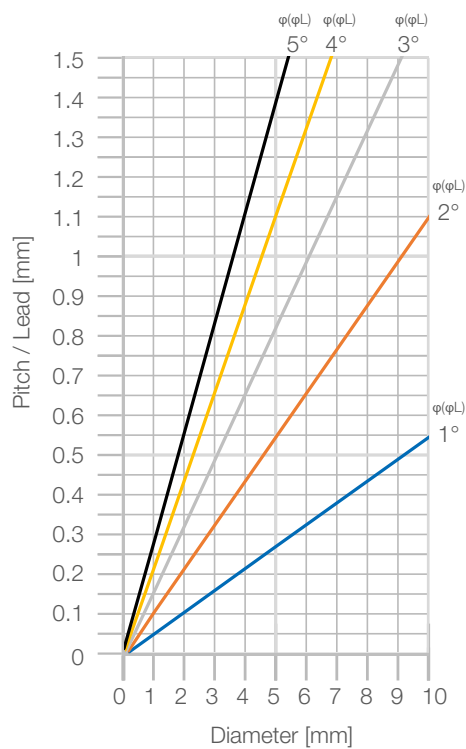
Pitch (mm)= $\frac{25.4}{TPI}$

Helix (Lead) angle area by using graph

Helix angle evaluation

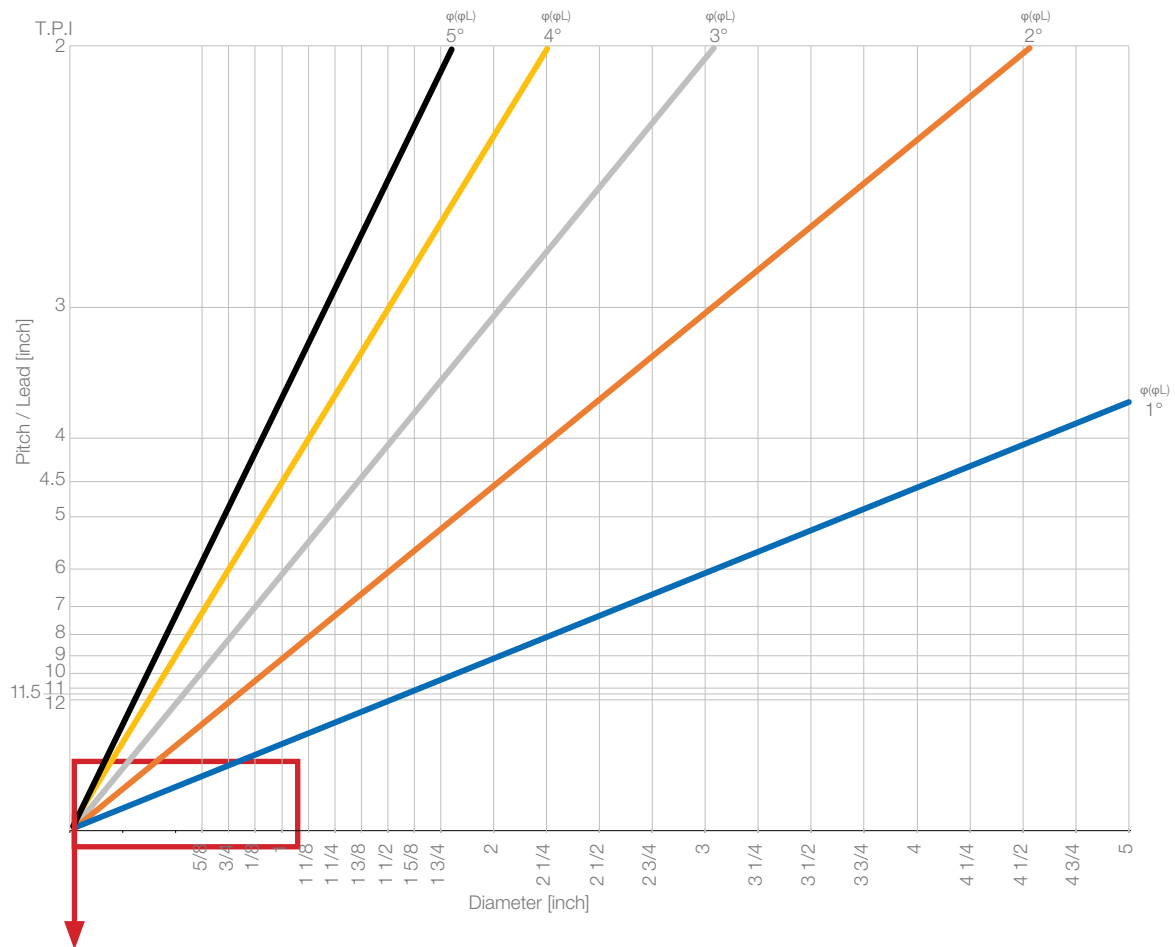


Detailed view for small pitch/diameter

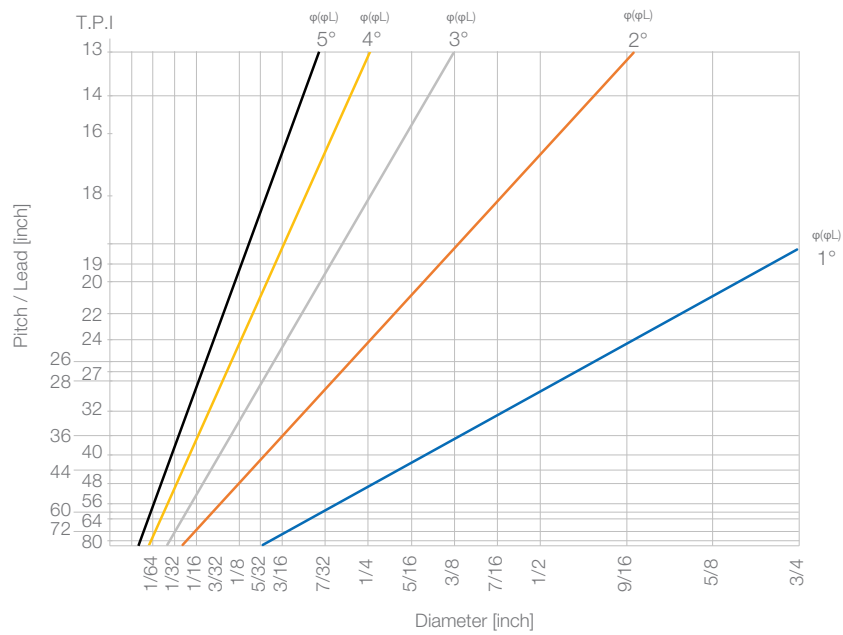


Helix (Lead) angle area by using graph

Helix angle evaluation



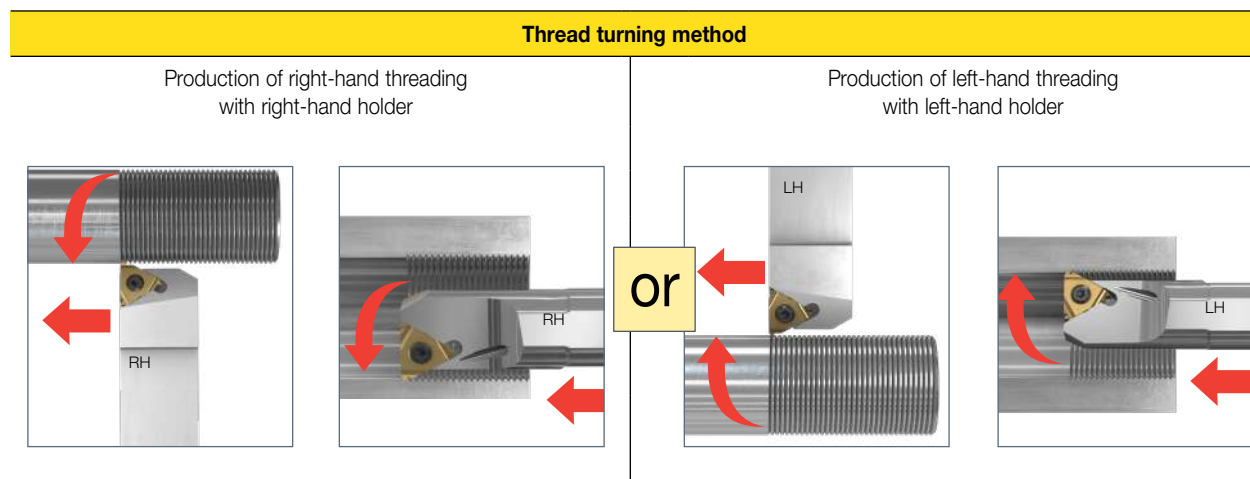
Detailed view for small pitch/diameter



Anvil selection for symmetric threading profiles

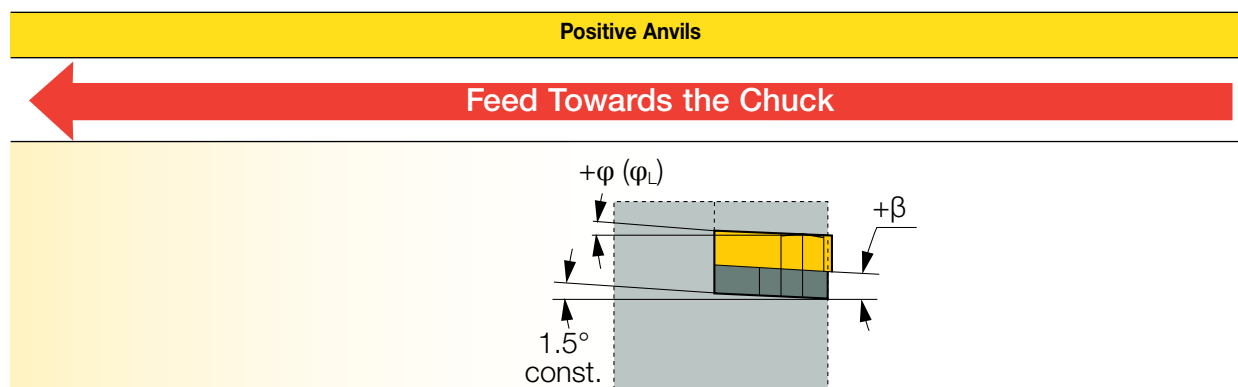
The table below defines the recommended insert inclination angle (β) and anvil selection according to the helix angle (ϕ) for single-start threading and the lead angle (ϕ_L) for multi-start threading, depending on the threading turning method for machining the following symmetric threading profiles:

- partial profile threading with an angle profile of 60°, 55° only
- full profile threading according to ISO, UN, Whitworth, NPT, BSPT, Trapeze, ACME, RD standards only



Anvil selection							
Threading helix (lead) angle ϕ (ϕ_L)		Positive Anvils					
		ϕ (ϕ_L) $\geq 5^\circ$	$4^\circ \leq \phi$ (ϕ_L) $< 5^\circ$	$3^\circ < \phi$ (ϕ_L) $\leq 4^\circ$	$2^\circ < \phi$ (ϕ_L) $\leq 3^\circ$	$1^\circ < \phi$ (ϕ_L) $\leq 2^\circ$	$0^\circ < \phi$ (ϕ_L) $\leq 1^\circ$
Inclination Angle β			4.5°	3.5°	2.5°	1.5° (std)	0.5°
IC	Toolholder	Anvil Designation					
16 (3/8)	EX RH OR IN LH EX RH OR IN LH	special solution	AE 16+4.5 AI 16+4.5	AE 16+3.5 AI 16-3.5	AE 16+2.5 AI 16+2.5	* AE 16+1.5 * AI 16+1.5	AE 16+0.5 AI 16+0.5
22 (1/2)	EX RH OR IN LH EX RH OR IN LH		AE 22+4.5 AI 22+4.5	AE 22+3.5 AI 22+3.5	AE 22+2.5 AI 22+2.5	* AE 22+1.5 * AI 22+1.5	AE 22+0.5 AI 22+0.5
27 (5/8)	EX RH OR IN LH EX RH OR IN LH		AE 27+4.5 AI 27+4.5	AE 27+3.5 AI 27+3.5	AE 27+2.5 AI 27+2.5	* AE 27+1.5 * AI 27+1.5	AE 27+0.5 AI 27+0.5
22U (1/2U)	EX RH OR IN LH EX RH OR IN LH		AE 22U+4.5 AI 22U+4.5	AE 22U+3.5 AI 22U+3.5	AE 22U+2.5 AI 22U+2.5	* AE 22U+1.5 * AI 22U+1.5	AE 22U+0.5 AI 22U+0.5
27U (5/8U)	EX RH OR IN LH EX RH OR IN LH		AE 27U+4.5 AI 27U+4.5	AE 27U+3.5 AI 27U+3.5	AE 27U+2.5 AI 27U+2.5	* AE 27U+1.5 * AI 27U+1.5	AE 27U+0.5 AI 27U+0.5

* Standard anvil supplied with tool



Thread turning method

Production of right-hand threading with left-hand holder*

Production of left-hand threading with right-hand holder*

or

* Change anvil to negative

* Change anvil to negative

Anvil selection				
		Negative Anvils		
Threading helix (lead) angle ϕ (ϕ_L)		$0^\circ < \phi (\phi_L) \leq 1^\circ$	$1^\circ < \phi (\phi_L) \leq 2^\circ$	$\phi (\phi_L) \geq 2^\circ$
Inclination Angle β		-0.5°	-1.5°	
IC	Toolholder	Anvil Designation		
16 (3/8)	EX RH OR IN LH EX RH OR IN LH	AE 16-0.5 AI 16-0.5	AE 16-1.5 AI 16-1.5	special solution
22 (1/2)	EX RH OR IN LH EX RH OR IN LH	AE 22-0.5 AI 22-0.5	AE 22-1.5 AI 22-1.5	
27 (5/8)	EX RH OR IN LH EX RH OR IN LH	AE 27-0.5 AI 27-0.5	AE 27-1.5 AI 27-1.5	
22U (1/2U)	EX RH OR IN LH EX RH OR IN LH	AE 22U-0.5 AI 22U-0.5	AE22U-1.5 AI 22U-1.5	
27U (5/8U)	EX RH OR IN LH EX RH OR IN LH	AE 27U-0.5 AI 27U-0.5	AE 27U-1.5 AI 27U-1.5	

- EX - Anvil for external threading
- IN - Anvil for internal threading

Negative Anvils

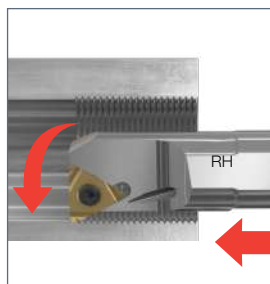
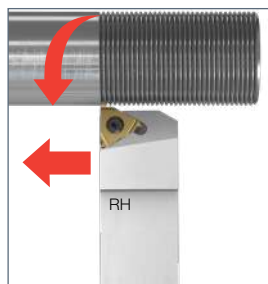
Feed Towards the Tailstock

Anvil selection for ABUT threading standard only

The table below defines the recommended insert inclination angle (β) and anvil selection according to helix angle (ϕ) for single-start threading and according to lead angle (ϕ_L) for multi-start threading, depending on the threading turning method for machining asymmetric threading profile according to ABUT threading standard only.

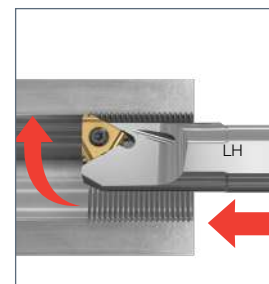
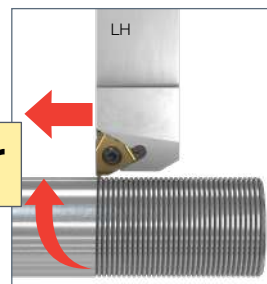
Threading turning method

Production of right-hand threading
with right-hand holder



or

Production of left-hand threading
with left-hand holder



Anvil selection

		Positive Anvils			Negative Anvils	
Threading helix (lead) angle ϕ (ϕ_L)		ϕ (ϕ_L) > 3.5°	3° < ϕ (ϕ_L) ≤ 3.5°	2° < ϕ (ϕ_L) ≤ 3°	1° < ϕ (ϕ_L) ≤ 2°	0° < ϕ (ϕ_L) ≤ 1°
Inclination angle β			1.5° (std)	0.5	-0.5°	-1.5°
IC	Toolholder	Anvil designation				
16 (3/8)	EX RH OR IN LH EX LH OR IN RH	special solution	* AE 16 +1.5 * AI 16 +1.5	AE 16 +0.5 AI 16 +0.5	AE 16 -0.5 AI 16 -0.5	AE 16 -1.5 AI 16 -1.5
22 (1/2)	EX RH OR IN LH EX LH OR IN RH		* AE 22 +1.5 * AI 22 +1.5	AE 22 +0.5 AI 22 +0.5	AE 22 -0.5 AI 22 -0.5	AE 22 -1.5 AI 22 -1.5
27 (5/8)	EX RH OR IN LH EX LH OR IN RH		* AE 27 +1.5 * AI 27 +1.5	AE 27 +0.5 AI 27 +0.5	AE 27 -0.5 AI 27 -0.5	AE 27 -1.5 AI 27 -1.5
22U (1/2U)	EX RH OR IN LH EX LH OR IN RH		* AE 22U +1.5 * AI 22U +1.5	AE 22U +0.5 AI 22U +0.5	AE 22U -0.5 AI 22U -0.5	AE 22U -1.5 AI 22U -1.5
27U (5/8U)	EX RH OR IN LH EX LH OR IN RH		* AE 27U +1.5 * AI 27U +1.5	AE 27U +0.5 AI 27U +0.5	AE 27U -0.5 AI 27U -0.5	AE 27U -1.5 AI 27U -1.5

* Standard anvil supplied with tool

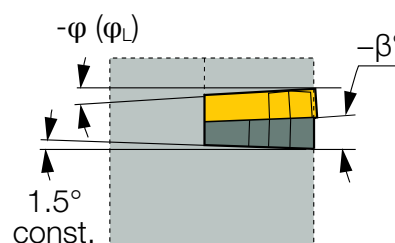
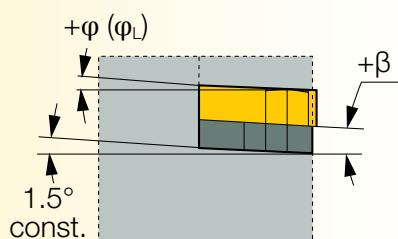
- EX - Anvil for external threading
- IN - Anvil for internal threading

Positive Anvils

Negative Anvils

Feed Towards the Chuck

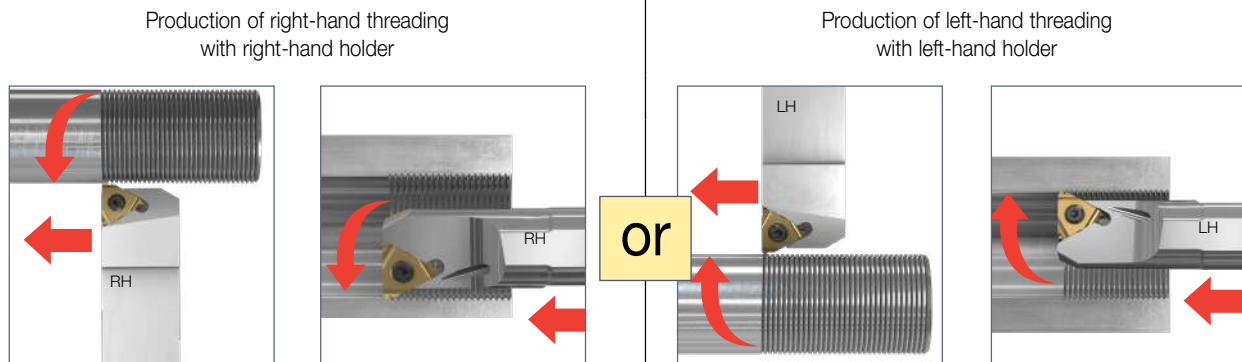
Feed Towards the Tailstock



Anvil selection for SAGE threading standard only

The table below defines the recommended insert inclination angle (β) and anvil selection according to helix angle (ϕ) for single-start threading and according to lead angle (ϕ_L) for multi-start threading, depending on the thread turning method for machining asymmetric threading profile according to SAGE thread standard only.

thread turning method



Anvil selection

		Positive Anvils				Negative Anvils	
Threading helix (lead) angle ϕ (ϕ_L)		ϕ (ϕ_L) > 5.6°	5° < ϕ (ϕ_L) ≤ 5.6°	3° < ϕ (ϕ_L) ≤ 5°	2° < ϕ (ϕ_L) ≤ 3°	1° < ϕ (ϕ_L) ≤ 2°	0° < ϕ (ϕ_L) ≤ 1°
Inclination angle β			2.5°	1.5°(std)	0.5°	-0.5°	-1.5°
IC	Toolholder	Anvil designation					
16 (3/8)	EX RH OR IN LH EX RH OR IN LH	special solution	AE 16 +2.5 AI 16 +2.5	* AE 16 +1.5 * AI 16 +1.5	AE 16 +0.5 AI 16 +0.5	AE 16 -0.5 AI 16 -0.5	AE 16 -1.5 AI 16 -1.5
22 (1/2)	EX RH OR IN LH EX RH OR IN LH		AE 22 +2.5 AI 22 +2.5	* AE 22 +1.5 * AI 22 +1.5	AE 22 +0.5 AI 22 +0.5	AE 22 -0.5 AI 22 -0.5	AE 22 -1.5 AI 22 -1.5
27 (5/8)	EX RH OR IN LH EX RH OR IN LH		AE 27 +2.5 AI 27 +2.5	* AE 27 +1.5 * AI 27 +1.5	AE 27 +0.5 AI 27 +0.5	AE 27 -0.5 AI 27 -0.5	AE 27 -1.5 AI 27 -1.5
22U (1/2U)	EX RH OR IN LH EX RH OR IN LH		AE 22U +2.5 AI 22U +2.5	* AE 22U +1.5 * AI 22U +1.5	AE 22U +0.5 AI 22U +0.5	AE 22U -0.5 AI 22U -0.5	AE 22U -1.5 AI 22U -1.5
27U (5/8U)	EX RH OR IN LH EX RH OR IN LH		AE 27U +2.5 AI 27U +2.5	* AE 27U +1.5 * AI 27U +1.5	AE 27U +0.5 AI 27U +0.5	AE 27U -0.5 AI 27U -0.5	AE 27U -1.5 AI 27U -1.5

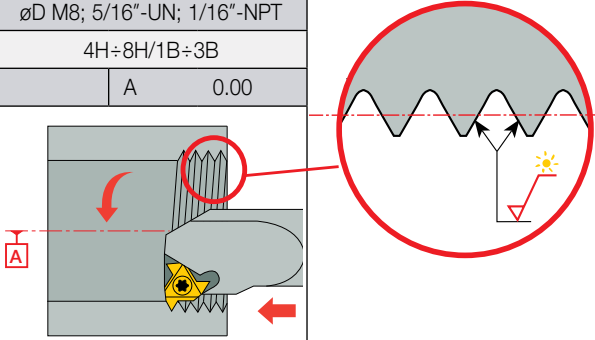
* Standard anvil supplied with tool

- EX - Anvil for external threading
- IN - Anvil for internal threading

Positive Anvils	Negative Anvils
Feed Towards the Chuck	Feed Towards the Tailstock
+ϕ (ϕ_L) +β 1.5° const.	-ϕ (ϕ_L) -β 1.5° const.

Mini-Tool Features

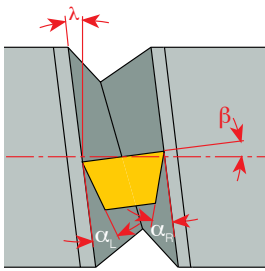
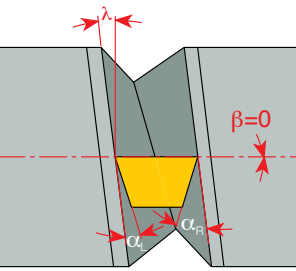
(1)	øD M8; 5/16"-UN; 1/16"-NPT
(2)	4H÷8H/1B÷3B
(3)	A 0.00



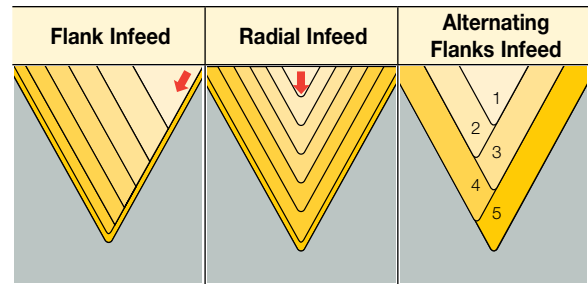
- (1) Smallest possible thread
- (2) All tolerances
- (3) Minimum runout
- (4) High surface quality

Flank Clearance and Effective Inclination Angle

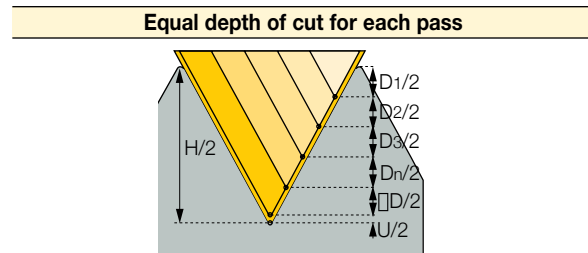
Inclination angle β of the cutting edges corresponds to a specific thread helix angle λ and ensures an equal clearance angle on both sides of the insert.

$\alpha_l = \alpha_r$ 	Incorrect $\alpha_l < \alpha_r$ 
	
α - Flank clearance angle λ - Helix angle β - Effective inclination angle is achieved by selecting the suitable anvil	H - Depth of thread profile (on ϕ) D - Depth of pass (on ϕ) U - Depth of finishing pass (on ϕ)

Infeed Methods for Threading Operations

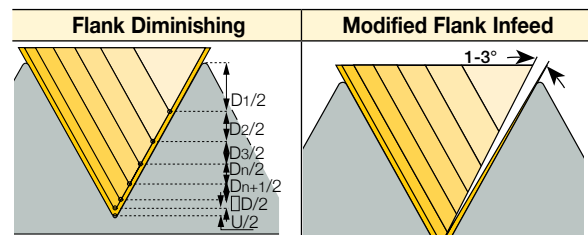


Flank Equal



$$\frac{D_1}{2} = \frac{D_2}{2} = \frac{D_3}{2} = \frac{D_n}{2}$$

Diminished depth of cut for each pass



$$\frac{D_1}{2} > \frac{D_2}{2} > \frac{D_3}{2} > \frac{D_n}{2} > \frac{D_{n+1}}{2}$$

Depth per Pass and Number of Passes

In order to produce threads, the cutting tool needs to make several numbers of cuts along the workpiece surface. The parameters of depth per pass and number of passes have a very important role in threading production. These parameters have a direct effect on cutting edge wear, tool life, threading surface quality, and threading production stability.

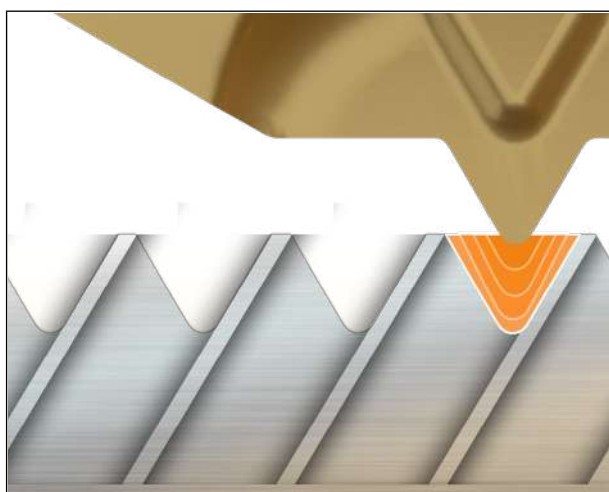
The two methods most common in determining the depth per pass and the number of passes are constant chip area by decreasing depth per pass or constant depth per pass. The choice of method does not depend on the selected infeed methods (radial infeed, flank infeed, modified flank infeed, alternating flank infeed), which are described in chapter 2.12.

The depth per pass and number of passes parameters depend on the type of equipment, tool overhang, machine stability, workpiece material, cutter geometry and the threading depth required.

Constant chip area by decreasing depth per pass (recommended)

This is the most common method and is generally recommended, as in most cases it ensures high productivity. The principle of this method is that the initial cutting depth at the first pass is the largest, and then gradually decreases at each pass to ensure material removal within a constant chip area.

The calculation of passes is designed so that the last pass, which is destined to be a finish pass, will be 0.05 - 0.1 mm (0.0019 - 0.0039 inches). Using this method ensures constant loads on cutting edge and uniform wear, which increases tool life.



Formula for calculation of depth per pass

$$\Delta a_{p(i)} = \frac{a_p}{\sqrt{n_a - 1}} \times \sqrt{C}$$

When:

$\Delta a_{p(i)}$ — Depth of cut i pass ($i = 1 \dots n_a$)

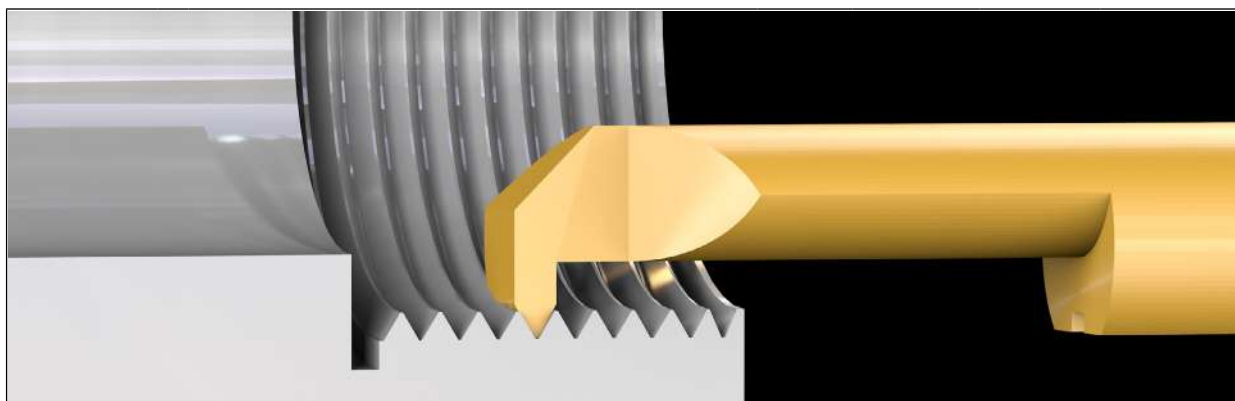
i — Pass

a_p — Total depth of cut

n_a — Number of passes

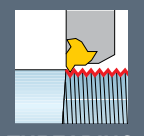
C — Constant value:
For 1st pass: $C=0.3$; For 2nd pass: $C=1$; For 3rd pass and higher: $C = i - 1$

Cutting Data



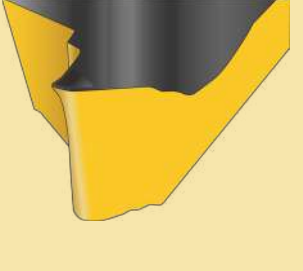
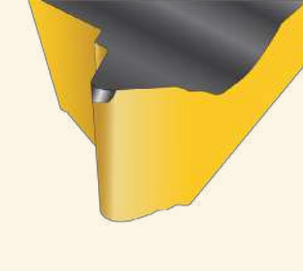
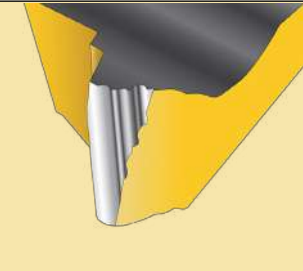
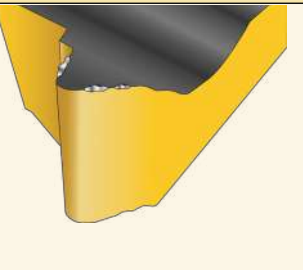
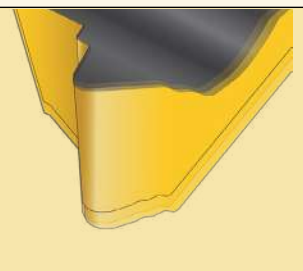
Carbide Grade		Steel (N/mm Tensile Strength)					Stainless Steel	Cast Iron	Non-ferrous
		400-500	500-700	700-850	850-1150	>1150			
Cutting Speed V_c (m/min)	IC228	160	140	120	90	70	90	100	300
	IC908	185	160	140	105	80	105	115	350
Pitch (p) mm	TPI	No. of Passes							
0.5	48	6	6	7	7	8	8	7	6
0.75	32	8	8	9	9	10	10	9	8
1.0	24	10	10	12	12	12	12	12	10
1.25	20-19	12	12	14	14	15	15	14	12
1.5	16	15	15	17	17	18	18	17	15

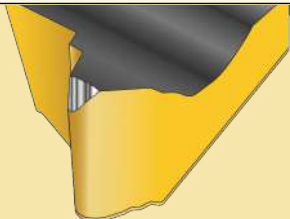
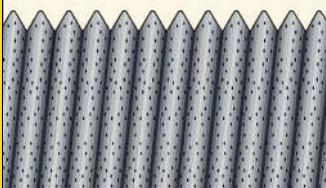
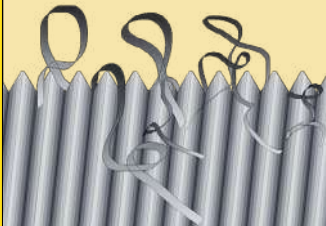
For internal threading of small diameters, the PVD coated grade IC228 is recommended.

		ISO P		ISO M	ISO K	ISO N	ISO S	ISO H
		1-11	12-13	14	15-20	21-28	31-37	38-41
Material groups		Steel	Stainless Steel Ferritic & Martensitic	Stainless Steel Austenitic & Duplex (Ferritic-Austenitic)	Cast Iron	Non-ferrous	High Temperature Alloys	Hard Steel & Cast Iron
 THREADING	Harder	IC1007	IC1007	IC1007	IC1007	IC08	IC806	IC1007
		IC808 (IC908)			IC808 (IC908)		IC1007	
		IC250 (IC950)	IC808 (IC908)	IC808 (IC908)	IC250 (IC950)	IC228	IC808 (IC908)	IC808 (IC908)
	Tougher	IC228	IC228	IC228	IC228	IC28		

■ First choice

Troubleshooting

		Cause	Solution
Plastic Deformation		- Excessive heat in cutting zone - Wrong carbide grade - Inadequate coolant supply - Depth of cut too large - Cutting speed too high - Nose radius too small	- Reduce RPM / Reduce depth of cut / Check turned dia. - Use coated grade / Use harder grade - Apply coolant - Reduce depth of cut / Increase no. of passes - Reduce cutting speed - If possible use insert with larger radius
Premature Wear		- Cutting speed too high - Infeed depth too small - Highly abrasive material - Inadequate coolant supply - Wrong inclination anvil - Wrong turned dia. prior to threading - Insert is above center line	- Reduce RPM - Modify flank infeed / Increase depth of cut - Use coated grade - Apply coolant - Reselect anvil - Check turned dia. - Check center height
Insert Breakage		- Wrong turned dia. prior to threading - Wrong grade - Poor chip control - Incorrect center height	- Check turned dia. - Use tougher grade - Change to M-Type / B-Type inserts and use modified flank infeed - Check center height
Build Up Edge		- Cutting edge too cold - Wrong grade - Inadequate coolant supply - Incorrect cutting speed	- Increase RPM / Increase depth of cut - Use coated grade - Apply coolant - Increase cutting speed
Vibration		- Incorrect workpiece clamping - Incorrect tool setup - Incorrect cutting speed - Incorrect center height	- Use soft jaws - Check tool overhang / Use anti-vibration bars - Increase cutting speed - Check center height

		Cause	Solution
Incorrect Thread Profile		• Unsuitable threading profile • Incorrect center height • Incorrect pitch in the program	• Adjust to correct tool, anvil, and insert • Adjust center height • Change the program
Broken Nose During 1 st Pass		• Cutting edge too cold • Depth of cut too large • Wrong grade • Wrong turned dia. prior to threading • Incorrect center height • Infeed depth too shallow • Wrong inclination anvil • Tool overhang tool long	• Reduce RPM • Reduce depth of cut/Increase number of infeed passes • Use tougher grade • Check turned dia. • Adjust center height • Change depth of cut • Reselect anvil • Reduce tool overhang / Use Anti-vibration bar
Poor Surface Finish		• Wrong cutting speed • Excessive heat in cutting zone • Poor chip control • Inadequate coolant supply • Wrong inclination anvil • Tool overhang too long • Incorrect center height	• Increase/reduce RPM • Reduce depth of cut • Modify flank infeed • Apply coolant • Reselect anvil • Reduce tool overhang • Check center height
Poor Chip Control		• Excessive heat in cutting zone • Wrong grade • Inadequate coolant supply • Wrong turned dia. prior to threading • Incorrect method of infeed	• Reduce RPM /change depth of cut /check turned dia. • Use coated grade /check turned dia./use M/B-Type inserts • Apply coolant • Check turned dia. • Modify flank infeed 3-5°

Special Request Form Thread Turning

Project Information

Customer _____ Industry _____ Country _____

Customer Goal (Productivity, Economy, etc.): _____

Proposal for: ☐ Finish Insert ☐ Rough Insert ☐ Holder ☐ Machining Concept

ISCAR Representative: _____ Email: _____ Tel: _____

Competitors: _____ Target Price: _____ Annual Consumption: _____

Threading

Designation _____ Pitch _____ Standard _____ Tolerance Clas _____

Major Dia. _____ Minor Dia. _____ Pitch Dia. _____ Number of Starts _____

Threading Depth _____ ☐ Through Hole ☐ Blind Hole

Special Form _____

For non-standard profiles, detailed information must be supplied (drawing, dimensions & tolerances)

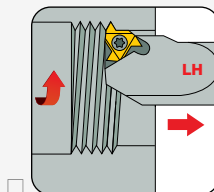
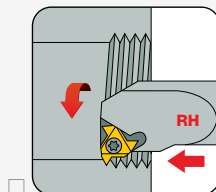
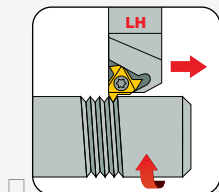
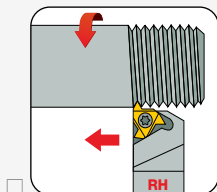
Application

Part _____

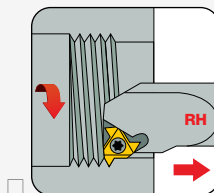
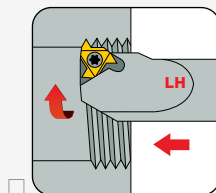
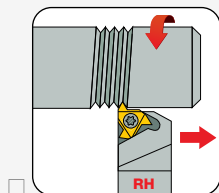
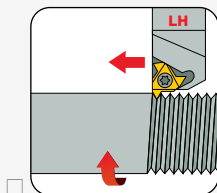
Material _____

Hardness _____

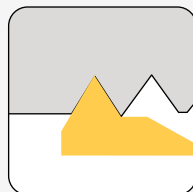
RH
Right-hand
Threading



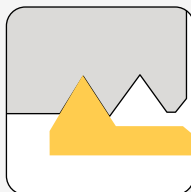
LH
Left-hand
Threading



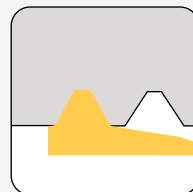
Insert Profile:



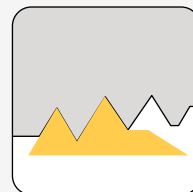
Full



Partial

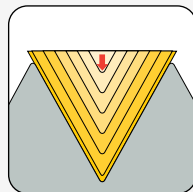


Semi-Partial

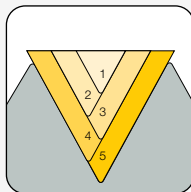


Multi-Point

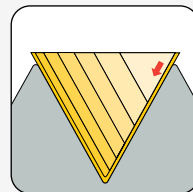
Infeed:



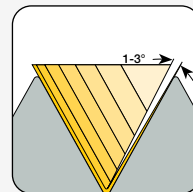
Radial



Incremental



Flank



Modified Flank

Attachments

☐ Drawing

☐ Model

☐ Sketch

☐ Photo

Machine

Model _____ Shank Type/Size _____

Coolant: ☐ Internal ☐ External ☐ None Type: _____

Remarks: _____