

TUNGALOY STYLE INDEXABLE DRILLS

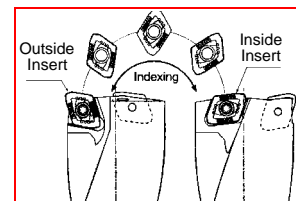
INDEXABLE DRILLS

Coolant Through

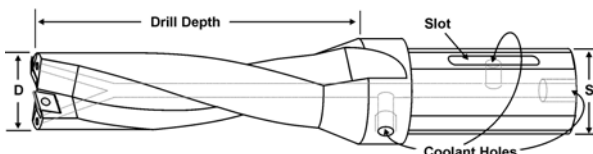
QUADEX™

FEATURES:

- Exceptional reliability
- Uses high positive XPMT inserts- Produces a great finish!
- Manufactured from H-13 steel for greater tool strength
- Economical-4 cutting edges per insert!
- 3 different coolant ports
- Reduce inventory- two insert grades cut everything!
- Made in the USA!



Shank Dia: 0.750" to 1.500"
 Drill Dia: 0.500" to 2.000"
 Drill Depths: 1" to 6"



D	S	Drill Depth 1.00"		Drill Depth 2.00"		Drill Depth 3.00"		Drill Depth 4.00" and Over		
Drill Dia.	Shank Size	Part Number	Drill Price	Part Number	Drill Price	Part Number	Drill Price	Flute Len.	Part Number	Drill Price
0.500 - 0.562 Drill Diameter- 0.169 Insert I.C.										
0.500	0.750	TD0500-1075-169	\$201.25	TD0500-2075-169	\$230.00					
0.531	0.750	TD0531-1075-169		TD0531-2075-169						
0.562	0.750	TD0562-1075-169		TD0562-2075-169						
0.625 Drill Diameter- 0.203 Insert I.C.										
0.625	0.75	TD0625-1075-203	\$201.25	TD0625-2075-203	\$230.00					
0.687 - 0.812 Drill Diameter- 0.236 Insert I.C.										
0.687	1.00	TD0687-1010-236	\$201.25	TD0687-2010-236	\$230.00	TD0687-3010-236	\$253.00			
0.750	1.00	TD0750-1010-236		TD0750-2010-236		TD0750-3010-236				
0.812	1.00	TD0812-1010-236		TD0812-2010-236		TD0812-3010-236				
0.875 - 1.000 Drill Diameter- 0.276 Insert I.C.										
0.875	1.00	TD0875-1010-276	\$201.25	TD0875-2010-276	\$230.00	TD0875-3010-276	\$253.00	-	-	-
0.875	1.25	TD0875-1012-276		-	-	-	-	-	-	-
0.937	1.00	TD0937-1010-276		TD0937-2010-276	\$230.00	TD0937-3010-276	\$253.00	-	-	-
1.000	1.00	TD1000-1010-276	\$207.00	TD1000-2010-276	\$235.75	TD1000-3010-276	\$264.50	4"	TD1000-4010-276	\$293.25
1.031 - 1.250 Drill Diameter- 0.335 Insert I.C.										
1.031	1.25	TD1031-1012-335	\$207.00	TD1031-2012-335	\$235.75	TD1031-3012-335	\$264.50	4"	TD1031-4012-335	\$293.25
1.062	1.25	TD1062-1012-335		TD1062-2012-335		TD1062-3012-335		4"	TD1062-4012-335	
1.125	1.25	TD1125-1012-335		TD1125-2012-335		TD1125-3012-335		4"	TD1125-4012-335	
1.187	1.25	TD1187-1012-335		TD1187-2012-335		TD1187-3012-335		4"	TD1187-4012-335	
1.250	1.25	TD1250-1012-335		\$212.75		TD1250-2012-335		\$241.50	TD1250-3012-335	
1.312 - 1.625 Drill Diameter- 0.441 Insert I.C.										
1.312	1.25	TD1312-1012-441	\$212.75	TD1312-2012-441	\$241.50	TD1312-3012-441	\$276.00	4"	TD1312-4012-441	\$299.00
1.375	1.25	TD1375-1012-441		TD1375-2012-441		TD1375-3012-441		4"	TD1375-4012-441	
1.437	1.25	TD1437-1012-441		TD1437-2012-441		TD1437-3012-441		4"	TD1437-4012-441	
1.500	1.25	TD1500-1012-441	\$224.25	TD1500-2012-441	\$247.25	TD1500-3012-441	\$281.75	4"	TD1500-4012-441	\$304.75
1.562	1.25	TD1562-1012-441		TD1562-2012-441		TD1562-3012-441		4"	TD1562-4012-441	
1.625	1.25	TD1625-1012-441		TD1625-2012-441		TD1625-3012-441		4"	TD1625-4012-441	
1.687 - 2.000 Drill Diameter- 0.591 Insert I.C.										
1.687	1.25	TD1687-1012-591	\$224.25	TD1687-2012-591	\$247.25	TD1687-3012-591	\$281.75	4"	TD1687-4012-591	\$304.75
1.750	1.25	TD1750-1012-591	\$230.00	TD1750-2012-591	\$253.00	TD1750-3012-591	\$287.50	4"	TD1750-4012-591	\$310.50
1.750	1.50	-	-	-	-	-	-	4"	TD1750-4015-591	\$310.50
1.750	1.25	-	-	-	-	-	-	5"	TD1750-5012-591	\$333.50
1.750	1.50	-	-	-	-	-	-	5"	TD1750-5015-591	\$333.50
1.812	1.25	TD1812-1012-591	\$230.00	TD1812-2012-591	\$253.00	TD1812-3012-591	\$287.50	4"	TD1812-4012-591	\$310.50
1.875	1.25	TD1875-1012-591		TD1875-2012-591		TD1875-3012-591		4"	TD1875-4012-591	
1.937	1.25	TD1937-1012-591		TD1937-2012-591		TD1937-3012-591		4"	TD1937-4012-591	
2.000	1.25	TD2000-1012-591	\$293.25	TD2000-2012-591	\$333.50	TD2000-3012-591	\$368.00	4"	TD2000-4012-591	\$402.50
2.000	1.50	-	-	-	-	-	-	4"	TD2000-4015-591	\$402.50
2.000	1.25	-	-	-	-	-	-	5"	TD2000-5012-591	\$425.50
2.000	1.500	-	-	-	-	-	-	5"	TD2000-5015-591	\$425.50
2.000	1.250	-	-	-	-	-	-	6"	TD2000-6012-591	\$448.50
2.000	1.500	-	-	-	-	-	-	6"	TD2000-6015-591	\$448.50

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TUNGALOY STYLE INDEXABLE DRILL INSERTS

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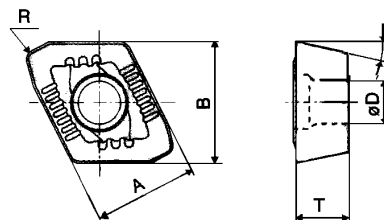
COOLANT/FLUIDS
TOOL STORAGE

TUNGALOY STYLE INDEXABLE INSERTS

INSERT FEATURES:

- High positive XPMT inserts
- Increased insert thickness and new edge honing increases tool life.
- Economical! Four cutting edges per insert!
- 2 grades cut everything!

Chipbreakers:
DJ- For Carbon/Alloy Steels
DW- For High Feed Drilling
DS- For Stainless Steels



Note: When using inserts with DW chip breaker for high feed drilling set feed rate to 1.5x standard feed rate

Drill Dia	I. C.	T	Length	Tungaloy Reference No.	DJ Chipbreaker AH740	DW Chipbreaker GH730	DS Chipbreaker AH120	Price Each	Screws \$1.00	Wrench \$2.00
					For Steel, Stainless, HiTemp Alloys	For Steel, Alloy steel (High Feed,Alum)	For non-ferrous, Stainless, Hi Temp Alloys			
0.500 to 0.562	0.169	0.063	0.177	XPMT040104R	TO-169-AH740	TO-169-GH730	TO-169-AH120	\$6.81	SC-03	TX-06F
0.625	0.203	0.094	0.213	XPMT050204R	TO-203-AH740	TO-203-GH730	TO-203-AH120	\$7.08	SC-04	TX-06F
0.687 to 0.812	0.236	0.118	0.276	XPMT06X308R	TO-236-AH740	TO-236-GH730	TO-236-AH120	\$7.75	SC-05	TX-07F
0.875 to 1.000	0.276	0.142	0.323	XPMT07H308R	TO-276-AH740	TO-276-GH730	TO-276-AH120	\$7.60	SC-06	TX-08F
1.031 to 1.2500	0.335	0.156	0.390	XPMT08T308R	TO-335-AH740	TO-335-GH730	TO-335-AH120	\$9.41	SC-07	TX-09F
1.312 to 1.625	0.441	0.187	0.492	XPMT110412R	TO-441-AH740	TO-441-GH730	TO-441-AH120	\$10.45	SC-08	TX-15F
1.687 to 2.000	0.591	0.219	0.634	XPMT150512R	TO-591-AH740	TO-591-GH730	TO-591-AH120	\$14.56	SC-09	TX-20F

RECOMMENDED CUTTING CONDITIONS

Work Materials	Grade/Chipbreaker				Cutting Speed (SFM)	Feed Rate (IPR)			
	AH120	AH740	GH730	T313W		1/2-11/16	3/4-1	1 1/16-1 1/4	1 5/16-2
Low Carbon Steels	DS				525/1050	.001-.002	.0015-.004	.0015-.004	.0015-.004
1005-1030									
Carbon Steels		DJ	DW		250/800	.0015-.005	.002-.006	.002-.006	.003-.007
1035-1055									
Alloy Steels	DS		DW		525/800	.0015-.003	.002-.005	.002-.005	.002-.006
4120-4140									
Alloy Steels		DJ	DW		250/650	.0015-.005	.002-.006	.002-.006	.003-.007
4300-4600									
Stainless Ferritic & Martensitic 400 Series	DS				325/650	.001-.003	.002-.004	.002-.005	.002-.005
Stainless Austenitic, Ferritic 200 & 300 Series	DS				325/725	.0015-.003	.0015-.003	.0015-.004	.002-.004
Stainless Duplex 500 Series	DS				250/400	.0015-.003	.0015-.003	.0015-.004	.002-.004
Gray Cast Iron				DJ	250/800	.002-.004	.002-.005	.002-.006	.003-.006
Ductile Iron				DJ	250/650	.0015-.005	.002-.006	.002-.006	.003-.008
Aluminum Alloys	DS		DW		650/1300	.004-.006	.006-.008	.006-.008	.006-.010
Super Alloys	DS				100/200	.002-.004	.002-.004	.002-.005	.004-.006
Titanium	DS				100/200	.002-.004	.002-.004	.002-.005	.003-.005



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INDEXABLE DRILL TROUBLESHOOTING TIPS:

Inserts Chipping or Breaking-

- **Inadequate coolant supply-** Check coolant volume and pressure
- **Speeds and feeds being used are incorrect-** Adjust speed and feeds according to tables provided
- **Insert screws may be damaged-** Check screw head and thread for nicks and burrs. Do not overtighten screws
- **Inserts not seating properly-** Make sure the inserts are seated properly in the pocket bottoms. Clean insert pockets whenever inserts are replaced or indexed making sure no nicks or burrs are present.
- **Misaligned drill/offcenter drill-** Check toolholder TIR. Replace or adjust TIR as necessary.
- **Drill not seating properly in tool holder, spindle or turret-** Make sure there are no nicks, burrs or chips in tool shank and/or holder. Use a feeler gauge to check parting line between tool shank and socket.
- **Too much tool deflection or lack of tool rigidity due to too much tool overhang-** Check if tool can be held shorter.

Rough Cutting Action-Tool Makes Rumbling Noise and Deflects-

- **Excessive thrust, Feed rate too high-** Lower feed rate and/or increase speed.
- **Chips being recut-** Add more coolant flow.

Poor Hole Finish-

- **Vibration-** Make sure workpiece is rigid. Check seat in spindle or toolholder. Check speeds and feeds.
- **Inadequate coolant supply-** Increase coolant pressure and volume, make sure that coolant flow is ample and constant at the inserts.
- **Chips are being recut, causing the drill to jump-** Increase coolant flow.
- **Overall chip control problems-** Modify feed and speed. Make sure there is ample coolant.
- **Chatter-** Adjust feed and speed.



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