

# HCG - HORN Catalog Guide

## INTERNAL GROOVING

C

ore Ø	Product line									
	217	264	S274	S223	S224	231	S229/229	S312/312	315	S316
.625" (15.87 mm)				•						
.709" (18 mm)				•						
.787 - 1.102" (20-28 mm)	•			•						
1.102 - 1.496" (28-38 mm)	•			•	•					
> 1.496" (38 mm)	•			•	•	•	•	•	•	
per tion pe										
rooving	•			•	•	•	•	•	•	
hre ding					•	•			•	
Profiling				•	•		•	•	•	
idth of groove inch	22 2 9			49 11	79 236	9 394	9 394	2 25	49 169	
idth of groove	56 5 3			125 3	2 6	25 1	25 1	5 6 35	125 4 29	
h pter	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>

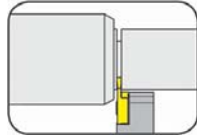
## EXTERNAL GROOVING

Depth of groove up to	Product line									
	217	264	S274	S223	S224	231	S229/229	S312/312	315	S316
.157" (4 mm)	•	•	•	•	•	•	•	•	•	•
.236" (6 mm)		•	•	•	•	•	•	•	•	•
.315" (8 mm)		•	•	•	•	•	•	•		•
.394" (10 mm)		•	•	•	•	•	•			
.433" (11 mm)		•	•	•	•	•	•			
.551" (14 mm)		•	•	•	•		•			
.630" (16 mm)		•	•	•	•		•			
.709" (18 mm)			•	•	•		•			
.984" (25 mm)			•	•			•			
1.000" (25.4 mm)			•				•			
Operation Type										
Grooving	•	•	•	•	•	•	•	•	•	•
Side Turning		•	•	•	•		•	•		
Parting Off	•	•	•	•	•		•	•		•
Threading		•	•			•	•		•	
Profiling			•		•		•	•	•	•
Axial Grooving			•			•			•	
idth of groove inch	22 2 9	59 11	2 11	49 11	79 236	9 394	9 394	2 25	22 169	59 11
idth of groove	56 5 3	15 3	5 3	125 3	2 6	25 1	25 1	5 6 35	56 4 29	15 3
Chapter	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>

Speci l tool upon re ue t

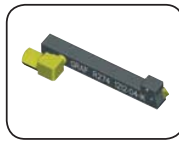
TOOLING SYSTEMS S274 C

Toolholder

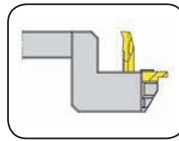


Page C2-C5

Toolholder  
- machine-specific -



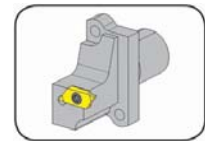
Page C6



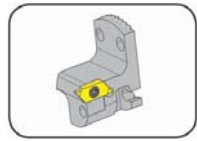
Page C7



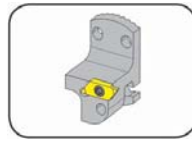
Page C8



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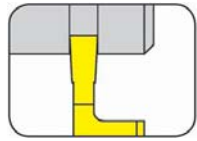


Page C10

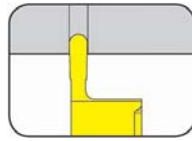


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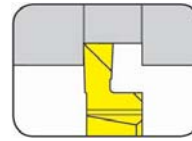
Indexable inserts  
Type  
274



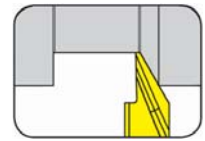
Page C12



Page C13



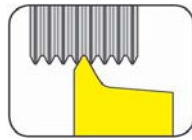
Page C14



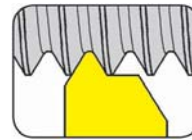
Page C15



Page C16-C17



**Partial profile**  
Page C18



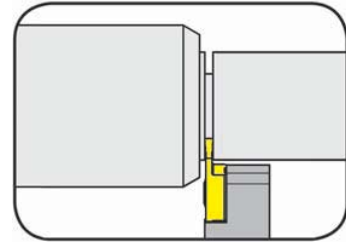
**Full profile**  
Page C19

For Technical Information please see chapter Q

C

TOOLHOLDER Type

## HU274

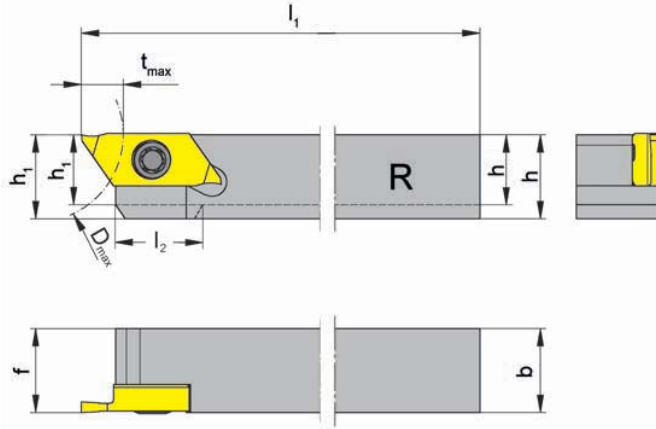


C

Depth of groove up to	.236"
Width of groove up to	.118"

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Part number	h	b	l <sub>1</sub>	h <sub>1</sub>	f	t <sub>max</sub>	D <sub>max</sub>	Size
R/LHU274.0312.04	.312	.312	3.996	.312	.312			
R/LHU274.0375.04	.375	.375	3.996	.375	.375			
R/LHU274.0500.04	.500	.500	3.996	.500	.500	.236	.984	04
R/LHU274.0625.04	.625	.625	5.118	.625	.625			
R/LHU274.0750.04	.750	.750	5.000	.750	.750			

State R or L version

Dimensions in inch

Further sizes upon request

Spare parts

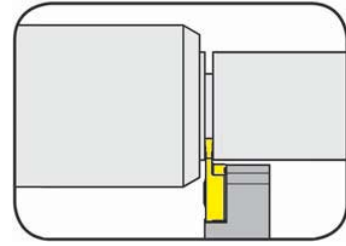
Toolholder	Screw	TORX PLUS® Wrench
R/LHU274.0...	030.3509.T15P	T15PQ

C2

TOOLHOLDER Type

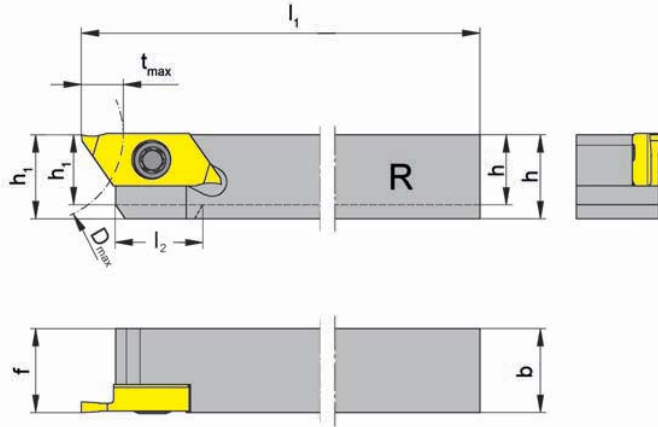
## H274

Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Part number	h	b	l <sub>1</sub>	h <sub>1</sub>	f	t <sub>max</sub>	D <sub>max</sub>	Size
R/LH274.0808.04	8	8	100	8	8	6	25	04
R/LH274.1010.04	10	10	100	10	10			
R/LH274.1212.04	12	12	100	12	12			
R/LH274.1414.04	14	14	100	14	14			
R/LH274.1616.04	16	16	125	16	16			
R/LH274.2020.04	20	20	125	20	20			

State R or L version

Dimensions in mm

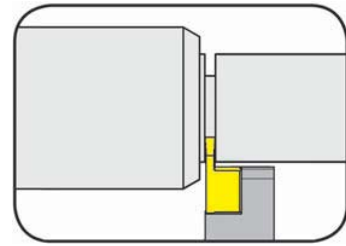
Further sizes upon request

Spare parts

Toolholder	Screw	TORX PLUS® Wrench
R/LH274....	030.3509.T15P	T15PQ

TOOLHOLDER Type

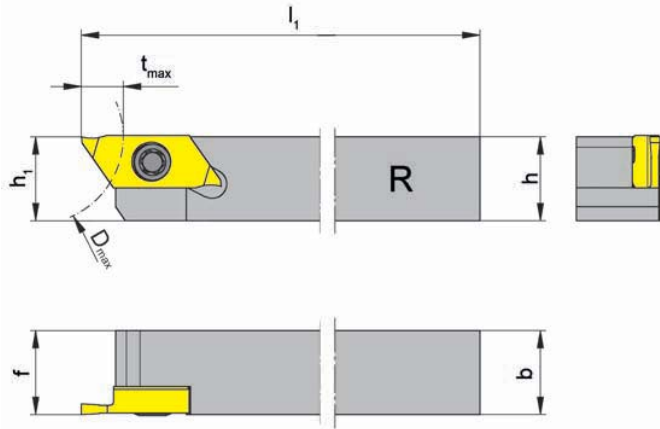
## HU274



Depth of groove up to .236"  
Width of groove up to .276"

for use with Indexable insert

Type S274



for special widths

R = right hand version shown

L = left hand version

Part number	h	b	$l_1$	$h_1$	f	$t_{max}$	$D_{max}$	Size
R/LHU274.0500.07	.500	.551	3.996	.500	.551	.236	.984	07

State R or L version

Dimensions in inch

Further sizes upon request

Spare parts

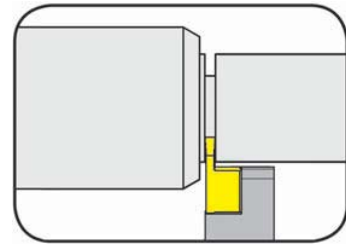
Toolholder	Screw	TORX PLUS® Wrench
R/LHU274.0500.07	030.3509.T15P	T15PQ

C4

TOOLHOLDER Type

## H274

Depth of groove up to .236" (6.0 mm)  
Width of groove up to .276" (7.0 mm)

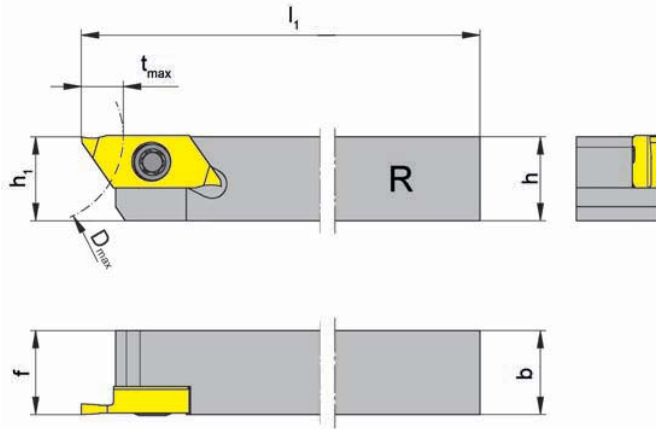


for use with Indexable insert

Type S274



for special widths



R = right hand version shown

L = left hand version

Part number	h	b	l <sub>1</sub>	h <sub>1</sub>	f	t <sub>max</sub>	D <sub>max</sub>	Size
R/LH274.1214.07	12	14	100	12	14	6	25	07
R/LH274.1616.07	16	16	125	16	16	6	25	07

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

Toolholder	Screw	TORX PLUS® Wrench
R/LH274.1...	030.3513.T15P	T15PQ

TOOLHOLDER GRAF Type

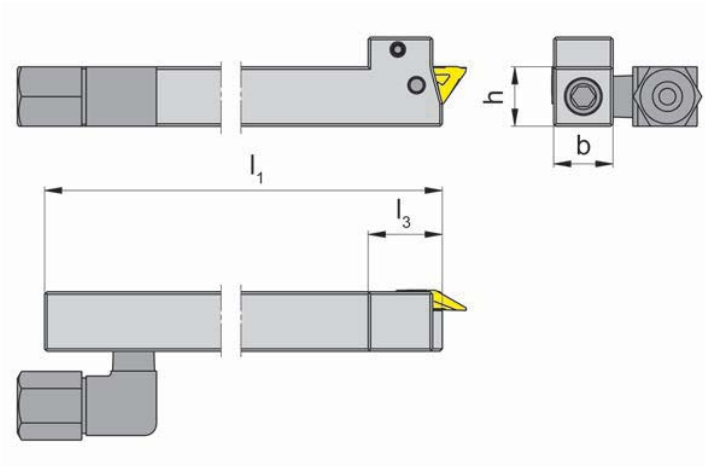
## 974

with through coolant supply



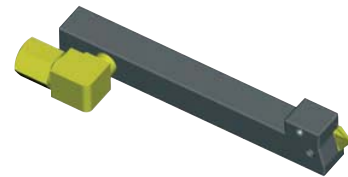
C

Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)



for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Part number	h	b	l <sub>1</sub>	l <sub>3</sub>	Size
974.R/L1010.04IK	10	10	100	15	04
974.R/L1212.04IK	12	12			
974.R/L1616.04IK	16	16			
974.R/L2020.04IK	20	20			

State R or L version

Dimensions in mm

Further sizes upon request

Spare parts

Cartridge Graf	Screw	TORX PLUS®-Wrench	Coolant supply
974.R/L...	030.3509.T15P	T15PQ	004.00.22

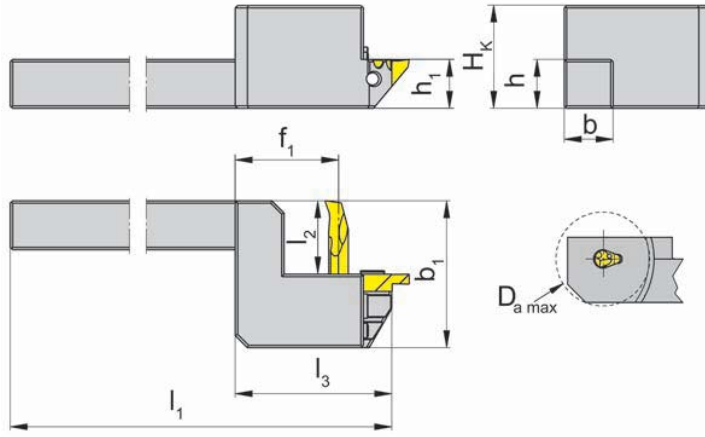
C6

TOOLHOLDER Type

## AIH

C

Bore Ø from .008" (0.2 mm)



for use with Insert

Type 105  
U105  
S274

R = right hand version shown

L = left hand version

Part number	$l_1$	$l_2$	$h$	$h_1$	$f_1$	$l_3$	$b$	$b_1$	$D_{a\ max}$	$H_k$	Remark
AIH.974.R/L1010.K04	130	15	10	10	23	35	10	30	20	17	*
AIH.974.R/L1212.K04			12	12	23	35	12		20	19	
AIH.974.R/L1616.K04			16	16	26	38	16		26	23	
AIH.974.R/L2020.K04			20	20	29	38	20		32	23	
AIH.R/L1010.K08	130	15	10	10	21	30	10	30	20	17	**
AIH.R/L1212.K08			12	12	21		12		20	19	
AIH.R/L1616.K08			16	16	24		16		26	23	
AIH.R/L2020.K08			20	20	27		20		32	23	

State R or L version

Dimensions in mm

Note:

\* These toolholders can be equipped with HORN inserts type 105 and S274

\*\* These toolholders can be equipped with HORN inserts type 105 and Graf inserts CS08

Further sizes upon request

Spare parts

Toolholder	Screw	Screw	TORX PLUS® Wrench
AIH....	030.3509.T15P	6.075T15P	T15PQ



## CARTRIDGE GRAF Type

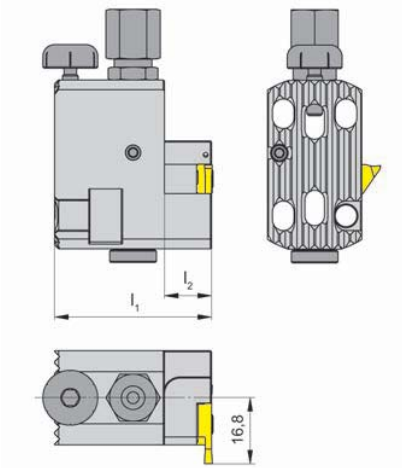
## R76

with through coolant supply



C

Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)



R = right hand version shown

for use with Indexable insert

Type S274



Part number	$l_1$	$l_2$	Size
R76IK	40	12	04

Further sizes upon request

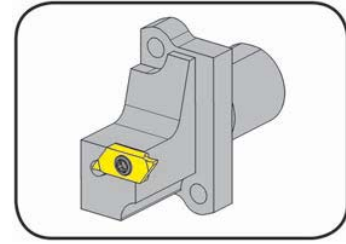
Dimensions in mm

### Spare parts

Cartridge Graf	Screw	TORX PLUS® Wrench	Height adjustment screw	Coolant supply
R76IK	030.3509.T15P	T15PQ	002.00.69	004.00.19

TOOLHOLDER Type

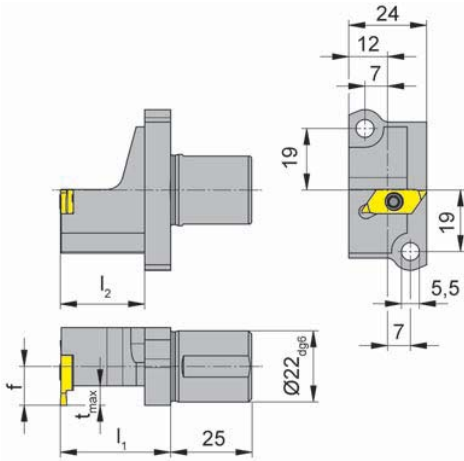
## H274



Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Star SV 12/20/32  
SR 10/20/32 and SB 16

Part number	$l_1$	$l_2$	f	$t_{max}$	Size
R/LH274.A022.09.04	34	26	9	6	04
R/LH274.A022.12.04			12		
R/LH274.A022.16.04			16		
R/LH274.A022.09.07	34	26	9	6	07
R/LH274.A022.12.07			12		

State R or L version

Dimensions in mm

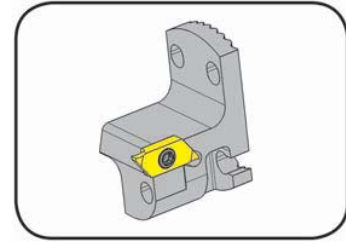
Further sizes upon request

Spare parts

Toolholder	Screw	TORX PLUS®-Wrench
R/LH274.A022....	030.3513.T15P	T15PQ

CARTRIDGE Type

## KT274

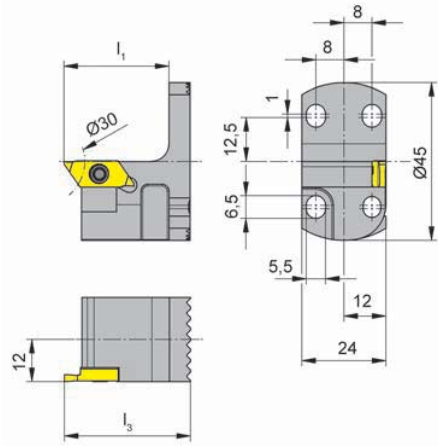


C

Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)

for use with Indexable insert

Type S274



R = right hand version shown

L = left hand version

Part number	$l_1$	$l_3$	Size
R/LKT274.2445.04	30	36	04

State R or L version

Dimensions in mm

Further sizes upon request

Note:

$t_{max} = .236"$  (6.0 mm) can only be reached when  $D_{max} \leq 1.181"$  (30 mm)

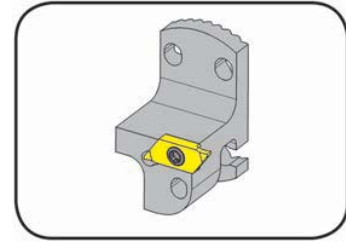
Spare parts

Cartridge	Screw	TORX PLUS® Wrench
R/LKT274.2445.04	030.3509.T15P	T15PQ

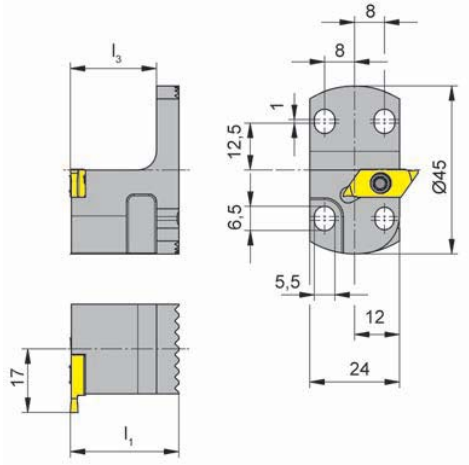
C10

CARTRIDGE Type

## KTC274



Depth of groove up to .236" (6.0 mm)  
Width of groove up to .118" (3.0 mm)



R = right hand version shown

for use with Indexable insert

Type S274

Part number	$l_1$	$l_3$	Size
RKTC274.2445.04	29	23	04

Further sizes upon request

Dimensions in mm

$t_{max}$  = .236" (6.0 mm) can only be reached when  $D_{max} \leq 1.181"$  (30 mm)

Spare parts

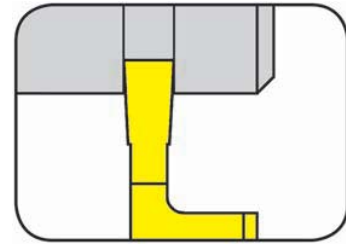
Cartridge	Screw	TORX PLUS® Wrench
RKTC274.2445.04	030.3509.T15P	T15PQ

# GROOVING and PARTING OFF



INDEXABLE INSERT Type

## S274



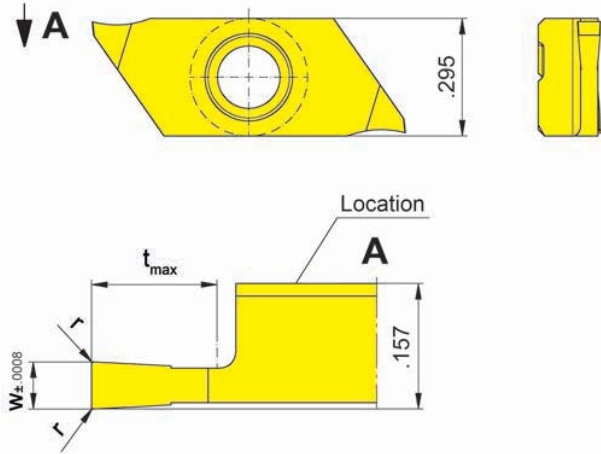
C

Depth of groove up to	.236"
Width of groove	.020 - .079"

precision ground

for use with Toolholder

Type H274  
HU274



R = right hand version shown

L = left hand version

Indexability length  
± .0006"

Part number	w	r	t <sub>max</sub>	Size	Carbide grades				
					K10	MG12	TN35	TI25	TH35
R/LS274.0050.01.10	.020		.059	04					▲/▲
R/LS274.0070.02.10	.028		.079						▲/▲
R/LS274.0080.03.10	.031		.118						▲/▲
R/LS274.0100.03.10	.039		.118						▲/▲
R/LS274.0120.03.10	.047	.002	.118						▲/▲
R/LS274.0150.04.10	.059		.157						▲/▲
R/LS274.0150.06.10	.059		.236						▲/▲
R/LS274.0200.04.10	.079		.157						▲/▲
R/LS274.0200.06.10	.079		.236						▲/▲
						P			
					M				•
					K				•
					S				•
					N				•
					H				•

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in inch

State R or L version

Note:

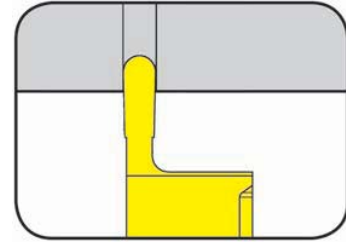
t<sub>max</sub> = .236" can be reached only with workpiece Ø ≤ .984"

INDEXABLE INSERT Type

## S274

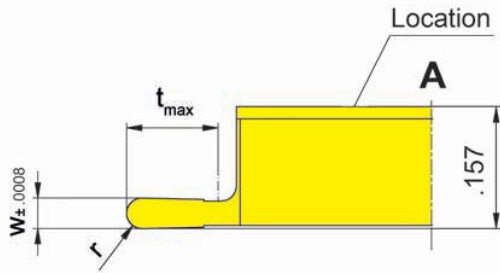
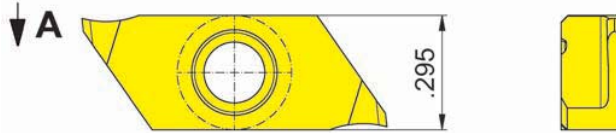
Depth of groove up to .157"  
Full radius .010 - .039"

precision ground



for use with Toolholder

Type H274  
HU274



R = right hand version shown

L = left hand version

Indexability length  
± .0006"

Part number	w	r	t <sub>max</sub>	Size	Carbide grades				
					K10	MG12	TN35	TI25	TH35
R/LS274.0205.01.10	.020	.010	.059	04					▲/▲
R/LS274.0510.03.10	.039	.020	.118						▲/▲
R/LS274.1020.04.10	.079	.039	.157						▲/▲
					P				•
					M				•
					K				•
					S				•
					N				•
					H				

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

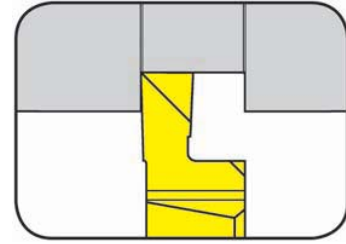
Dimensions in inch

State R or L version

Carbide grades

INDEXABLE INSERT Type

## S274



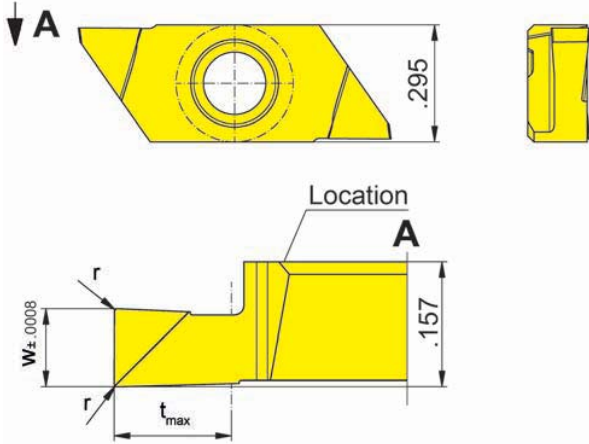
C

Depth of groove up to	.177"
Width of groove	.059 - .118"

precision ground

for use with Toolholder

Type H274  
HU274



R = right hand version shown

L = left hand version

Indexability length  
± .0006"

Part number	w	r	t <sub>max</sub>	Size	Carbide grades				
					K10	MG12	TN35	TI25	TH35
R/LS274.0150.P0	.059	.002	.089	04					▲/▲
R/LS274.0200.P0	.079	.002	.118						▲/▲
R/LS274.0250.P0	.098	.004	.148						▲/▲
R/LS274.0300.P0	.118	.004	.177						▲/▲
▲ on stock   Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet					P				●
					M				●
					K				●
					S				●
					N				●
					H				

Dimensions in inch

State R or L version

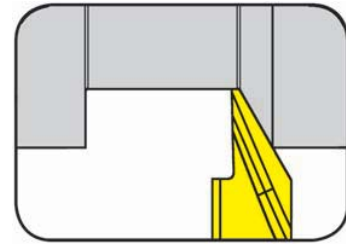
Carbide grades

# BACKTURNING (external)



INDEXABLE INSERT Type

## S274

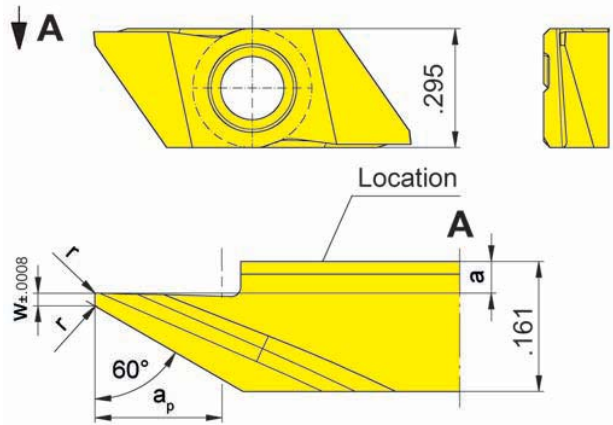


Depth of cut up to **.236"**

precision ground

for use with Toolholder

Type H274  
HU274



R = right hand version shown

L = left hand version

Indexability length  
 $\pm .0006"$

Part number	w	r	a <sub>p</sub>	a	Size	γ	K10	MG12	TN35	TI25	TF45	TH35
R/LS274.0460.04.10	.016	.002	.157	.039	04	15°						▲/▲
R/LS274.0460.04.M0						0°	▲/▲					
R/LS274.0560.06.11	.020	.004	.236	.002	04	15°						▲/▲

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

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Carbide grades

Dimensions in inch

State R or L version

γ = rake angle

Depth of cut a<sub>p</sub> = .236" can be reached only with workpiece Ø ≤ .984"



# PARTING OFF



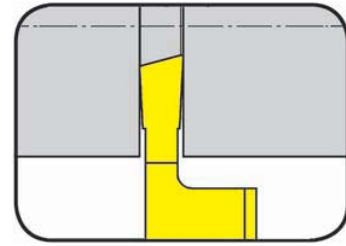
INDEXABLE INSERT Type

## S274

C

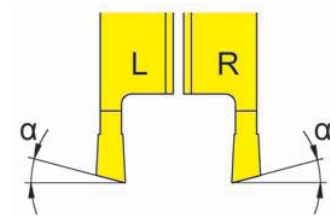
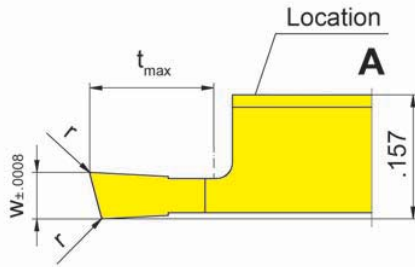
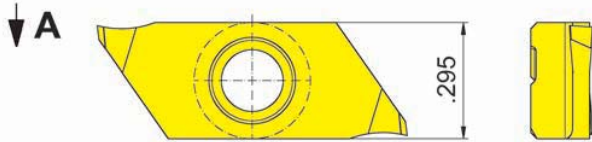
Depth of groove up to .236"  
Width of groove .031 - .079"

precision ground



for use with Toolholder

Type H274  
HU274



Indexability length  
± .0006"

R = right hand version shown

L = left hand version

Part number	w	r	α	t <sub>max</sub>	Size	Carbide grades					
						MG12	H54	TN35	TI25	TF46	TH35
R/LS274.1508.03.10	.031			.118	04						▲/▲
R/LS274.1510.03.10	.039			.118							▲/▲
R/LS274.1515.04.10	.059	.002	15°	.157							▲/▲
R/LS274.1520.06.10	.079			.236							▲/▲
▲ on stock Δ 4 weeks ● main recommendation ○ alternative recommendation ■ uncoated grades ■ coated grades ■ brazed/Cermet						P					●
						M					●
						K					●
						S					●
						N					●
						H					●

Dimensions in inch

State R or L version

t<sub>max</sub> = .236" can be reached only with workpiece Ø ≤ .984"

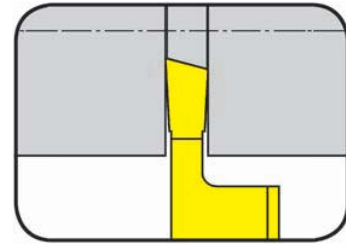
# PARTING OFF



INDEXABLE INSERT Type

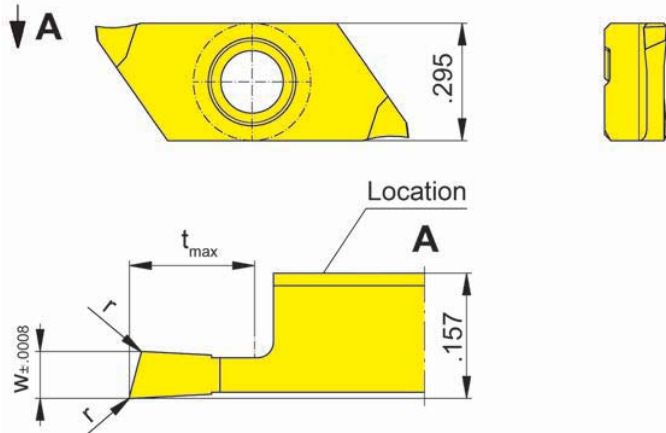
## S274

Depth of groove up to .236"  
Width of groove .031 - .079"

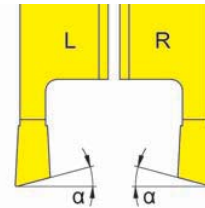


precision ground

for use with Toolholder



Type H274  
HU274



Indexability length  
± .0006"

R = right hand version shown

L = left hand version

Part number	w	r	α	t <sub>max</sub>	Size	TN35	T125	TH35
LS274.1508.03.10R	.031			.118	04			▲
LS274.1510.03.10R	.039			.118				▲
LS274.1515.04.10R	.059	.002	15°	.157				▲
LS274.1520.06.10R	.079			.236				▲
RS274.1508.03.10L	.031			.118	04			▲
RS274.1510.03.10L	.039			.118				▲
RS274.1515.04.10L	.059	.002	15°	.157				▲
RS274.1520.06.10L	.079			.236				▲
						P		•
						M		•
						K		•
						S		•
						N		•
						H		•

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Carbide grades

Dimensions in inch

State R or L version

Note:

t<sub>max</sub> = .236" can be reached only with workpiece Ø ≤ .984"

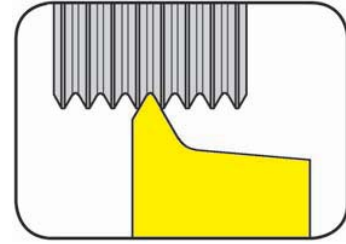
# THREADING (external) Partial profile



INDEXABLE INSERT Type

**S274**

Metric ISO thread



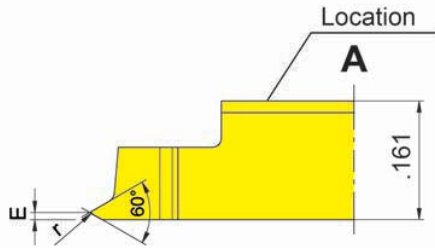
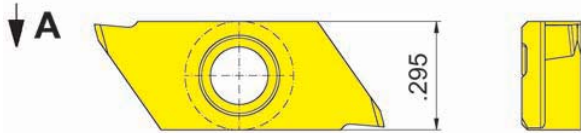
C

Pitch	0.25 - 0.40 mm
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precision ground

for use with Toolholder

Type H274  
HU274



R = right hand version shown

Indexability length  
± .0006"

Part number	P	r	E	Size	Carbide grades					
					K10	MG12	P20	TN32	TI25	TH35
RS274.0102.01	0.25	0.04	0.20	04						▲
RS274.0203.01	0.35	0.05	0.25							▲
RS274.0204.01	0.40	0.06	0.30							▲
					P					•
					M					•
					K					•
					S					•
					N					•
					H					•

- ▲ on stock Δ 4 weeks
- main recommendation
- o alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

Carbide grades

No shims necessary. All HORN thread profiles are manufactured with full ground radial clearance.

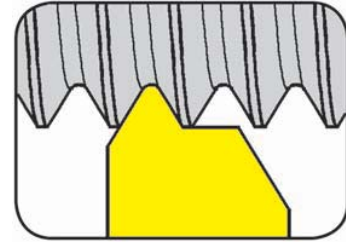
# THREADING (external) Full profile



INDEXABLE INSERT Type

## S274

Metric ISO thread

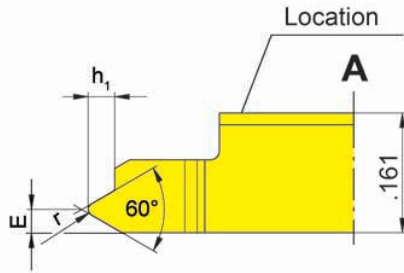
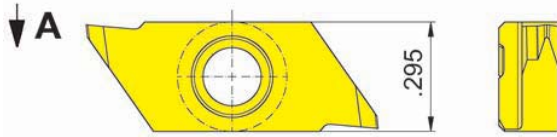


Pitch	0.50 - 1.50 mm
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precision ground

for use with Toolholder

Type H274  
HU274



R = right hand version shown

L = left hand version

Indexability length  
± .0006"

Part number	P	r	E	h <sub>1</sub>	Size	Carbide grades					
						K10	MG12	P20	TN32	TI25	TH35
R/LS274.0305.02	0.50	0.07	0.40	0.31	04						▲/▲
R/LS274.0306.02	0.60	0.09	0.45	0.37							▲/▲
R/LS274.0307.02	0.70	0.10	0.50	0.43							▲/▲
R/LS274.0407.02	0.75	0.11	0.50	0.46							▲/▲
R/LS274.0408.02	0.80	0.12	0.55	0.49							▲/▲
R/LS274.0610.02	1.00	0.12	0.60	0.61							▲/▲
R/LS274.0712.02	1.25	0.15	0.70	0.77							▲/▲
R/LS274.0915.02	1.50	0.20	0.80	0.92							▲/▲
						P	M	K	S	N	H

- ▲ on stock Δ 4 weeks
- main recommendation
- alternative recommendation
- uncoated grades
- coated grades
- brazed/Cermet

Dimensions in mm

State R or L version

No shims necessary. All HORN thread profiles are manufactured with full ground radial clearance.