



Number of Cutting Edges:

4

Insert Widths:

1.0mm (.039")

1.5mm (.059")

2.0mm (.079")

2.5mm (.098")

3.0mm (.118")

Max. Cutting Depth:

.098"

Grade:

TT9080, PVD coated for
general purpose use

Boring Bars:

.625", .750", 1.000"

Metric available from
overseas stock

Maximum useable length -

1.57" (40mm)

All are coolant through

Small Size 4-Edge Insert And Holders For Internal Grooving

QuadFlex is a new, highly reliable internal grooving system that utilizes a screw-held, 4-edged insert mounted on a steel bar using 3-point contact. This unique clamping design provides very accurate repeatability when indexing the insert, and very stable performance even under high speed and high feed cutting conditions.

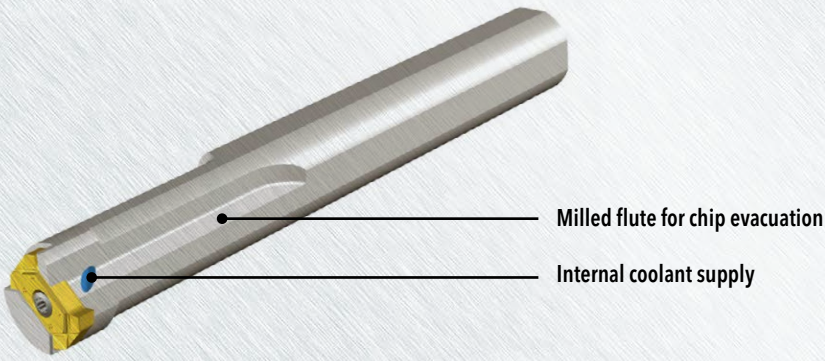
Features & Benefits:

- Efficient 4-cutting edge insert for internal grooving
- 3-point contact design with strong screw clamping
- Stable machining and long tool life
- Positive chip breaker controls chips and generates a very good surface finish
- Minimum bore diameters as small as .650" (16.5mm)
- Same insert can be mounted to both left and right-hand holders, reducing inventory requirements
- Internal coolant supply

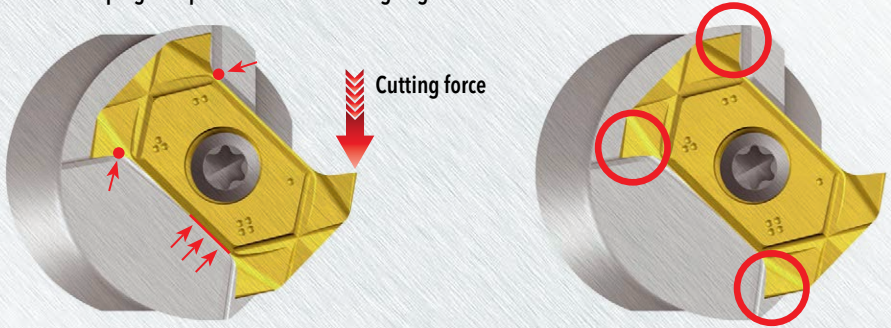




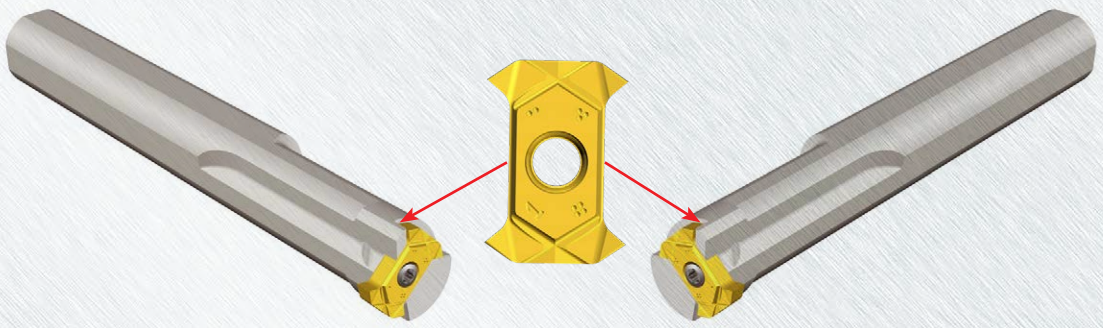
QUAD FLEX™ HOLDER FEATURES



- 3-point contact and screw clamping that protects unused cutting edges



- Neutral insert type can be mounted to both left and right-handed holders

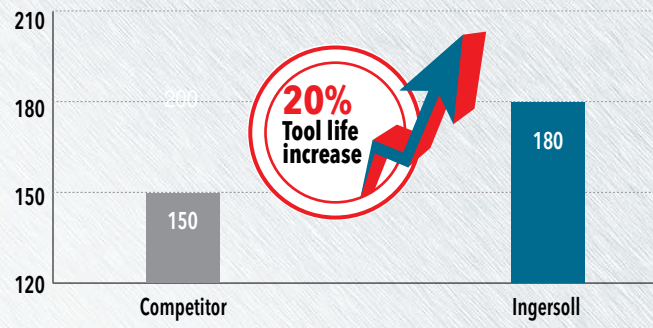




QUAD FLEX™ CASE STUDY 1

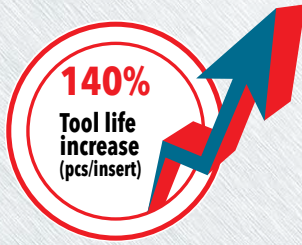
		Competitor	Ingersoll
Material		AISI 1045	
Operation		Internal Grooving (Ø1.97)	
Insert		Double-ended insert	TQIS 14-3.00-0.20 TT9080
Holder		Ø16 internal grooving holder	TQHIR 16-16.5-14
Cutting speed	V (sfm)	395	395
Feed rate	f (ipr)	.002	.002
Depth of cut	ap (inch)	.079	.079
Coolant		Wet	Wet
Tool life (pcs/corner)		150	180

Tool life (pcs/corner)



Competitor: 2corners X 150pcs = 300pcs

TQIS 14: 4corners X 180pcs = 720pcs



QUAD FLEX™ CASE STUDY 2

		Competitor	Ingersoll
Material		AISI 1045	
Operation		Internal Grooving (Ø1.97)	
Insert		Double-ended insert	TQIS 14-3.00-0.20 TT9080
Holder		Ø16 internal grooving holder	TQHIR 16-16.5-14
Cutting speed	V (sfm)	395	395
Feed rate	f (ipr)	.001/.002/.003	.001/.002/.003
Depth of cut	ap (inch)	2	2
Coolant		wet	wet

Machined surface



**Noise & Vibration
Bad surface finish**

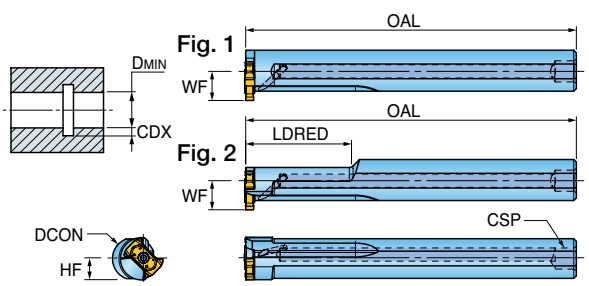
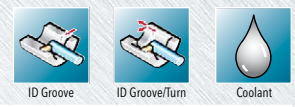


**Less Noise & Vibration
Good surface finish**



QUADFLEX™ SERIES TQHIR/L

INTERNAL GROOVING HOLDERS WITH COOLANT HOLE



Right hand shown

INCH

Part Number	Dimension (inch)							Insert
	DCON Shank Diameter	DMIN Min. Bore Diameter	WF Functional Width	LDRED Reduced Body Dia. Length	OAL Overall Length	HF Functional Height	Fig.	
TQHIR/L 15.9-16.5-14	.625	.65	.433	1.57	5.0	.295	2	TQIS 14
TQHIR/L 19-16.5-14	.750	.65	.512	1.57	5.0	.354	2	
NEW TQHIR/L 25.4-29-14	1.000	1.41	.618	-	8.0	.453	1	

CDX: Refer to insert dimension

METRIC

Part Number	Dimension (inch)							Insert
	DCON Shank Diameter	DMIN Min. Bore Diameter	WF Functional Width	LDRED Reduced Body Dia. Length	OAL Overall Length	HF Functional Height	Fig.	
NEW TQHIR/L 16-16.5-14	16	16.5	11.0	40	125	7.5	2	TQIS 14
NEW TQHIR/L 20-16.5-14	20	16.5	13.0	40	125	9.0	2	
NEW TQHIR/L 16-20-14	16	20.0	11.0	-	125	7.5	1	
NEW TQHIR/L 20-24-14	20	24.0	13.0	-	125	9.0	1	
NEW TQHIR/L 25-29-14	25	29.0	15.5	-	200	11.5	1	
NEW TQHIR/L 32-36-14	32	36.0	19.0	-	200	15.0	1	

CDX: Refer to insert dimension

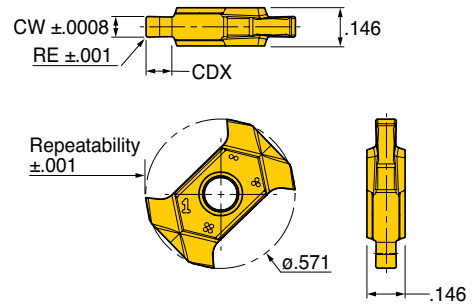
Spare Parts

Part Number	Screw	Wrench	Seal	
TQHIR/L 15.9	TS 25075I/HG	T8	PL 062	
TQHIR/L 19	TS 25075I/HG	T8	PL 075	
TQHIR/L 25.4	TS 25075I/HG	T8	PL 100	
TQHIR/L 16	TS 25075I/HG	T8	PL 16 (M6)	
TQHIR/L 20	TS 25075I/HG	T8	PL 20 (M6)	
TQHIR/L 25	TS 25075I/HG	T8	PL 25 (R 1/8")	
TQHIR/L 32	TS 25075I/HG	T8	PL 32 (R 1/8")	



QUAD FLEX™ SERIES TQIS 14

4 CUTTING EDGE INSERTS FOR INTERNAL SHALLOW GROOVING



Part Number	Feed (ipr)	Dimension (inch)			Grade
		CW Cutting Width	RE Corner Radius	CDX Cutting Depth Max.	TT9080
NEW TQIS 14-1.00-0.05	.0008-.0023	.059	.002	.098	•
TQIS 14-1.50-0.10	.0008-.0025	.059	.004	.098	•
NEW TQIS 14-1.50-0.20	.0010-.0030	.079	.008	.098	•
TQIS 14-2.00-0.10	.0010-.0030	.079	.004	.098	•
TQIS 14-2.00-0.20	.0010-.0030	.079	.008	.098	•
TQIS 14-2.50-0.20	.0010-.0035	.098	.008	.098	•
TQIS 14-3.00-0.20	.0010-.0040	.118	.008	.098	•

•: Standard items