

RAPID THREAD

Indexable Thread Mills

Straight Shanks:

Diameters:

0.375", 0.500", 0.750",
1.000", 1.250", 1.500"

Insert Sizes:

12mm (0.472), 14mm (0.551),
21mm (0.827), 30mm (1.181),
40mm (1.575)

Applications:

Thread Milling in Deep Bores and
Long Overhangs

Shell Mills:

Diameters:

2.480", 3.150", 3.940"

Insert Sizes:

21mm (0.827), 30mm (1.181),
40mm (1.575)

Applications:

Internal and External Thread Milling

Thread Form:

ISO, UN, NPT, NPTF, BSPT, W

Materials:

Cast Iron, Steel, Stainless Steel,
Aluminum, Titanium and other
high temperature or
nickel-based alloys.



Straight Shank Series: 12Y1H, 12Y1J, 12Y1N, 12Y1S, 12Y1U,
12Y5J, 12Y5N

Shell Mill Series: 12Y1N_D, 12Y1S_D, 12Y1U_D

Ingersoll's Rapid Thread Milling System enables production of precision threads on CNC milling machines and machining centers using helical interpolation programs. Rapid Thread Milling System with indexable inserts provide the ultimate solution for very fast and efficient thread milling.

Straight Shank Series Features:

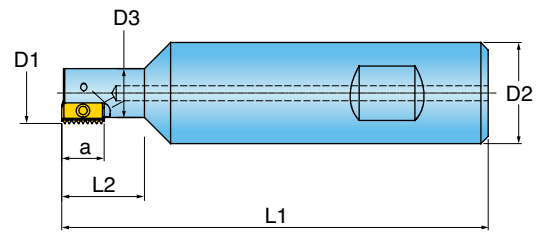
- May be used for internal or external threads.
- Provides precision threading with smooth thread surfaces.
- Avoids chip jamming - a common occurrence when tapping.
- Eliminates the problem of removing broken taps from holes.
- Ingersoll's Thread Milling provides a cost advantage over tapping large diameter threads
- A single insert may be used for many diameters with the same pitch, as well as for the right and left threads.
- Tapered threads do not require taper reaming prior to using RapidThread
- Ultra stable dovetail mount pocket

Shell Mill Series Features:

- Available for both 4 and 5 insert style holders
- Used for large diameters, long threads and long overhangs
- Standard inserts are suitable for multi-insert tools
- All inserts have the same profile position
- Bodies can be mounted on standard Shell Mill adapters
- One tool for external and internal right and left hand threads

RAPID THREAD SERIES 12Y1H (12MM)

INDEXABLE THREAD MILLS



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length	L2 Extension Length	No. of Flutes
12Y1H-0301384R01	0.472	0.370	0.750	0.300	3.350	0.550	1
12Y1H-0301384R02	0.472	0.390	0.750	0.300	3.350	0.630	1

A ISO-threading (internal) 	B UN-threading (internal) 	C NPT-threading
D NPTF-threading 	E BSPT-threading 	F W-threading

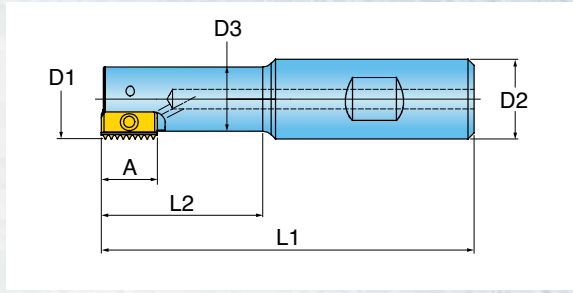
Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				NPT-THREADING			
LYEU12050IS	0.5	A	●●●●	LYEU12180UN	18	B	●●●●
LYEU12075IS	0.75	A	●●●●	LYEU12160UN	16	B	●●●●
LYEU12100IS	1	A	●●●●	NPTF-THREADING			
LYEU12125IS	1.25	A	●●●●	LYEU12180NT	18	G	●●●●
LYEU12150IS	1.5	A	●●●●	BSPT-THREADING			
UN-THREADING (INTERNAL)				W-THREADING			
LYEU12320UN	32	B	●●●●	LYEU12190BT	19	B	●●●●
LYEU12280UN	28	B	●●●●	LYEU12190BW			
LYEU12240UN	24	B	●●●●	19	F	●●●●	
LYEU12200UN	20	B	●●●●				

● = P ● = M ● = K ● = N ● = S ○ = H

HARDWARE	Driver	Screw
	DS-T08W	IS12

RAPID THREAD SERIES 12Y1J (14MM)

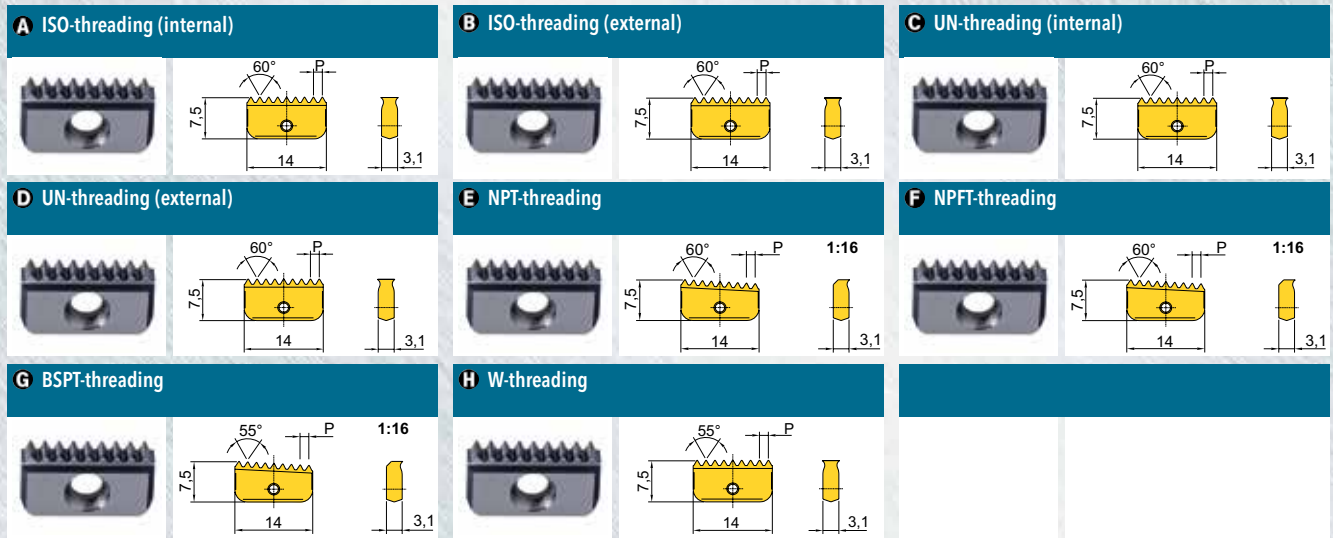
INDEXABLE THREAD MILLS



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length	L2 Extension Length	No. of Flutes
12Y1J-0501984R01	0.551	0.500	0.750	0.370	2.950	0.790	1
12Y1J-0500984R01	0.551	0.540	0.750	0.380	2.980	0.780	1
12Y1J-0501284R01	0.551	0.570	0.750	0.410	3.200	1.000	1
12Y1J-0601384R01	0.551	0.670	0.750	0.530	3.350	1.180	1
12Y1J-0701684R01	0.551	0.790	0.750	0.630	3.660	1.570	2

Series 12Y1J (14mm) continues on next page.

RAPID THREAD SERIES 12Y1J (14MM) CONTINUED.

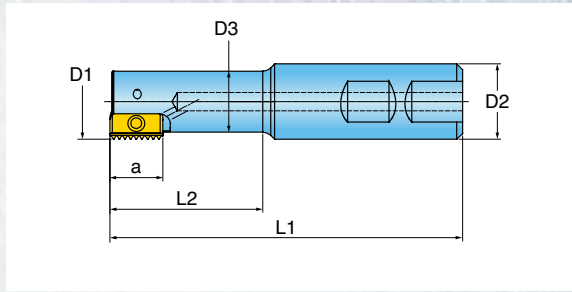


Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				UN-THREADING (EXTERNAL)			
LYEU14050IS	0.5	A	●●●●	LYEU14100UN	10	●	●●●●
LYEU14075IS	0.75	A	●●●●	LYEU14320UN-X	32	●	●●●●
LYEU14100IS	1	A	●●●●	LYEU14280UN-X	28	●	●●●●
LYEU14125IS	1.25	A	●●●●	LYEU14240UN-X	24	●	●●●●
LYEU14150IS	1.5	A	●●●●	LYEU14200UN-X	20	●	●●●●
LYEU14175IS	1.75	A	●●●●	LYEU14180UN-X	18	●	●●●●
LYEU14200IS	2	A	●●●●	LYEU14160UN-X	16	●	●●●●
LYEU14250IS	2.5	A	●●●●	LYEU14140UN-X	14	●	●●●●
ISO-THREADING (EXTERNAL)				NPT-THREADING			
LYEU14075IS-X	0.75	B	●●●●	LYEU14180NT	18	●	●●●●
LYEU14100IS-X	1	B	●●●●	LYEU14140NT	14	●	●●●●
LYEU14125IS-X	1.25	B	●●●●	NPTF-THREADING			
LYEU14150IS-X	1.5	B	●●●●	LYEU14180NF	18	●	●●●●
LYEU14175IS-X	1.75	B	●●●●	LYEU14140NF	14	●	●●●●
LYEU14200IS-X	2	B	●●●●	BSPT-THREADING			
LYEU14250IS-X	2.5	B	●●●●	LYEU14190BT	19	●	●●●●
UN-THREADING (INTERNAL)				W-THREADING			
LYEU14320UN	32	●	●●●●	LYEU14240BW	24	●	●●●●
LYEU14280UN	28	●	●●●●	LYEU14200BW	20	●	●●●●
LYEU14270UN	27	●	●●●●	LYEU14190BW	19	●	●●●●
LYEU14240UN	24	●	●●●●	LYEU14160BW	16	●	●●●●
LYEU14200UN	20	●	●●●●	LYEU14140BW	14	●	●●●●
LYEU14180UN	18	●	●●●●	● = P ● = M ● = K ● = N ● = S ○ = H			
LYEU14160UN	16	●	●●●●				
LYEU14140UN	14	●	●●●●				
LYEU14120UN	12	●	●●●●				

HARDWARE		
	Driver	Screw
DS-T08W		IS14

RAPID THREAD SERIES 12Y1N (21MM)

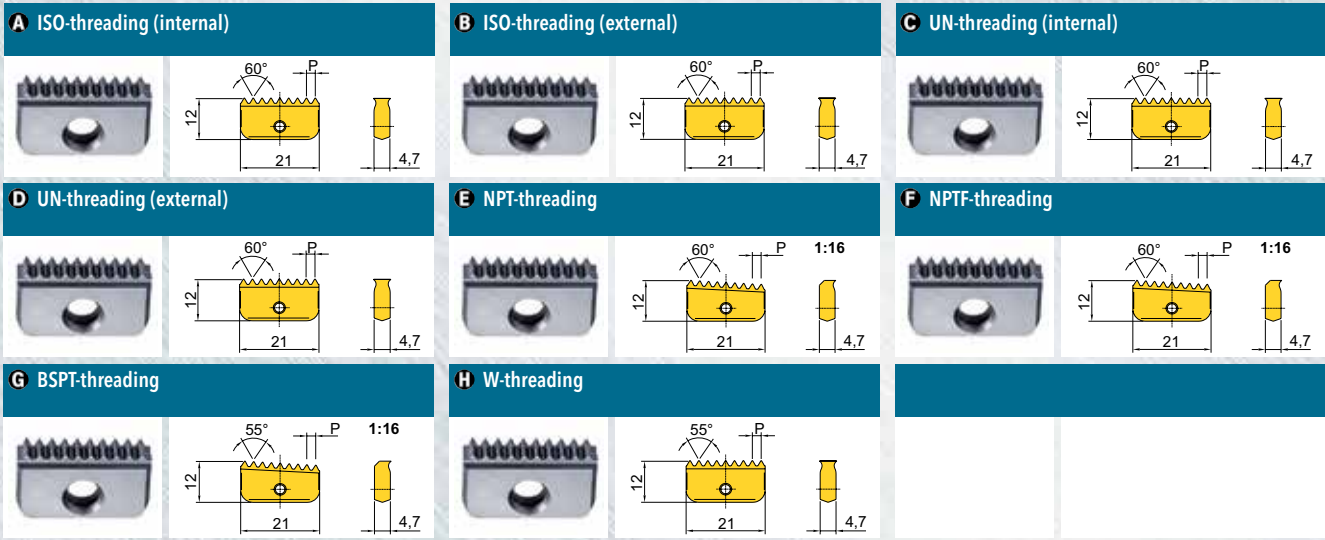
INDEXABLE THREAD MILLS



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length	L2 Extension Length	No. of Flutes
12Y1N-0701684R01	0.827	0.790	0.750	0.610	3.700	1.570	1
12Y1N-0903084R01	0.827	0.940	0.750	-	5.000	-	1
12Y1N-1102080R01	0.827	1.180	1.000	0.950	4.250	1.970	2

Series 12Y1N (21mm) continues on next page.

RAPID THREAD SERIES 12Y1N (21MM) CONTINUED.



Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				ISO-THREADING (EXTERNAL)			
LYEU21100IS	1	A	●●●●	LYEU21100IS-X	1	B	●●●●
LYEU21150IS	1.5	A	●●●●	LYEU21150IS-X	1.5	B	●●●●
LYEU21175IS	1.75	A	●●●●	LYEU21200IS-X	2	B	●●●●
LYEU21200IS	2	A	●●●●	LYEU21250IS-X	2.5	B	●●●●
LYEU21250IS	2.5	A	●●●●	LYEU21300IS-X	3	B	●●●●
LYEU21300IS	3	A	●●●●	UN-THREADING (INTERNAL)			
LYEU21350IS	3.5	A	●●●●	LYEU21240UN	24	G	●●●●
UN-THREADING (EXTERNAL)				LYEU21200UN	20	G	●●●●
LYEU21100IS-X	1	B	●●●●	LYEU21180UN	18	G	●●●●
LYEU21150IS-X	1.5	B	●●●●	LYEU21160UN	16	G	●●●●
LYEU21200IS-X	2	B	●●●●	LYEU21140UN	14	G	●●●●
LYEU21250IS-X	2.5	B	●●●●	LYEU21120UN	12	G	●●●●
LYEU21300IS-X	3	B	●●●●	LYEU21100UN	10	G	●●●●
UN-THREADING (INTERNAL)				LYEU21080UN	8	G	●●●●
LYEU21240UN	24	G	●●●●	LYEU21070UN	7	G	●●●●
LYEU21200UN	20	G	●●●●	UN-THREADING (EXTERNAL)			
LYEU21180UN	18	G	●●●●	NPT-THREADING			
LYEU21160UN	16	G	●●●●	LYEU21140NT	14	E	●●●●
LYEU21140UN	14	G	●●●●	LYEU21115NT	11.5	E	●●●●
LYEU21120UN	12	G	●●●●	NPTF-THREADING			
LYEU21100UN	10	G	●●●●	LYEU21140NF	14	F	●●●●
LYEU21080UN	8	G	●●●●	LYEU21115NF	11.5	F	●●●●
LYEU21070UN	7	G	●●●●	BSPT-THREADING			
UN-THREADING (EXTERNAL)				LYEU21140BT	14	G	●●●●
LYEU21240UN	24	G	●●●●	LYEU21110BT	11	G	●●●●
LYEU21200UN	20	G	●●●●	W-THREADING			
LYEU21180UN	18	G	●●●●	LYEU21200BW	20	H	●●●●
LYEU21160UN	16	G	●●●●	LYEU21190BW	19	H	●●●●
LYEU21140UN	14	G	●●●●	LYEU21160BW	16	H	●●●●
LYEU21120UN	12	G	●●●●	LYEU21140BW	14	H	●●●●
LYEU21100UN	10	G	●●●●	LYEU21110BW	11	H	●●●●
LYEU21080UN	8	G	●●●●	● = P ● = M ● = K ● = N ● = S ○ = H			
LYEU21070UN	7	G	●●●●				

HARDWARE		
	Driver	Screw
	DS-T15T	IS21

RAPID THREAD SERIES 12Y1S (30MM)

INDEXABLE THREAD MILLS



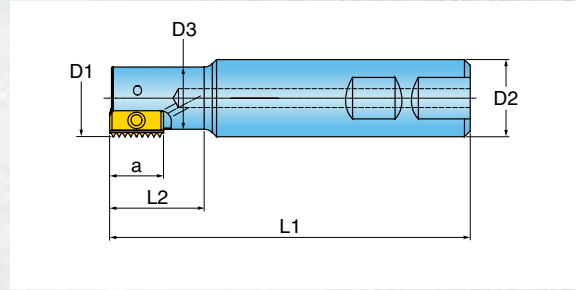
Int. Thread



Ext. Thread



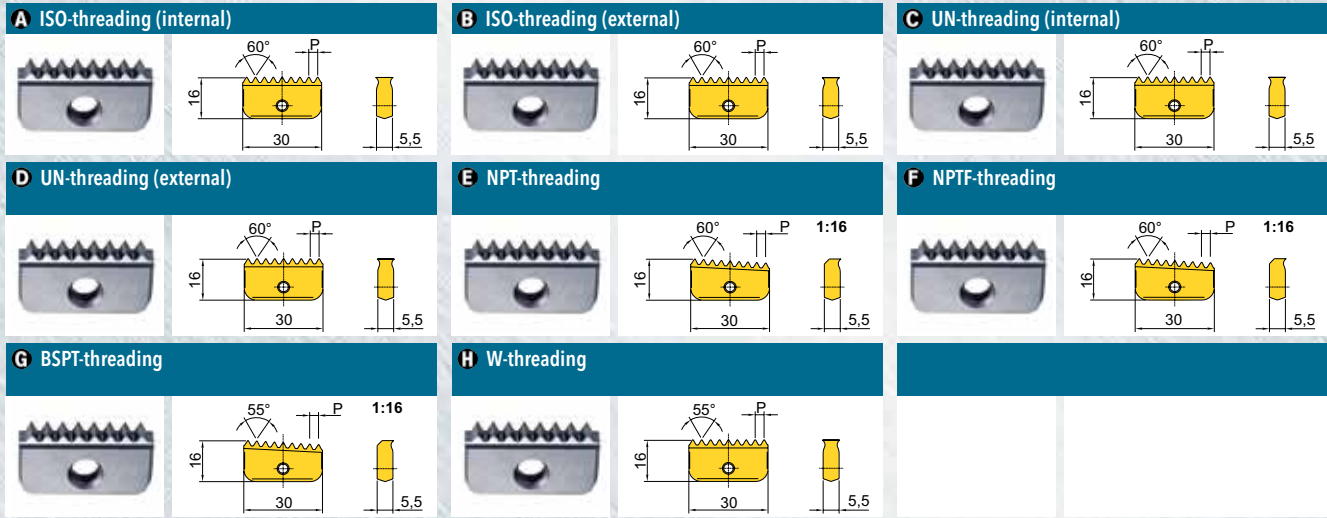
Coolant



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length	L2 Extension Length	No. of Flutes
12Y1S-1102080R01	1.181	1.140	1.000	0.910	4.270	1.970	1
12Y1S-1203780R01	1.181	1.240	1.000	0.910	6.000	1.970	1
12Y1S-1503781R01	1.181	1.500	1.250	0.910	6.000	1.970	1
12Y1S-1502881R01	1.181	1.580	1.250	1.180	6.000	1.970	2

Series 12Y1S (30MM) continues on next page.

RAPID THREAD SERIES 12Y1S (30MM) CONTINUED.

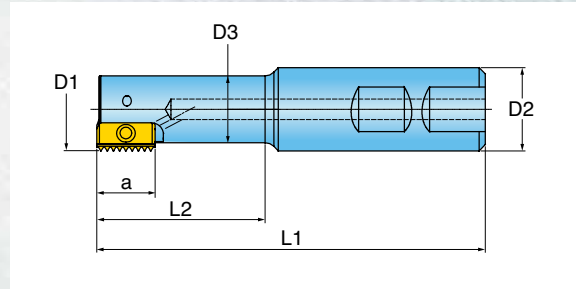


Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				UN-THREADING (EXTERNAL)			
LYEU30150IS	1.5	A	●	LYEU30200UN-X	20	D	●
LYEU30200IS	2	A	●	LYEU30180UN-X	18	D	●
LYEU30300IS	3	A	●	LYEU30160UN-X	16	D	●
LYEU30350IS	3.5	A	●	LYEU30140UN-X	14	D	●
LYEU30400IS	4	A	●	LYEU30120UN-X	12	D	●
LYEU30450IS	4.5	A	●	LYEU30100UN-X	10	D	●
LYEU30500IS	5	A	●	LYEU30080UN-X	8	D	●
ISO-THREADING (EXTERNAL)				NPT-THREADING			
LYEU30150IS-X	1.5	B	●	LYEU30115NT	11.5	E	●
LYEU30200IS-X	2	B	●	LYEU30080NT	8	E	●
LYEU30300IS-X	3	B	●	NPTF-THREADING			
LYEU30350IS-X	3.5	B	●	LYEU30115NF	11.5	F	●
LYEU30400IS-X	4	B	●	LYEU30080NF	8	F	●
UN-THREADING (INTERNAL)				BSPT-THREADING			
LYEU30200UN	20	C	●	LYEU30110BT	11	G	●
LYEU30180UN	18	C	●	W-THREADING			
LYEU30160UN	16	C	●	LYEU30160BW	16	I	●
LYEU30140UN	14	C	●	LYEU30140BW	14	I	●
LYEU30120UN	12	C	●	LYEU30110BW	11	I	●
LYEU30100UN	10	C	●	● = P ● = M ● = K ● = N ● = S ○ = H			
LYEU30080UN	8	C	●				
LYEU30060UN	6	C	●				

HARDWARE		
	Driver	Screw
	DS-T25T	IS30

RAPID THREAD SERIES 12Y1U (40MM)

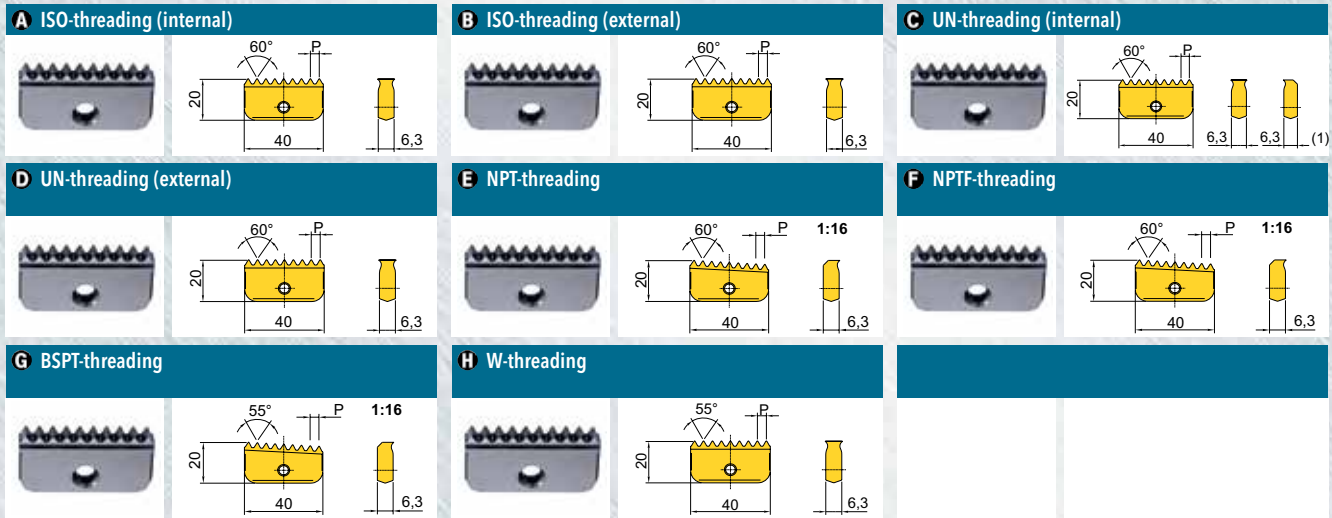
INDEXABLE THREAD MILLS



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length	L2 Extension Length	No. of Flutes
12Y1U-1703386R01	1.575	1.730	1.500	1.380	6.020	3.070	1
12Y1U-1903386R01	1.575	1.970	1.500	1.490	6.020	1.970	2

Series 12Y1U (40MM) continues on next page.

RAPID THREAD SERIES 12Y1U (40MM) CONTINUED.



Designation	Pitch	Grade	IN2005	Grade	IN2005
ISO-THREADING (INTERNAL)					
LYEU40150IS	1.5	A	●	●	●
LYEU40200IS	2	A	●	●	●
LYEU40300IS	3	A	●	●	●
LYEU40350IS	3.5	A	●	●	●
LYEU40400IS	4	A	●	●	●
LYEU40450IS	4.5	A	●	●	●
LYEU40500IS	5	A	●	●	●
LYEU40550IS	5.5	A	●	●	●
LYEU40600IS	6	A	●	●	●
ISO-THREADING (EXTERNAL)					
LYEU40150IS-X	1.5	B	●	●	●
LYEU40200IS-X	2	B	●	●	●
LYEU40300IS-X	3	B	●	●	●
LYEU40400IS-X	4	B	●	●	●
LYEU40500IS-X	5	B	●	●	●
LYEU40600IS-X	6	B	●	●	●
UN-THREADING (INTERNAL)					
LYEU40160UN	16	C	●	●	●
LYEU40140UN	14	C	●	●	●
LYEU40120UN	12	C	●	●	●
LYEU40100UN	10	C	●	●	●
UN-THREADING (EXTERNAL)					
LYEU40160UN-X	16	D	●	●	●
LYEU40140UN-X	14	D	●	●	●
LYEU40120UN-X	12	D	●	●	●
LYEU40100UN-X	10	D	●	●	●
LYEU40080UN-X	8	D	●	●	●
LYEU40060UN-X	6	D	●	●	●
NPT-THREADING					
LYEU40115NT	11.5	E	●	●	●
LYEU40080NT	8	E	●	●	●
NPTF-THREADING					
LYEU40115NF	11.5	F	●	●	●
LYEU40080NF	8	F	●	●	●
BSPT-THREADING					
LYEU40110BT	11	G	●	●	●
W-THREADING					
LYEU40110BW	11	H	●	●	●
LYEU40080BW	8	H	●	●	●

HARDWARE		
	Driver	Screw
	DS-T2ST	IS40

RAPID THREAD SERIES 12Y5J (14MM)

INDEXABLE THREAD MILLS - CARBIDE SHANK



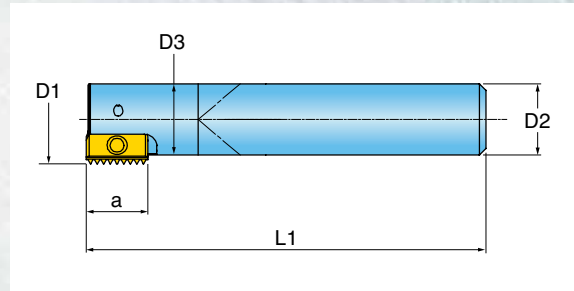
Int. Thread



Ext. Thread



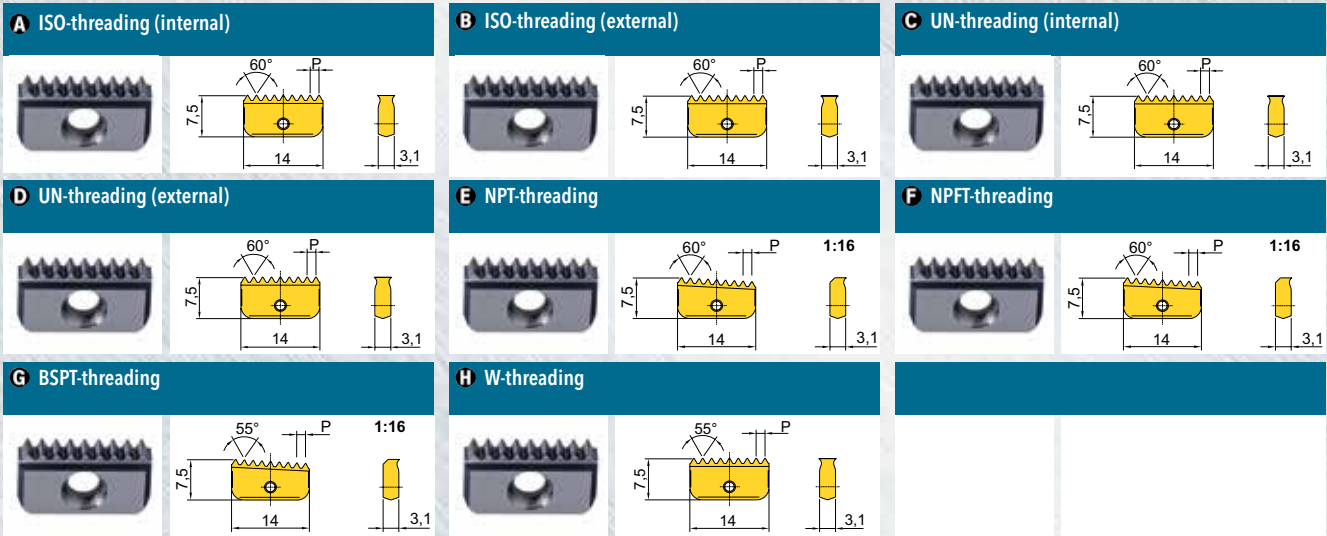
Coolant



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length
12Y5J-05044R8R01	0.551	0.490	0.375	0.380	6.000
12Y5J-06052S4R01	0.551	0.620	0.500	0.500	7.000

Series 12Y5J (14MM) continues on next page.

RAPID THREAD SERIES 12Y5J (14MM) CONTINUED.



Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				UN-THREADING (EXTERNAL)			
L YE U14050IS	0.5	A	●●●●	L YE U14320UN-X	32	D	●●●●
L YE U14075IS	0.75	A	●●●●	L YE U14280UN-X	28	D	●●●●
L YE U14100IS	1	A	●●●●	L YE U14240UN-X	24	D	●●●●
L YE U14125IS	1.25	A	●●●●	L YE U14200UN-X	20	D	●●●●
L YE U14150IS	1.5	A	●●●●	L YE U14180UN-X	18	D	●●●●
L YE U14175IS	1.75	A	●●●●	L YE U14160UN-X	16	D	●●●●
L YE U14200IS	2	A	●●●●	L YE U14140UN-X	14	D	●●●●
L YE U14250IS	2.5	A	●●●●	L YE U14120UN-X	12	D	●●●●
ISO-THREADING (EXTERNAL)				NPT-THREADING			
L YE U14075IS-X	0.75	B	●●●●	L YE U14180NT	18	E	●●●●
L YE U14100IS-X	1	B	●●●●	L YE U14140NT	14	E	●●●●
L YE U14125IS-X	1.25	B	●●●●	NPFT-THREADING			
L YE U14150IS-X	1.5	B	●●●●	L YE U14180NF	18	F	●●●●
L YE U14175IS-X	1.75	B	●●●●	L YE U14140NF	14	F	●●●●
L YE U14200IS-X	2	B	●●●●	BSPT-THREADING			
L YE U14250IS-X	2.5	B	●●●●	L YE U14190BT	19	G	●●●●
UN-THREADING (INTERNAL)				W-THREADING			
L YE U14320UN	32	C	●●●●	L YE U14240BW	24	H	●●●●
L YE U14280UN	28	C	●●●●	L YE U14200BW	20	H	●●●●
L YE U14270UN	27	C	●●●●	L YE U14190BW	19	H	●●●●
L YE U14240UN	24	C	●●●●	L YE U14160BW	16	H	●●●●
L YE U14200UN	20	C	●●●●	L YE U14140BW	14	H	●●●●
L YE U14180UN	18	C	●●●●				
L YE U14160UN	16	C	●●●●				
L YE U14140UN	14	C	●●●●				
L YE U14120UN	12	C	●●●●				

● = P ● = M ● = K ● = N ● = S ○ = H

HARDWARE		
	Driver	Screw
	DS-T08W	IS14

RAPID THREAD SERIES 12Y5N (21MM)

INDEXABLE THREAD MILLS - CARBIDE SHANK



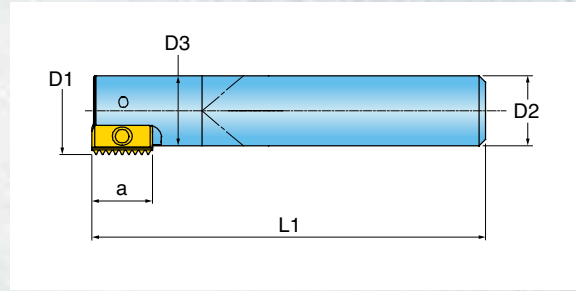
Int. Thread



Ext. Thread



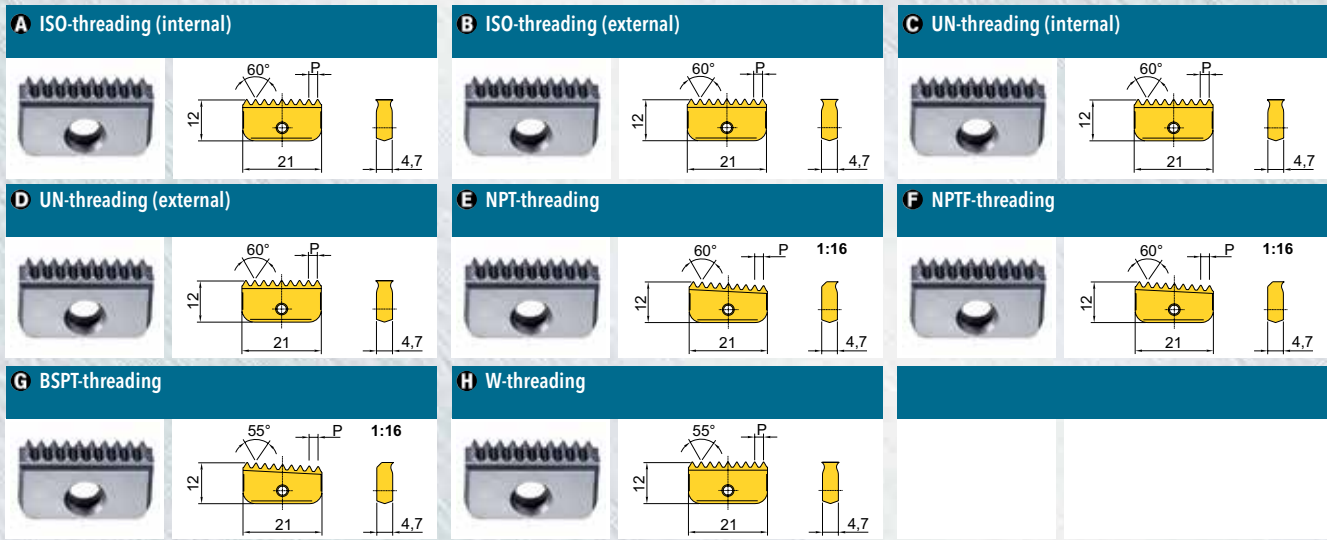
Coolant



Cutter Number	a	D1	D2 Shank	D3	L1 Overall Length
12Y5N-08060S6R01	0.827	0.820	0.625	0.630	8.000

Series 12Y5N (21MM) continues on next page.

RAPID THREAD SERIES 12Y5N (21MM) CONTINUED.

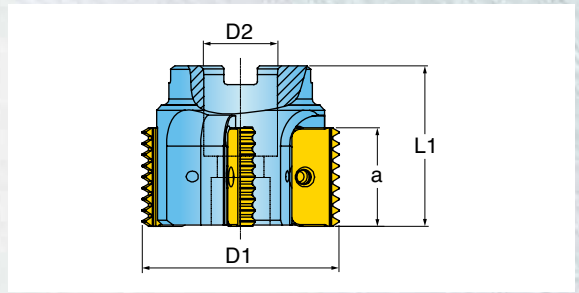
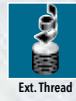


Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				ISO-THREADING (EXTERNAL)			
LYEU21100IS	1	A	●	LYEU21100IS-X	1	B	●
LYEU21150IS	1.5	A	●	LYEU21150IS-X	1.5	B	●
LYEU21175IS	1.75	A	●	LYEU21200IS-X	2	B	●
LYEU21200IS	2	A	●	LYEU21250IS-X	2.5	B	●
LYEU21250IS	2.5	A	●	LYEU21300IS-X	3	B	●
LYEU21300IS	3	A	●	UN-THREADING (INTERNAL)			
LYEU21350IS	3.5	A	●	LYEU21240UN	24	C	●
UN-THREADING (EXTERNAL)				LYEU21200UN	20	C	●
LYEU21100IS-X	1	B	●	LYEU21180UN	18	C	●
LYEU21150IS-X	1.5	B	●	LYEU21160UN	16	C	●
LYEU21200IS-X	2	B	●	LYEU21140UN	14	C	●
LYEU21250IS-X	2.5	B	●	LYEU21120UN	12	C	●
LYEU21300IS-X	3	B	●	LYEU21100UN	10	C	●
UN-THREADING (INTERNAL)				LYEU21080UN	8	C	●
LYEU21240UN	24	C	●	LYEU21070UN	7	C	●
LYEU21200UN	20	C	●	UN-THREADING (EXTERNAL)			
LYEU21180UN	18	C	●	LYEU21140NT	14	E	●
LYEU21160UN	16	C	●	LYEU21115NT	11.5	E	●
LYEU21140UN	14	C	●	NPTF-THREADING			
LYEU21120UN	12	C	●	LYEU21140NF	14	F	●
LYEU21100UN	10	C	●	LYEU21115NF	11.5	F	●
LYEU21080UN	8	C	●	BSPT-THREADING			
LYEU21070UN	7	C	●	LYEU21140BT	14	G	●
UN-THREADING (EXTERNAL)				LYEU21110BT	11	G	●
LYEU21140NT	14	E	●	W-THREADING			
LYEU21115NT	11.5	E	●	LYEU21200BW	20	I	●
NPTF-THREADING				LYEU21190BW	19	I	●
LYEU21140NF	14	F	●	LYEU21160BW	16	I	●
LYEU21115NF	11.5	F	●	LYEU21140BW	14	I	●
BSPT-THREADING				LYEU21110BW	11	I	●
LYEU21140BT	14	G	●	● = P ● = M ● = K ● = N ● = S ○ = H			
LYEU21110BT	11	G	●				

HARDWARE		
	Driver	Screw
	DS-T15T	IS21

RAPID THREAD SERIES 12Y1N_D (21MM)

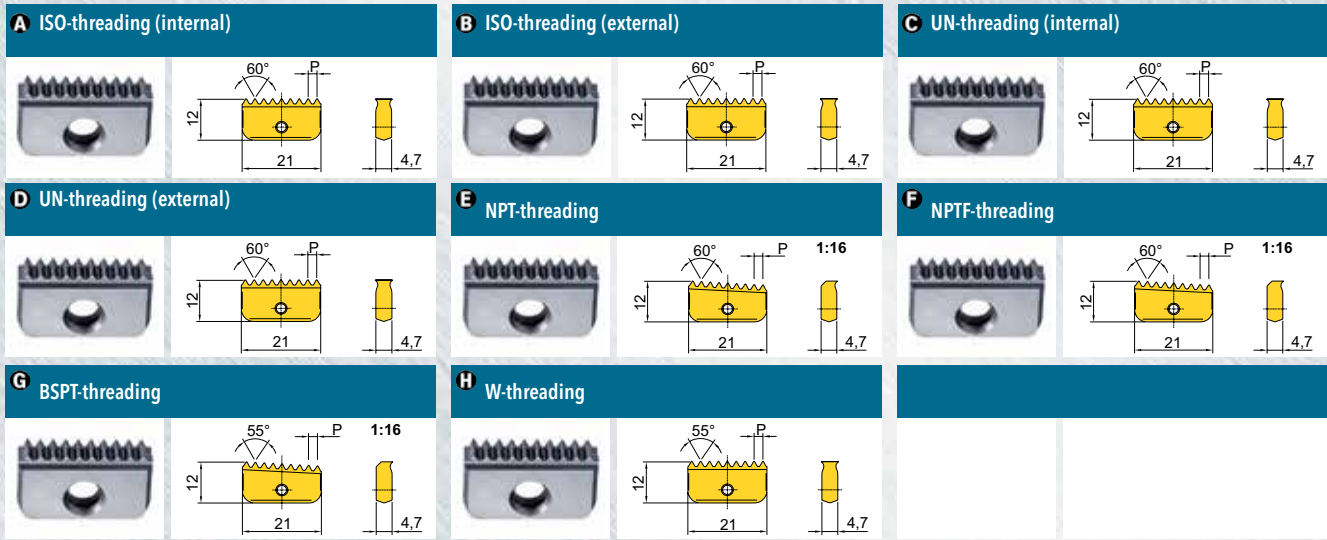
INDEXABLE THREAD MILLS - SHELL MILL



Cutter Number	a	D1	D2 Pilot	L1 Height	No. of Flutes
12Y1N-24019D1R01	0.827	2.480	0.750	1.970	5

Series 12Y1N_D (21MM) continues on next page.

RAPID THREAD SERIES 12Y1N_D (21MM) CONTINUED



Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				ISO-THREADING (EXTERNAL)			
LYEU21100IS	1	A	●●●●	LYEU21100IS-X	1	B	●●●●
LYEU21150IS	1.5	A	●●●●	LYEU21150IS-X	1.5	B	●●●●
LYEU21175IS	1.75	A	●●●●	LYEU21200IS-X	2	B	●●●●
LYEU21200IS	2	A	●●●●	LYEU21250IS-X	2.5	B	●●●●
LYEU21250IS	2.5	A	●●●●	LYEU21300IS-X	3	B	●●●●
LYEU21300IS	3	A	●●●●	UN-THREADING (INTERNAL)			
LYEU21350IS	3.5	A	●●●●	LYEU21240UN	24	C	●●●●
ISO-THREADING (EXTERNAL)				LYEU21200UN	20	C	●●●●
LYEU21100IS-X	1	B	●●●●	LYEU21180UN	18	C	●●●●
LYEU21150IS-X	1.5	B	●●●●	LYEU21160UN	16	C	●●●●
LYEU21200IS-X	2	B	●●●●	LYEU21140UN	14	C	●●●●
LYEU21250IS-X	2.5	B	●●●●	LYEU21120UN	12	C	●●●●
LYEU21300IS-X	3	B	●●●●	LYEU21100UN	10	C	●●●●
UN-THREADING (INTERNAL)				LYEU21080UN	8	C	●●●●
LYEU21240UN	24	C	●●●●	LYEU21070UN	7	C	●●●●
LYEU21200UN	20	C	●●●●	UN-THREADING (EXTERNAL)			
LYEU21180UN	18	C	●●●●	LYEU21140NT	14	E	●●●●
LYEU21160UN	16	C	●●●●	LYEU21115NT	11.5	E	●●●●
LYEU21140UN	14	C	●●●●	NPTF-THREADING			
LYEU21120UN	12	C	●●●●	LYEU21140NF	14	F	●●●●
LYEU21100UN	10	C	●●●●	LYEU21115NF	11.5	F	●●●●
LYEU21080UN	8	C	●●●●	BSPT-THREADING			
LYEU21070UN	7	C	●●●●	LYEU21140BT	14	G	●●●●
UN-THREADING (EXTERNAL)				LYEU21110BT	11	G	●●●●
LYEU21240UN-X	24	D	●●●●	W-THREADING			
LYEU21200UN-X	20	D	●●●●	LYEU21200BW	20	H	●●●●
LYEU21180UN-X	18	D	●●●●	LYEU21190BW	19	H	●●●●
LYEU21160UN-X	16	D	●●●●	LYEU21160BW	16	H	●●●●
LYEU21140UN-X	14	D	●●●●	LYEU21140BW	14	H	●●●●
LYEU21120UN-X	12	D	●●●●	LYEU21110BW	11	H	●●●●
LYEU21100UN-X	10	D	●●●●	● = P ● = M ● = K ● = N ● = S ○ = H			

HARDWARE		
	DS-T15T	IS21

RAPID THREAD SERIES 12Y1S_D (30MM)

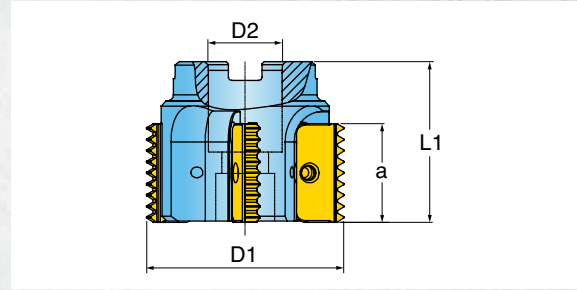
INDEXABLE THREAD MILLS - SHELL MILL



Int. Thread



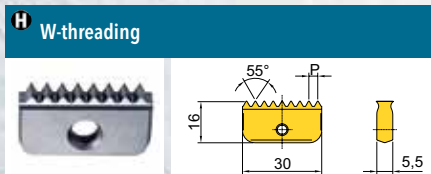
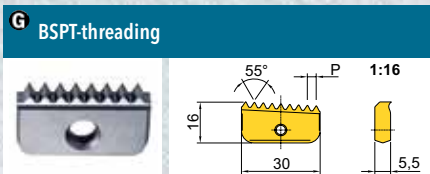
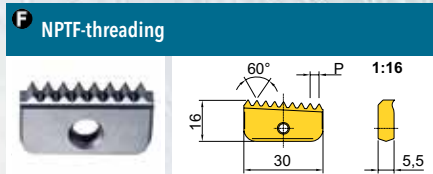
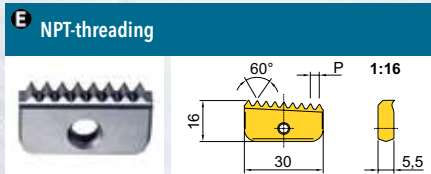
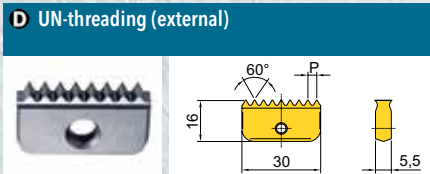
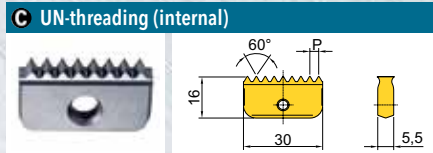
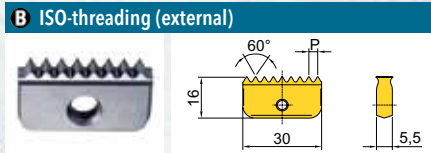
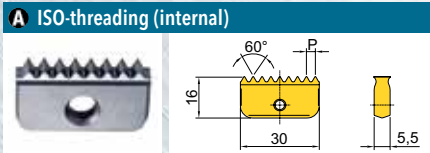
Ext. Thread



Cutter Number	a	D1	D2 Pilot	L1 Height	No. of Flutes
12Y1S-24019D1R01	1.181	2.480	0.750	1.970	4
12Y1S-31021D3R01	1.181	3.150	1.000	2.160	4
12Y1S-39025D4R01	1.181	3.940	1.250	2.560	4

Series 12Y1S_D (30MM) continues on next page.

RAPID THREAD SERIES 12Y1S_D (30MM) CONTINUED.



Designation	Pitch	Grade	IN2005
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ISO-THREADING (INTERNAL)			
LYEU30150IS	1.5	A	●●●●●
LYEU30200IS	2	A	●●●●●
LYEU30300IS	3	A	●●●●●
LYEU30350IS	3.5	A	●●●●●
LYEU30400IS	4	A	●●●●●
LYEU30450IS	4.5	A	●●●●●
LYEU30500IS	5	A	●●●●●
ISO-THREADING (EXTERNAL)			
LYEU30150IS-X	1.5	B	●●●●●
LYEU30200IS-X	2	B	●●●●●
LYEU30300IS-X	3	B	●●●●●
LYEU30350IS-X	3.5	B	●●●●●
LYEU30400IS-X	4	B	●●●●●
UN-THREADING (INTERNAL)			
LYEU30200UN	20	C	●●●●●
LYEU30180UN	18	C	●●●●●
LYEU30160UN	16	C	●●●●●
LYEU30140UN	14	C	●●●●●
LYEU30120UN	12	C	●●●●●
LYEU30100UN	10	C	●●●●●
LYEU30080UN	8	C	●●●●●
LYEU30060UN	6	C	●●●●●

Designation	Pitch	Grade	IN2005
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UN-THREADING (EXTERNAL)			
LYEU30200UN-X	20	D	●●●●●
LYEU30180UN-X	18	D	●●●●●
LYEU30160UN-X	16	D	●●●●●
LYEU30140UN-X	14	D	●●●●●
LYEU30120UN-X	12	D	●●●●●
LYEU30100UN-X	10	D	●●●●●
LYEU30080UN-X	8	D	●●●●●
LYEU30060UN-X	6	D	●●●●●
NPT-THREADING			
LYEU30115NT	11.5	E	●●●●●
LYEU30080NT	8	E	●●●●●
NPTF-THREADING			
LYEU30115NF	11.5	F	●●●●●
LYEU30080NF	8	F	●●●●●
BSPT-THREADING			
LYEU30110BT	11	G	●●●●●
W-THREADING			
LYEU30160BW	16	H	●●●●●
LYEU30140BW	14	H	●●●●●
LYEU30110BW	11	H	●●●●●

● = P ● = M ● = K ● = N ● = S ○ = H

HARDWARE		
	Driver	Screw
	DS-T25T	IS30

RAPID THREAD SERIES 12Y1U_D (40MM)

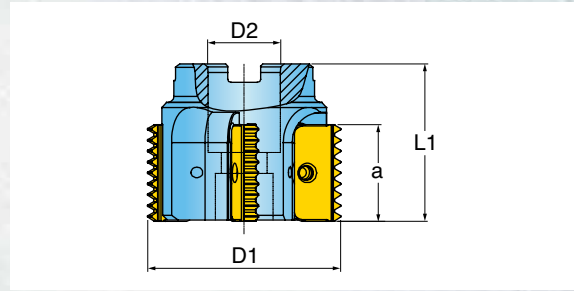
INDEXABLE THREAD MILLS - SHELL MILL



Int. Thread



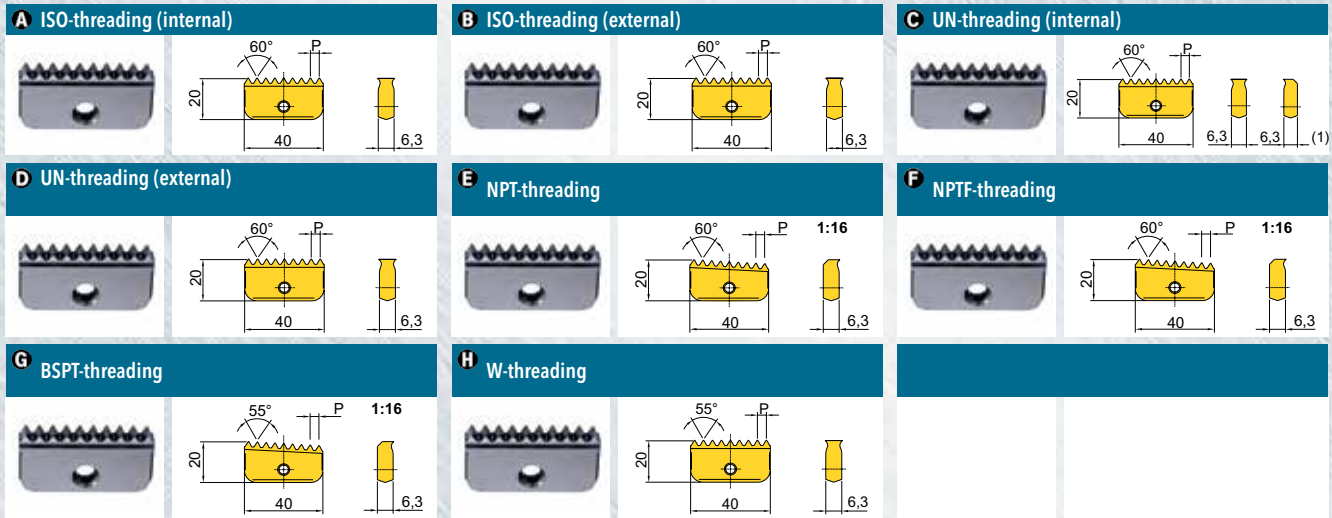
Ext. Thread



Cutter Number	a	D1	D2 Pilot	L1 Height	No. of Flutes
12Y1U-31023D3R01	1.575	3.150	1.000	2.360	4
12Y1U-39027D4R01	1.575	3.940	1.250	2.760	4

Series 12Y1U_D (40MM) continues on next page.

RAPID THREAD SERIES 12Y1U_D (40MM) CONTINUED.



Designation	Pitch	Grade	IN2005	Designation	Pitch	Grade	IN2005
ISO-THREADING (INTERNAL)				UN-THREADING (EXTERNAL)			
LYEU40150IS	1.5	A	●	LYEU40080UN	8	C	●
LYEU40200IS	2	A	●	LYEU40060UN	6	C	●
LYEU40300IS	3	A	●	LYEU40045UN	4.5	C	●
LYEU40350IS	3.5	A	●	LYEU40040UN	4	C	●
LYEU40400IS	4	A	●	NPT-THREADING			
LYEU40450IS	4.5	A	●	LYEU40115NT	11.5	E	●
LYEU40500IS	5	A	●	LYEU40080NT	8	E	●
LYEU40550IS	5.5	A	●	NPTF-THREADING			
LYEU40600IS	6	A	●	LYEU40115NF	11.5	F	●
ISO-THREADING (EXTERNAL)				LYEU40080NF	8	F	●
LYEU40150IS-X	1.5	B	●	BSPT-THREADING			
LYEU40200IS-X	2	B	●	LYEU40110BT	11	G	●
LYEU40300IS-X	3	B	●	W-THREADING			
LYEU40400IS-X	4	B	●	LYEU40110BW	11	H	●
LYEU40500IS-X	5	B	●	LYEU40080BW	8	H	●
LYEU40600IS-X	6	B	●				
UN-THREADING (INTERNAL)							
LYEU40160UN	16	C	●				
LYEU40140UN	14	C	●				
LYEU40120UN	12	C	●				
LYEU40100UN	10	C	●				

● = P ● = M ● = K ● = N ● = S ○ = H

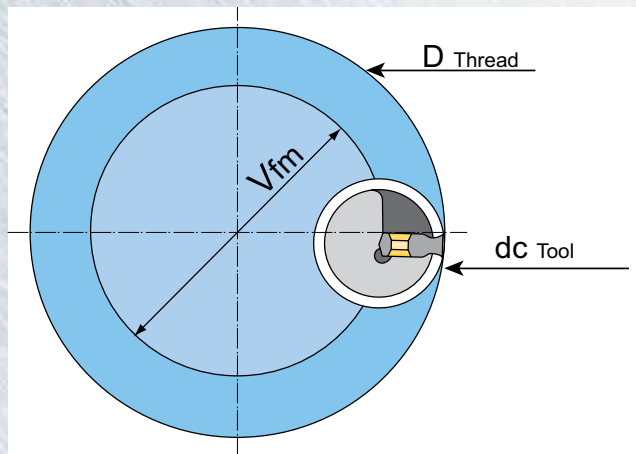
HARDWARE		
	Driver	Screw
	DS-T25T	IS40

RAPID THREAD TECHNICAL INFORMATION

MACHINING DATA FOR INDEXABLE INSERT THREADING TOOLS

Main ISO-group	Workpiece Material	Remark	Tensile Strength	Hardness	Machin. Group	IN 2005
						Cutting speed (ft/min)
P	I 0,25 % C	Annealed	420	125	1	330-1085
	Unalloyed steel >= 0,25 % C	Annealed	650	190	2	265-690
	Cast steel I 0,25 % C	Tempered	850	250	3	215-600
	Free cutting steel >= 0,55 % C	Annealed	750	220	4	360-590
		Tempered	1000	300	5	315-525
	Steel medium tensile strength and cast steel	Annealed	600	200	6	300-525
	(with less than 5 % C)	Tempered	930	275	7	215-660
		Tempered	1000	300	8	230-690
		Tempered	1200	350	9	315-525
	High-alloyed cast steel	Annealed	680	200	10	430-600
	Steel and tool steel	Tempered	1100	325	11	245-330
M	Stainless steel	Ferritic, martensitic	680	200	12	360-600
	and cast steel	Martensitic	820	240	13	230-510
		Austenitic	600	180	14	280-330
K	Nodular gray cast iron (GGG)	Ferritic, pearlitic	-	180	15	230-495
		Pearlitic	-	260	16	360-500
	Gray cast iron (GG)	Ferritic	-	160	17	400-525
		Pearlitic	-	250	18	245-525
	Malleable cast iron	Ferritic	-	130	19	400-525
	Malleable cast iron	Pearlitic	-	230	20	360-500
N	Aluminum-wrought alloy	Untreated	-	60	21	525-985
	Aluminum-wrought alloy	Forged, alloyed	-	100	22	-
	Aluminum cast alloy <=12 % Si	Untreated	-	75	23	-
	Aluminum cast alloy	Forged, alloyed	-	90	24	-
	Aluminum cast alloy >12 % Si	High temp. resist.	-	130	25	-
	Copper alloys	Easy to machine	-	110	26	-
	CuZn-alloys (brass)		-	90	27	-
	Elektrolytic copper		-	100	28	-
	Duroplastics		-	90	29	-
	K Graphite		-	-	30	330-1315
S	Ebonite		-	-	-	-
	High temp. resisting alloys	Fe-base, tempered	-	200	31	-
	Superalloys	Ni/Co-base, treated	-	280	32	-
	Superalloys	Ni/Co-base, tempered	-	250	33	65-265
	Superalloys	Ni/Co-base, treated	-	350	34	-
	Titanium, cast		-	320	35	-
	Titanium		400	-	36	-
M Titanium alloys	Alpha & beta alloy, treated	1050	-	37	65-265	
H	Hardened steel	Hardened	-	55 HRC	38	180-215
	Hardened steel	Hardened	-	60 HRC	39	150-180
	Chill casting	Cast	400	-	40	300-345
	P/K Cast iron	Hardened	-	55 HRC	41	180-215

MACHINING DATA FOR INDEXABLE INSERT THREADING TOOLS



$$\text{Feed rate } V_{fm} = f_z \times \frac{(D-dc)}{D} \times n \times Z$$

fz: feed per tooth

D: diameter of thread

dc: diameter of tool

Vfm: feed rate of centerway of tool

n: RPM

Z: no. of teeth

fz = 0.001 mm - 0.005 mm

max. tool dia. < 2/3 thread size

Example:

M30 -> tool dia. : max. .750 mm

MACHINING DATA FOR INDEXABLE INSERT THREADING TOOLS

Main ISO-group	Workpiece Material	Remark	Tensile Strength	Hardness	Machin. Group
P	1 0,25 % C	Annealed	420	125	1
	Unalloyed steel $\geq 0,25$ % C	Annealed	650	190	2
	Cast steel 1 0,25 % C	Tempered	850	250	3
	Free cutting steel $\geq 0,55$ % C	Annealed	750	220	4
		Tempered	1000	300	5
	Steel medium tensile strength	Annealed	600	200	6
	and cast steel	Tempered	930	275	7
	(with less than 5 % C)	Tempered	1000	300	8
		Tempered	1200	350	9
	High-alloyed cast steel	Annealed	680	200	10
	Steel and tool steel	Tempered	1100	325	11
M	Stainless steel	Ferritic, martensitic	680	200	12
	and cast steel	Martensitic	820	240	13
		Austenitic	600	180	14
K	Nodular gray cast iron	Ferritic, pearlitic	-	180	15
	(GGG)	Pearlitic	-	260	16
	Gray cast iron	Ferritic	-	160	17
	(GG)	Pearlitic	-	250	18
	Malleable cast iron	Ferritic	-	130	19
	Malleable cast iron	Pearlitic	-	230	20
N	Aluminum-wrought alloy	Untreated	-	60	21
	Aluminum-wrought alloy	Forged, alloyed	-	100	22
	Aluminum cast alloy	Untreated	-	75	23
	Aluminum cast alloy	Forged, alloyed	-	90	24
	Aluminum cast alloy >12 % Si	High temp. resist.	-	130	25
	Copper alloys	Easy to machine	-	110	26
	CuZn-alloys (brass)		-	90	27
	Elektrolytic copper		-	100	28
	Duroplastics		-	90	29
	Graphite		-	-	30
	Ebonite		-	-	-
S	High temp. resisting alloys .	Fe-base, tempered	-	200	31
	Superalloys	Ni/Co-base, treated	-	280	32
	Superalloys	Ni/Co-base, tempered	-	250	33
	Superalloys	Ni/Co-base, treated	-	350	34
	Titanium, cast		-	320	35
	Titanium		400	-	36
	Titanium alloys	Alpha & beta alloy, treated	1050	-	37
H	Hardened steel	Hardened	-	55 HRC	38
	Hardened steel	Hardened	-	60 HRC	39
	Chill casting	Cast	400	-	40
	Cast iron	Hardened	-	55 HRC	41

RAPID THREAD TECHNICAL INFORMATION

MACHINING DATA FOR INDEXABLE INSERT THREADING TOOLS

Main ISO-group	IN 2005 (ft/min)	Feed (in/tooth) - Cutting Diameter											
		Ø 0.078	Ø 0.125	Ø 0.156	Ø 0.250	Ø 0.312	Ø 0.390	Ø 0.484	Ø 0.562	Ø 0.625	Ø 0.781	Ø 0.984	Ø 1.181
P	330-1085	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	265-690	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	215-600	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	360-590	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007
	315-525	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007
	300-525	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	215-660	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	230-690	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	315-525	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	430-600	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
245-330	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004	
M	360-600	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	230-510	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
	280-330	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004
K	230-495	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	360-500	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	400-525	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	245-525	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	400-525	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
360-500	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008	
N	525-985	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.006	0.007	0.008
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
330-1315	0.002	0.002	0.003	0.004	0.004	0.004	0.005	0.005	0.006	0.007	0.009	0.010	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
65-265	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
65-265	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	
180-215	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	
150-180	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	
300-345	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	
180-215	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	

RAPID THREAD STRAIGHT SHANK TOOLING RECOMMENDATIONS

NPT/NPTF

NOMINAL THREAD SIZE	PITCH	TOOLHOLDER	NPT INSERT	NPTF INSERT
1/4" and 3/8"	18	12Y1H-0301384R02	LYEU12180NT...	LYEU1218NF...
1/2"	14	12Y1J-0501984R01	LYEU14140NT...	LYEU1410NF...
3/4"	14	12Y1J-0501984R01	LYEU14140NT...	LYEU1414NF...
1"	11.5	12Y1N-0701684R01	LYEU21115NT...	LYEU21115NF...
1 1/4"	11.5	12Y1S-1102080R01	LYEU30115NT...	LYEU30115NF...
1 1/2"	11.5	12Y1S-1203780R01	LYEU30115NT...	LYEU30115NF...
2"	11.5	12Y1S-1503781R01	LYEU30115NT...	LYEU30115NF...
2 1/2"	8	12Y1S-1503781R01	LYEU30080NT...	LYEU30080NF...
3"-24"	8	12Y1U-1903386R01	LYEU40080NT...	LYEU40080NF...

BSP

NOMINAL BSP THREAD SIZE	PITCH	TOOLHOLDER	BSP INSERT
1/4"	19	12Y1H-0301384R01	LYEU12190BW...
3/8"	19	12Y1J-0501984R01	LYEU14190BW...
1/2" & 5/8"	14	12Y1J-0501984R01	LYEU14140BW...
3/4" & 7/8"	14	12Y1N-0701684R01	LYEU21140BW...
1" & 1 1/2"	11	12Y1N-0701684R01	LYEU21110BW...
2" & 2 1/4"	11	12Y1N-1102080R01	LYEU21110BW...
2 1/2" & 3"	11	12Y1S-1502881R01	LYEU30110BW...

BSPT

NOMINAL BSPT THREAD SIZE	PITCH	TOOLHOLDER	BSPT INSERT
3/8"	19	121H-0301384R02	LYEU12190BT...
1/2" & 3/4"	14	12Y1J-0501984R01	LYEU14140BT...
1" & 1 1/4"	11	12Y1N-0701684R01	LYEU14110BT...
1 1/2"	11	12Y1S-1203780R01	LYEU30110BT...
2" & 3"	11	12Y1S-1502881R01	LYEU30110BT...

RAPID[®]THREAD SHELL MILL TOOLING RECOMMENDATIONS

NPT/NPTF

NOMINAL THREAD SIZE	PITCH	SHELL MILL BODY	NPT INSERT	NPTF INSERT
2 1/2"	8	12Y1S-24019D1R01	LYEU 30080NT...	LYEU 30080NF...
3"- 3 1/2"	8	12Y1S-31021D3R01	LYEU 30080NT...	LYEU 30080NF...
3"- 3 1/2"	8	12Y1U-31023D3R01	LYEU 40080NT...	LYEU 40080NF...
3"- 3 1/2"	8	12Y1U-39027D4R01	LYEU 40080NT...	LYEU 40080NF...
4"- 24"	8	12Y1S-39025D4R01	LYEU 30080NT...	LYEU 30080NF...
4"- 24"	8	12Y1U-39027D4R01	LYEU 40080NT...	LYEU 40080NF...

BSP

NOMINAL BSP THREAD SIZE	PITCH	SHELL MILL BODY	BSP INSERT
3 1/2"	11	12Y1S-24019D1R01	LYEU 30110BW...
4"- 6"	11	12Y1U-39027D4R01	LYEU 40110BW...

BSPT

NOMINAL BSPT THREAD SIZE	PITCH	SHELL MILL BODY	BSPT INSERT
2"-3"	11	12Y1S-1502881R01	LYEU 30110BT...
4"-6"	11	12Y1S-39025D4R01	LYEU 30110BT...