GOLD•FLEX

QUAD GROOVE LINE

4 Cutting Edges With Chip Former, For Grooving, Parting And Turning

Inserts:

Width:
.020" - .125" (.5mm – 3.18mm)

Nose Radius:
From Sharp to Full Radius

Lead Angles:
Also available to eliminate burrs

T-Max: Up to .252"

D-Max: Up to .512"

Grade: TT9080 General Purpose

Feed Rates: Up to .007ipr

Holders:

Right Hand and Left Hand

Inch: 3/8", 1/2", 3/4", 1.0"

Metric: 10mm, 12mm, 16mm, 20mm, 25mm

Applications:

Parting Off

Grooving

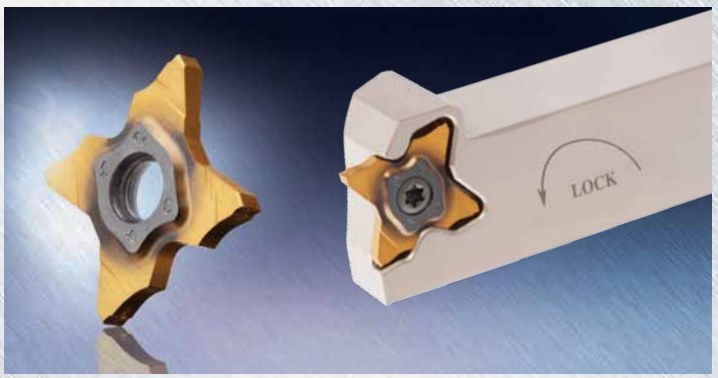
Turn / Grooving

Chamfering

Ingersoll is pleased to introduce GOLD•FLEX, the new product line that features a 4-edged insert for multifunctional operations. Suitable for grooving, parting, lateral turning and chamfer machining, GOLD•FLEX provides excellent performance, repeatability and economy.

GOLD•FLEX inserts contain a unique, high positive chip former that provides excellent chip control in plunging and lateral turning operations, resulting in excellent surface finish as the chips are broken and moved away from the work piece. Low cutting forces also make this suitable for small diameter parts, tubes and other components where free-cutting action is needed.

The clamping system features a side torx screw and 3 contact points for stability and durability under demanding machining conditions. Insert indexing and changing is simple and accurate, and combined with the 4 cutting edge feature makes GOLD•FLEX a very economical and efficient tooling system.



GOLD FLEX
QUAD GROOVE LINE

Features

- 4 cutting edges for better economy.
- Positive J type chipformer for excellent chip control and high quality surface finish. Fig.1
- 3 contact points away from the cutting edges. Fig.2
  - Accurate positioning of insert when indexing.
  - Even if edges are broken, the remaining edge can be used. Fig.3
- Pocket protects unused edges from chips during the machining process. Fig.4

Fig.1

Fig.2

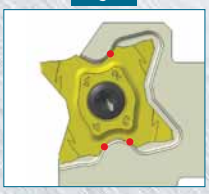
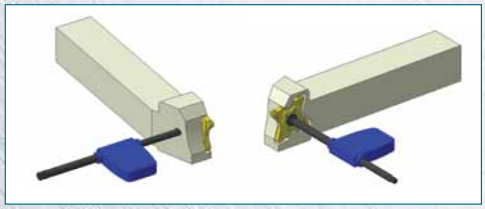


Fig.3

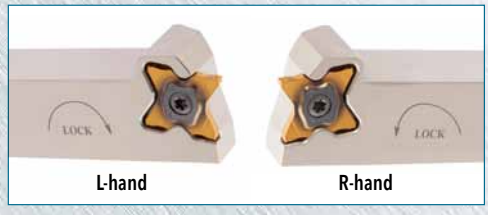
Fig.4

- Unique torx key & screw for insert clamping
  - Insert indexing from both sides of the holder
  - A major advantage for swiss type lathes



- Side lock torx screws
  - Ensures rigid clamping in holder

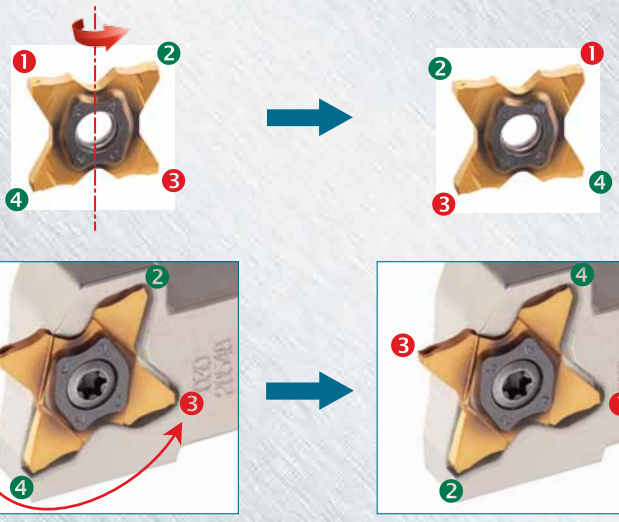
- 2 different setting screws are applied.
  - L-hand holder : R-hand screw
  - R-hand holder : L-hand screw

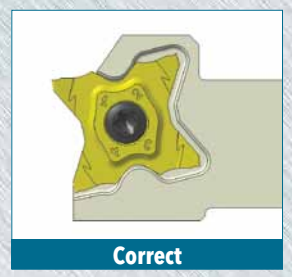


L-hand R-hand

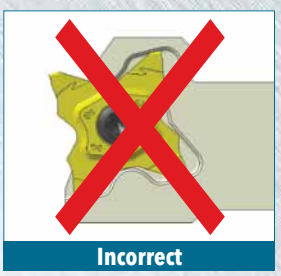
- Gold Rush grade TT9080 features the latest multi-nano-layer coating technology for improved surface quality and tool life

Guideline for insert positioning



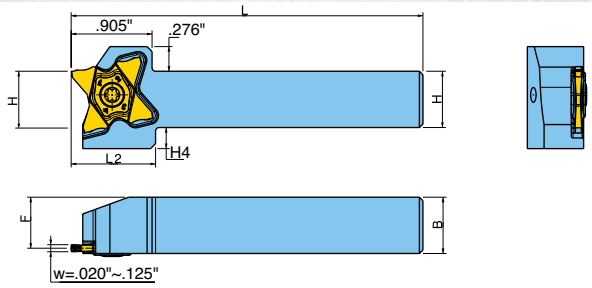


Correct



Incorrect

TQHR/L INTEGRAL SHANK TOOLHOLDERS



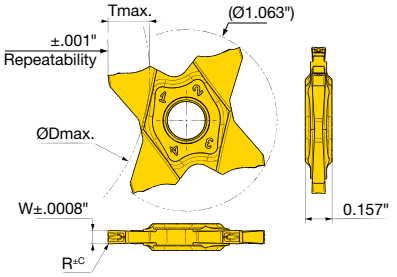
Right hand shown

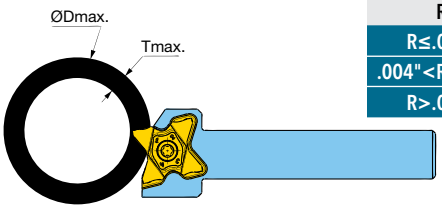
INCH SHANKS ITEM DESCRIPTION	Dimensions (inch) H	B	F	L	L2	H4	Screw	Torx Key	Insert
TQHL9.5-27	.375	.375	.315	5.0	.945	.374	SM50-125-60	T-2010/5	TQJ27...
TQHL12.7-27	.500	.500	.440	5.0	.945	.287	SM50-125-60	T-2010/5	TQJ27...
TQHL19-27	.750	.750	.690	5.0	.945	.236	SM50-125-60	T-2010/5	TQJ27...
TQHL25.4-27	1.000	1.000	.940	5.5	-	-	SM50-125-60	T-2010/5	TQJ27...
TQHR9.5-27	.375	.375	.315	5.0	.945	.374	SM50-125L60	T-2010/5	TQJ27...
TQHR12.7-27	.500	.500	.440	5.0	.945	.287	SM50-125L60	T-2010/5	TQJ27...
TQHR19-27	.750	.750	.690	5.0	.945	.236	SM50-125L60	T-2010/5	TQJ27...
TQHR25.4-27	1.000	1.000	.940	5.5	-	-	SM50-125L60	T-2010/5	TQJ27...

METRIC SHANKS ITEM DESCRIPTION	Dimensions (mm) H	B	F	L	L2	H4	Screw	Torx Key	Insert
TQHL10-27	10	10	8.5	120	24	9	SM50-125-60	T-2010/5	TQJ27...
TQHL12-27	12	12	10.5	120	24	8	SM50-125-60	T-2010/5	TQJ27...
TQHL16-27	16	16	14.5	120	24	6	SM50-125-60	T-2010/5	TQJ27...
TQHL20-27	20	20	18.5	120	24	2	SM50-125-60	T-2010/5	TQJ27...
TQHL25-27	25	25	23.5	135	-	-	SM50-125-60	T-2010/5	TQJ27...
TQHR10-27	10	10	8.5	120	24	9	SM50-125L60	T-2010/5	TQJ27...
TQHR12-27	12	12	10.5	120	24	8	SM50-125L60	T-2010/5	TQJ27...
TQHR16-27	16	16	14.5	120	24	6	SM50-125L60	T-2010/5	TQJ27...
TQHR20-27	20	20	18.5	120	24	2	SM50-125L60	T-2010/5	TQJ27...
TQHR25-27	25	25	23.5	135	-	-	SM50-125L60	T-2010/5	TQJ27...

TQHL - Left hand holders TQHR - Right hand holders

TQJ27 FOR PRECISION GROOVING, PARTING AND RECESSING



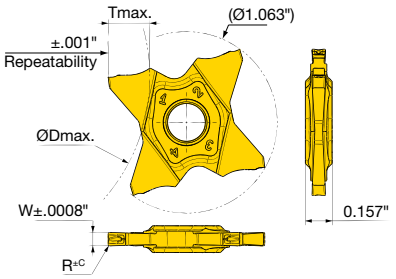


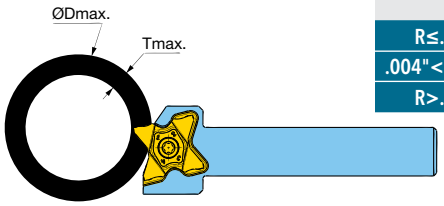
Tolerance	
R	C
R≤.004"	.0008"
.004"<R≤.016"	.0012"
R>.016"	.0020"

ITEM DESCRIPTION	W (+/-.0008")	R (inch)	Tmax (inch)	Dmax (inch) T = Groove Depth								
				T<= .118	T<= .138	T<= .157	T<= .177	T<= .197	T<= .217	T<= .236	T<= .244	T<= .252
TQJ27-0.50-0.00	.020	-	.039	-	-	-	-	-	-	-	-	-
TQJ27-0.50-0.04	.020	.002	.098	-	-	-	-	-	-	-	-	-
TQJ27-0.75-0.10	.030	.004	.098	-	-	-	-	-	-	-	-	-
TQJ27-0.80-0.00	.031	-	.063	-	-	-	-	-	-	-	-	-
TQJ27-1.00-0.06	.039	.002	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-1.00-0.10	.039	.004	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-1.04-0.00	.041	-	.079	-	-	-	-	-	-	-	-	-
TQJ27-1.20-0.00	.047	-	.079	-	-	-	-	-	-	-	-	-
TQJ27-1.25-0.10	.049	.004	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-1.25-0.20	.049	.008	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-1.40-0.00	.055	-	.079	-	-	-	-	-	-	-	-	-
TQJ27-1.47-0.00	.058	-	.098	-	-	-	-	-	-	-	-	-
TQJ27-1.50-0.10	.059	.004	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-1.50-0.20	.059	.008	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-1.57-0.15	.062	.006	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.57-0.79	.062	.031	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.70-0.10	.067	.004	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.75-0.10	.069	.004	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.75-0.20	.069	.008	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.78-0.18	.070	.007	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-1.85-0.20	.073	.008	.118	N.L.	-	-	-	-	-	-	-	-

1. N.L. = No Limit
2. Recessing is possible only with 2.39mm (.094") and wider inserts

TQJ27 FOR PRECISION GROOVING, PARTING AND RECESSING



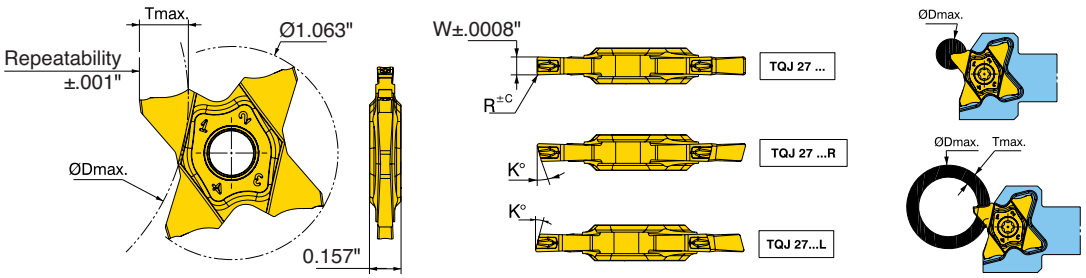


Tolerance	
R	C
R≤.004"	.0008"
.004"<R≤.016"	.0012"
R>.016"	.0020"

ITEM DESCRIPTION	W (+/-.0008")	R (inch)	Tmax (inch)	Dmax (inch) T = Groove Depth								
				T<= .118	T<= .138	T<= .157	T<= .177	T<= .197	T<= .217	T<= .236	T<= .244	T<= .252
TQJ27-1.96-0.15	.077	.006	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-2.00-0.10	.079	.004	.252	N.L.	23.62	11.02	7.09	5.12	4.13	2.36	1.97	1.18
TQJ27-2.00-0.20	.079	.008	.252	N.L.	23.62	11.02	7.09	5.12	4.13	2.36	1.97	1.18
TQJ27-2.00-1.00	.079	.039	.118	N.L.	-	-	-	-	-	-	-	-
TQJ27-2.22-0.15	.087	.006	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-2.30-0.20	.091	.008	.138	N.L.	23.62	-	-	-	-	-	-	-
TQJ27-2.39-0.15	.094	.006	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-2.39-1.20	.094	.047	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-2.47-0.20	.097	.008	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-2.50-0.10	.098	.004	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-2.50-0.30	.098	.012	.197	N.L.	23.62	11.02	7.09	5.12	-	-	-	-
TQJ27-2.70-0.10	.106	.004	.244	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	-
TQJ27-2.87-0.20	.113	.008	.244	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	-
TQJ27-3.00-0.00	.118	-	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.17
TQJ27-3.00-0.20	.118	.008	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.17
TQJ27-3.00-0.30	.118	.012	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.17
TQJ27-3.00-0.40	.118	.016	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.17
TQJ27-3.00-1.50	.118	.059	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.17
TQJ27-3.15-0.15	.124	.006	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.68
TQJ27-3.18-0.20	.125	.008	.252	N.L.	23.62	11.02	7.09	5.31	4.13	3.35	3.07	2.68

1. N.L. = No Limit
2. Recessing is possible only with 2.39mm (.094") and wider inserts

TQJ27 FOR PARTING AND GROOVING



ITEM DESCRIPTION	W (+/-.0008")	R (inch)	K (deg)	Parting to Center Dmax (inch)	Parting Hollow Bars Tmax (inch)	Parting Hollow Bars Dmax (inch)
TQJ27-0.50-0.04	.020	.002	0	.197	.098	No Limit
TQJ27-1.00-0.06	.039	.002	0	.276	.138	23.62
TQJ27-1.50-0.10	.059	.004	0	.472	.197	5.12
TQJ27-2.00-0.20	.079	.008	0	.512	.252	1.18
TQJ27-1.00-15R/L	.039	.002	15	.276	.138	23.62
TQJ27-1.50-6R/L	.059	.002	6	.472	.197	5.12
TQJ27-1.50-15R/L	.059	.002	15	.472	.197	5.12
TQJ27-2.00-6R/L	.079	.004	6	.512	.252	1.18
TQJ27-2.00-15R/L	.079	.004	15	.512	.252	1.18

MACHINING CONDITION

ISO	Material		Condition	Tensile Strength Rm(N/mm2)	Hardness HB	Coated TT9080
P	Non-alloy steel, cast steel, free cutting steel	<0.25 %C	Annealed	420	125	460~820
		>=0.25 %C	Annealed	650	190	430~720
		<0.55 %C	Quenched and tempered	850	250	300~660
		>=0.55%C	Annealed	750	220	330~720
			Quenched and tempered	1000	300	230~560
	Low alloy steel and cast steel (less than 5% alloying elements)		Annealed	600	200	300~390
			Quenched and tempered	930	275	260~560
				1000	300	230~430
				1200	350	160~390
	High alloy steel, cast steel and tool steel.		Annealed	680	200	200~460
			Quenched and tempered	1100	325	160~230
M	Stainless steel and cast steel		Ferritic/martensitic	680	200	230~560
			Martensitic	820	240	200~490
			Austenitic	600	180	300~590
K	Malleable cast iron		Ferritic/pearlitic		180	390~820
			Pearlitic		260	330~690
	Gray cast iron (GG)		Ferritic		160	330~750
			Pearlitic		250	300~590
	Cast iron nodular (GGG)		Ferritic		130	620~980
			Pearlitic		230	390~720
S	Fe based		Annealed		200	130~230
			Cured		280	100~160
	High temp. alloys	Ni or Co based	Annealed		250	100~130
			Cured		350	50~80
			Cast		320	50~100
	Titanium, Ti alloys	Alpha+beta alloys		Rm 400		300~620
			Cured	Rm 1050		100~200

FEED RATE

Neutral: .002" ~ .007" ipr
Handed: Reduce 20% feed rate

Availability

In stock

Price

Available in the GAL system