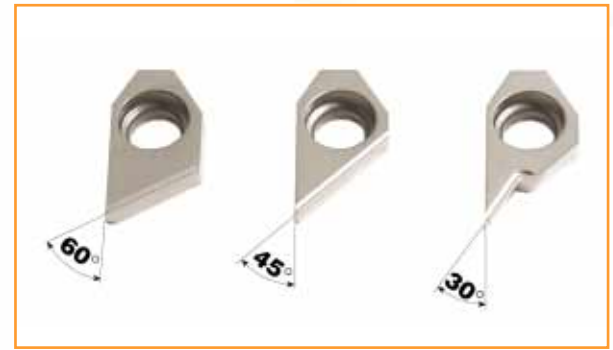


QWIK•TWIST™

NEW MODULAR ADJUSTABLE DEPTH DRILLING AND CHAMFERING COMBINATION TOOLS

Ingersoll introduces a new family of adjustable depth drilling and chamfering combination tools using standard Qwik•Twist replaceable drill points and three different chamfering inserts for 30, 45 and 60 degree top hole chamfer angles.



The new Slip Fit Qwik•Twist Drills with a range of .295" to .823" diameter with straight shanks are easily adjustable for variable drilling depths. These drills can also be used as stand alone items, replacing conventional HSS or solid carbide drills.

The new Chamfer Shanks use two opposing chamfer inserts providing a smooth balanced cut in both blind hole and through hole drilling applications.

The unique design of two chamfering inserts and the proven Qwik•Twist drill performance enables combined drilling and chamfering in one operation. Constant machining parameters can be maintained during both operations, resulting in high quality hole drilling and chamfering without sacrificing productivity.



ADVANTAGES/APPLICATIONS - CHAMFER SHANKS

- The Chamfer Shank combination tool provides drilling and three chamfering options (30°, 45° and 60°).
- The Slip Fit Drill projection can be adjusted without the need to remove the Chamfer Shank from the machine (by using a flat screwdriver, after removing the drill).
- The Chamfer Shank bore is produced to an H5 tolerance. Combined with the accurate Slip Fit Drill shank, runout is minimized.
- The standard 'GOMT....' inserts are produced in a sub micron carbide substrate then TiAlN coated, an excellent heat and wear resistant combination.
- The Chamfer Shank is designed for through-the-tool coolant, for superior performance.
- The rear adjusting screw is designed with a self-locking thread to ensure consistent axial support during drilling.
- The Chamfer Shank can be operated at the same cutting parameters as the Slip Fit Drill.
- The Chamfer Shank system produces high quality chamfers, with 2 effective inserts.
- The chamfering inserts are designed with a chipformer geometry to provide optimal chip formation on all types of materials.
- The Chamfer Shank should be offered to all industries, as a general Hole Making solution.
- The Chamfer Shank presents an alternative solution to any tap drill application which is not covered by our standard Qwik•Twist Tap Drill/Chamfer Combo line (drill depth or chamfer angle).

SLIP FIT DRILLS

- Up to 3.5 drilling depth to diameter ratio applications.
- Can be used on both machining centers and lathes.
- Can be used on the same material application range as other Qwik•Twist Drills
- Can be used for blind and through-hole applications.
- More Stable in rough application and interrupted cuts due to moderate helical flute design.
- Can be used to replace competitors' solid carbide or indexable drills that use a straight body.



COMPETITIVE OPPORTUNITY:

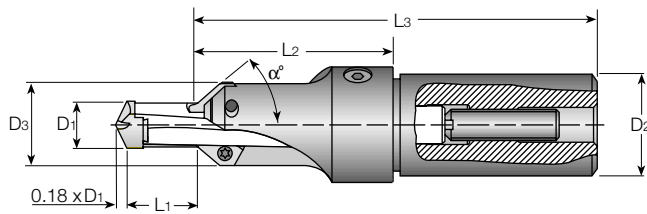
- Slip Fit Drills are compatible with the Kennametal “BF” combination drilling system.
- Using the Slip Fit Drills in the Kennametal “BF” combination drilling system results in upgraded performance with convenient “on machine” indexing of the Qwik•Twist drill points – compared to “B323” the Kennametal solid carbide drills.
- Ingersoll’s TiAlN coated grade IN2005 drill points and provisions for through-th-tool coolant with all Slip Fit Drills results in increased tool life, improved surface finish, and better overall performance.
- Each of the Slip Fit Drills can carry multiple size Qwik•Twist replaceable points. This is a huge economical advantage over the Kennametal system.
- No tool resetting or part piece “touch-off” with the Qwik•Twist points.





QWIKOTWIST™

CHAMFER SHANKS/SLIP FIT DRILLS



D ₁ Nominal Dia.				Slip Fit Drills Part No.	L ₁ Adjustment		Chamfer Shank Part Number	*D ₂ Shank Dia.	D ₃ Insert Dia.	L ₂ Ext.	L ₃ OAL	Chamfer Insert Series
mm	Inch				Min ¹	Max ²						
7.5	7.9	.295	.311	YD0750026SDR00	.43	.81	MHK018047DBR01	1.000	.74	1.87	4.07	GOMT06...
8	8.4	.315	.331	YD0800028SDR00	.49	.85						
8.5	8.9	.335	.350	YD0850029SER00	.53	.98	MHK019047DBR01	1.000	.78	1.87	4.07	GOMT06...
9	9.4	.354	.370	YD0900031SER00	.55	1.00						
9.5	9.9	.374	.390	YD0950033SFR00	.61	1.08	MHK024067DBR01	1.000	.98	2.65	4.85	GOMT08...
10	10.4	.394	.409	YD1000033SFR00	.49	1.04						
10.5	10.9	.413	.429	YD1050034SGR00	.49	1.08	MHK025067DBR01	1.000	1.02	2.65	4.85	GOMT08...
11	11.4	.433	.449	YD1100036SGR00	.63	1.14						
11.5	11.9	.453	.469	YD1150038SHR00	.53	1.22	MHK026067DBR01	1.000	1.06	2.65	4.85	GOMT08...
12	12.4	.472	.488	YD1200042SHR00	.67	1.30						
12.5	12.9	.492	.508	YD1250042SJR00	.67	1.38	MHK027067DBR01	1.000	1.10	2.65	4.85	GOMT08...
13	13.4	.512	.528	YD1300042SJR00	.75	1.42						
13.5	13.9	.531	.547	YD1350044SKR00	.67	1.46	MHK028067DCR01	1.250	1.12	2.65	5.01	GOMT08...
14	14.4	.551	.567	YD1400048SKR00	.75	1.54						
14.5	14.9	.571	.587	YD1450050SLR00	.69	1.56	MHK029067DCR01	1.250	1.16	2.65	5.01	GOMT08...
15	15.9	.591	.626	YD1500052SLR00	.89	1.61						
16	16.9	.630	.665	YD1600052SMR00	.93	1.83	MHK030067DCRO1	1.250	1.20	2.65	5.01	GOMT08...
17	17.9	.669	.705	YD1700055SNR00	1.00	1.95						
18	18.9	.709	.744	YD1800060SPR00	1.10	2.13	MHK032067DCR01	1.250	1.28	2.65	5.01	GOMT08...
19	19.9	.748	.783	YD1900062SQR00	1.30	2.36						
20	20.9	.787	.823	YD2000066SRR00	1.42	2.50	MHK034075DCR01	1.250	1.35	2.95	5.31	GOMT08...

¹ Minimum Adjustment is with the smallest Drill Point Diameter in the range

² Maximum Adjustment is with the largest Drill Point Diameter in the range

* Straight Shank with whistle notch flat

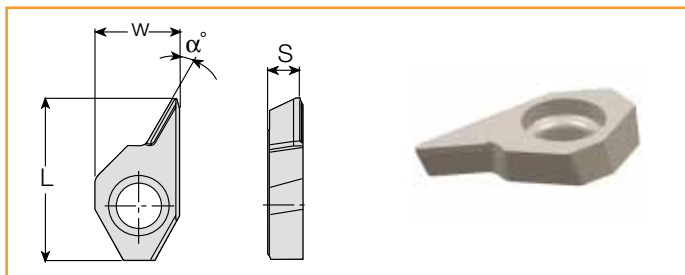
SPARE PARTS:

Drill Range	Side Lock Screw	Rear Adjusting Screw	Lock Screw Key	Insert Screw	Insert Screw Torx Blade	Insert Screw T-Handle
Chamfer Shank .295-.370	SA060-02	SC060-02	WS-0060	SM25-064-00	DS-T08W	x
Chamfer Shank .374-.823	SA100-02	SC100-02	DS-H05HB	SM40-093-20	DS-T15HB	DSHH06T



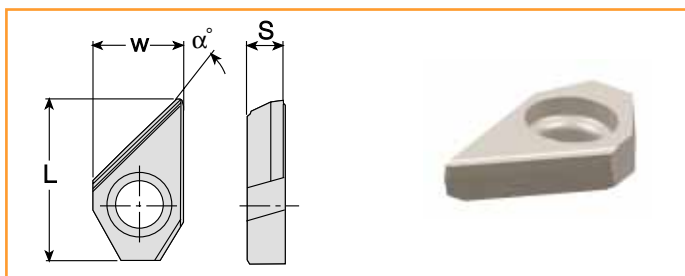
CHAMFER SHANK

Chamfering Inserts for Chamfer Shanks



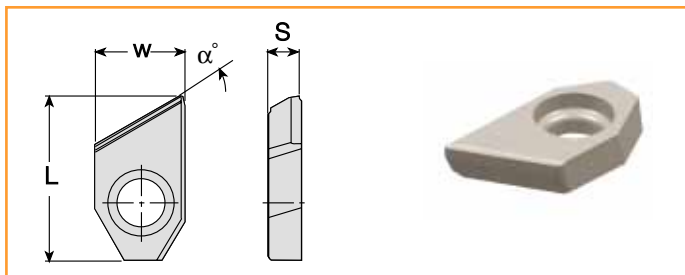
GOMT 30°

Part Number	L	W	S	α°	Chamfer Size ₁	Grade
GOMT060230R	.48	.25	.11	30	.06	IN2005
GOMT080330R	.63	.35	.13	30	.06	IN2005



GOMT 45°

Part Number	L	W	S	α°	Chamfer Size ₁	Grade
GOMT060245R	.48	.25	.11	45	.18	IN2005
GOMT080345R	.63	.35	.13	45	.24	IN2005



GOMT 60°

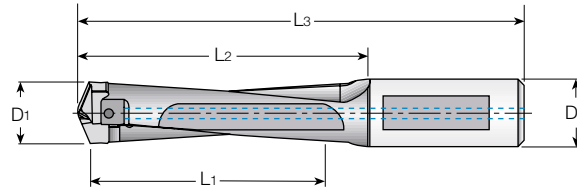
Part Number	L	W	S	α°	Chamfer Size ₁	Grade
GOMT060260R	.48	.25	.11	60	.10	IN2005
GOMT080360R	.63	.35	.13	60	.14	IN2005

1: Maximum chamfer using the largest Qwik•Twist point allowed.



QWIKOTWIST™ SLIP FIT DRILLS

3.5:1 L/D Drilling ratio



*D ₁ Nominal Dia.				Part Number	L ₁ DOC	L ₂ Ext.	L ₃ Overall	D ₂ Shank Dia.		Pocket Size	Clamping Key
Inch	mm							Inch	mm		
.295	.311	7.5	7.9	YD0750026SDR00	1.02	1.33	3.02	.315	8	8	KDCM-8
.315	.331	8.0	8.4	YD0800028SDR00	1.10	1.41	3.11	.315	8	8	KDCM-8
.335	.350	8.5	8.9	YD0850029SER00	1.14	1.45	3.15	.354	9	8	KDCM-8
.354	.370	9.0	9.4	YD0900031SER00	1.22	1.54	3.23	.354	9	9	KDCM-9
.374	.390	9.5	9.9	YD0950033SFR00	1.30	1.59	3.28	.394	10	9	KDCM-9
.394	.409	10.0	10.4	YD1000033SFR00	1.30	1.69	3.39	.394	10	10	KDCM-10
.413	.429	10.5	10.9	YD1050034SGR00	1.34	1.76	3.46	.433	11	10	KDCM-10
.433	.449	11.0	11.4	YD1100036SGR00	1.42	1.85	3.54	.433	11	11	KDCM-11
.453	.469	11.5	11.9	YD1150038SHR00	1.50	1.91	3.61	.472	12	11	KDCM-11
.472	.488	12.0	12.4	YD1200042SHR00	1.65	2.00	3.69	.472	12	12	KDCM-12
.492	.508	12.5	12.9	YD1250042SJR00	1.65	2.07	3.76	.512	13	12	KDCM-12
.512	.528	13.0	13.4	YD1300042SJR00	1.65	2.15	3.92	.512	13	13	KDCM-13
.531	.547	13.5	13.9	YD1350044SKR00	1.73	2.21	3.98	.551	14	13	KDCM-14
.551	.567	14.0	14.4	YD1400048SKR00	1.89	2.33	4.10	.551	14	14	KDCM-14
.571	.587	14.5	14.9	YD1450050SLR00	1.97	2.40	4.17	.591	15	14	KDCM-15
.591	.626	15.0	15.9	YD1500052SLR00	2.05	2.49	4.26	.591	15	15	KDCM-15
.630	.665	16.0	16.9	YD1600052SMR00	2.05	2.64	4.53	.630	16	16	KDCM-16
.669	.705	17.0	17.9	YD1700055SNR00	2.17	2.90	4.79	.669	17	17	KDCM-17
.709	.744	18.0	18.9	YD1800060SPR00	2.36	3.08	4.97	.709	18	18	KDCM-18
.748	.783	19.0	19.9	YD1900062SQR00	2.44	3.22	5.35	.748	19	19	KDCM-19
.787	.823	20.0	20.9	YD2000066SRR00	2.60	3.33	5.46	.787	20	20	KDCM-20

*Do not mount a smaller drill point than the D1 range for each drill body.



OPERATIONAL GUIDELINES:

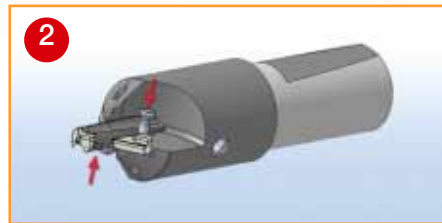
- It is recommended to use standard Qwik•Twist Holemaking Catalog parameters for both the chamfering and drilling operations.
- For optimal chip formation and to prolong chamfering insert edge life, it is recommended to use external coolant directed to the chamfering inserts, in addition to the Chamfer Shank's internal coolant.
- If vibration or chatter occurs during the chamfering operation in a through hole application, it is recommended to reduce the RPM.
- The chamfering inserts should not be used for counterboring.
- When machining the maximum chamfer size, the recommended cutting parameters must be reduced by 20%.
- The performance characteristics of the Slip Fit Drills are the same as the standard Qwik•Twist drill line regarding hole accuracy, straightness, surface finish and material application range.
- Before clamping a new drilling head, apply oil to the Qwik•Twist pocket. This will reduce pocket wear and increase the number of point indexes.



QWIK•TWIST CHAMFER SHANK BODY CONSTRUCTION

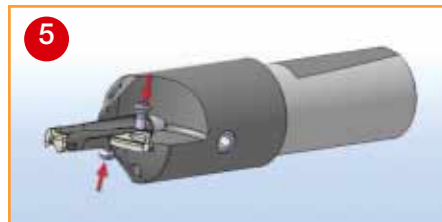
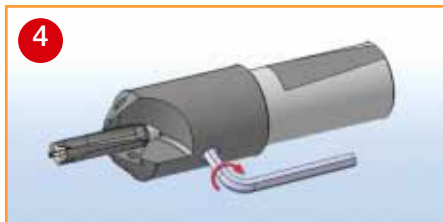
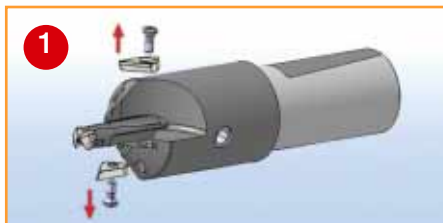


QWIK•TWIST CHAMFER SHANK/SLIP FIT DRILL SET-UP/ADJUSTMENT



Initial Set-up

1. Unscrew the Chamfer Shank side lock screw, the chamfer insert screws, and remove inserts. Insert the proper Slip Fit Drill into the Chamfer Shank and position it against the rear adjusting screw. Slightly tighten the side lock screw for initial tension with the Slip Fit Drill.
2. In order to achieve symmetrical positioning of the chamfering inserts and to avoid edge damage, tighten the insert screws gradually and alternately from side to side insuring the inserts are tightly clamped against the side walls of the peripheral guiding surfaces. Tighten the side lock screw.
3. Install the proper size Qwik Twist Drill point on the Slip Fit Drill.



Drill Depth Adjustment

1. Remove Chamfer inserts.
2. Loosen the side lock screw and remove the Slip Fit Drill.
3. Adjust the rear adjusting screw with a flat point screw driver.
4. Insert Slip Fit Drill and slightly tighten the side lock screw.
5. Re-install Chamfer Inserts as per Initial Set-up Instructions #2. Tighten side lock screw.