

**ECONOMICAL & EXCELLENCE
IN HOLE MAKING**



EcoCut Machining Solutions

**DEEP HOLE
MACHINING TOOLS**

COMPANY PROFILE

EcoCut Machining Solutions was established in the year 2011 at Bengaluru, India. We are the leading Manufacturer, Exporter, wholesaler, supplier and trader of Expandable Cermet, PCD and CBN Reamers, Solid Carbide Reamers, Solid Carbide Drills, End Mills, Special Profile Cutting Tools, Anti Vibration Tools, Ceramic, PCD and CBN Inserts, Deep Hole Drilling Tools and Tool Holders. We Manufacture and procure these products from our certified and reliable vendors. Our vendors use quality assured material and advanced technology in the production process of these goods. With their consistent support, we are able to provide highly reliable, quality assured and maintenance free tools and equipment to our esteem customers in bulk with timely delivery. We provide these products to our customers according to their demands and the specifications given by them in order to attain their maximum satisfaction.

We are a client oriented company and that's why we perform all the business activities by keeping their needs and expectations from us in our mind. Their complete satisfaction is our primary objective and we can do every possible thing to satisfy them completely. Our client centric approach and policies are the proof of our devotion and dedication towards our customers.

Today, EcoCut Machining Solutions is backed by a huge client base and this is our actual achievement. This is possible due to the supervision of our respected director Mr. Balajee Adapa. He is highly experienced and dedicated towards his profession and responsibilities. His contribution is precious and an important reason behind our success and achievements. Besides this, our employees are also very talented and hard working at the same time. With their support, we have been providing best quality tools and equipment to our patrons since the time of our incorporation.

 **Machining Solutions**

DEEP HOLE MACHINING TOOLS >

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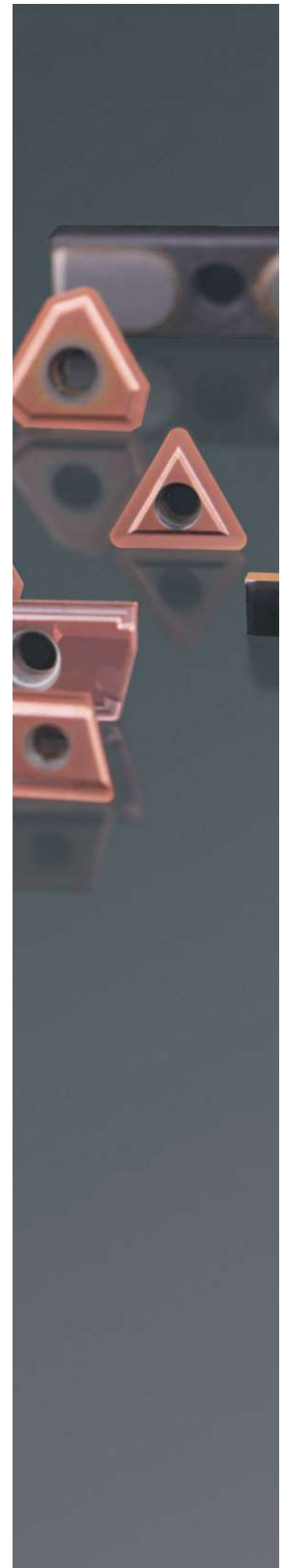
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Coupling drilling rod for deep hole drill(Type B)

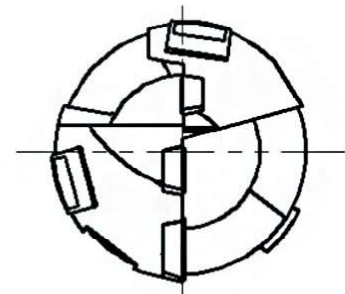
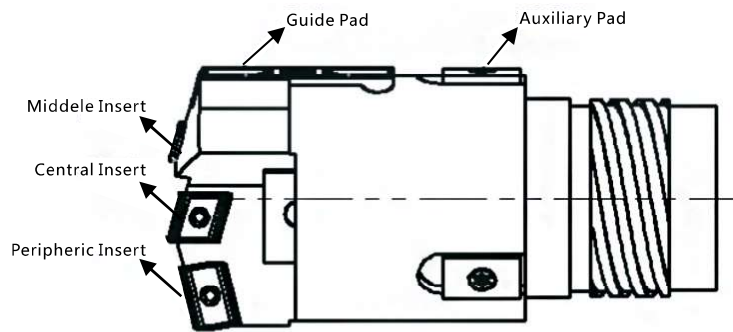
Coupling drilling rod for deep hole drill(Type P)

35 Threading Diagram

Special deep hole drilling tools and accessories are available for customers.



Indexable Carbide Deep Hole Drill (Type I)



Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	J ϕ 25.00-J ϕ 28.70	1		
Peripheral Insert	P060308-G	1	M2.2JK	T7
Middle Insert	I050308-G	1	M2.2JK	T7
Central Insert	C050308-G	1	M2.2JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Drill Head	J ϕ 28.71-J ϕ 30.70	1		
Peripheral Insert	P060308-G	1	M2.2JK	T7
Middle Insert	I050308-G	1	M2.2JK	T7
Central Insert	C06T308-G	1	M2.5JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Drill Head	J ϕ 30.71-J ϕ 34.90	1		
Peripheral Insert	P08T308-G	1	M2.5JK	T7
Middle Insert	I06T308-G	1	M2.5JK	T7
Central Insert	C06T308-G	1	M2.5JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Drill Head	J ϕ 34.91-J ϕ 35.50	1		
Peripheral Insert	P08T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C08T308-G	1	M2.5JK	T7
Guide Pad	DQ0825-H4	2	M3	T10
Drill Head	J ϕ 35.51-J ϕ 38.90	1		
Peripheral Insert	P08T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C08T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	2	M3	T10

Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	J ϕ 38.91-J ϕ 42.90	1		
Peripheral Insert	P09T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C08T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	2	M3	T10
Drill Head	J ϕ 42.91-J ϕ 47.90	1		
Peripheral Insert	P09T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	2	M3	T10
Drill Head	J ϕ 47.91-J ϕ 49.40	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ1030	2	M3	T10
Drill Head	J ϕ 49.41-J ϕ 52.50	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	2	M5	T20
Drill Head	J ϕ 52.51-J ϕ 54.90	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C12T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	2	M5	T20
Drill Head	J ϕ 54.91-J ϕ 58.30	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I12T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	2	M5	T20
Drill Head	J ϕ 58.31-J ϕ 64.50	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I12T308-G	1	M2.5JK	T7
Central Insert	C12T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	2	M5	T20

Guide Pad	Order No.	Dia Range	Quantity Required	Remarks
	DQ06A	ϕ 25. 00~ ϕ 31. 00	2	As per customer request
	DQ07A	ϕ 31. 01~ ϕ 39. 60	2	As per customer request
	DQ08A	ϕ 39. 61~ ϕ 47. 00	2	As per customer request
	DQ10A	ϕ 47. 01~ ϕ 54. 99	2	As per customer request
	DQ12A	ϕ 55. 00~ ϕ 65. 00	2	As per customer request

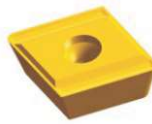
Auxiliary Pad	Order No.	Dia Range	Quantity Required	Remarks
	FDQ0616	ϕ 25. 00~ ϕ 28. 70	1	Optional
	FDQ0618	ϕ 28. 71~ ϕ 34. 90	1	
	Fd10812	ϕ 34. 91~ ϕ 47. 90	3	Optional
	FDQ1015	ϕ 47. 91~ ϕ 64. 50	3	



Insert with universal chip breaker



Peripheral Insert	Order No.	Dia Range
	P060308-G	$\phi 25.00 \sim \phi 28.70$ $\phi 28.71 \sim \phi 30.70$
	P08T308-G	$\phi 30.71 \sim \phi 34.90$ $\phi 34.91 \sim \phi 38.90$
	P09T308-G	$\phi 38.91 \sim \phi 42.90$ $\phi 42.91 \sim \phi 47.90$
	P11T308-G	$\phi 47.91 \sim \phi 52.50$ $\phi 52.51 \sim \phi 54.90$ $\phi 54.91 \sim \phi 58.30$ $\phi 58.31 \sim \phi 64.50$

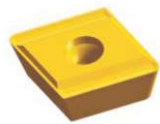
Middle Insert	Order No.	Dia Range
	C050308-G	$\phi 25.00 \sim \phi 28.70$
	C06T308-G	$\phi 28.71 \sim \phi 30.70$ $\phi 30.71 \sim \phi 34.90$
	C08T308-G	$\phi 34.91 \sim \phi 38.90$ $\phi 38.91 \sim \phi 42.90$
	C10T308-G	$\phi 42.91 \sim \phi 47.90$ $\phi 47.91 \sim \phi 52.50$
	C12T308-G	$\phi 52.51 \sim \phi 54.90$
	C10T308-G	$\phi 54.91 \sim \phi 58.30$
	C12T308-G	$\phi 58.31 \sim \phi 64.50$

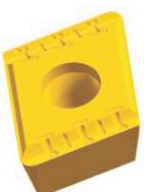
Central Insert	Order No.	Dia Range
	I050308-G	$\phi 25.00 \sim \phi 28.70$ $\phi 28.71 \sim \phi 30.70$
	I06T308-G	$\phi 30.71 \sim \phi 34.90$ $\phi 34.91 \sim \phi 38.90$ $\phi 38.91 \sim \phi 42.90$
	I08T308-G	$\phi 42.91 \sim \phi 47.90$ $\phi 47.91 \sim \phi 52.50$ $\phi 52.51 \sim \phi 54.90$
	I12T308-G	$\phi 54.91 \sim \phi 58.30$ $\phi 58.31 \sim \phi 64.50$



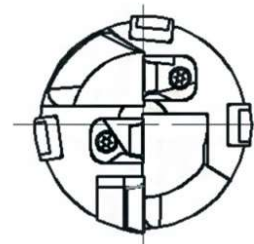
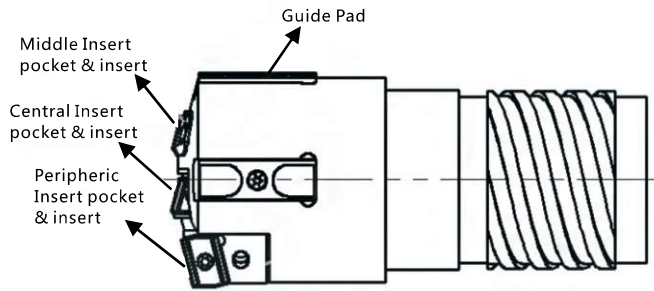
Insert with special chip breaker(suitable for hard chip-breaking)

Peripheric Insert	Order No.	Dia Range
	P060308-L	$\phi 25 \sim \phi 28.7$ $\phi 28.71 \sim \phi 30.7$
	P08T308-L	$\phi 30.71 \sim \phi 34.9$ $\phi 34.91 \sim \phi 38.9$
	P09T308-L	$\phi 38.91 \sim \phi 42.9$ $\phi 42.91 \sim \phi 47.9$
	P11T308-L	$\phi 47.91 \sim \phi 52.5$ $\phi 52.51 \sim \phi 54.9$
		$\phi 54.91 \sim \phi 58.1$ $\phi 58.11 \sim \phi 64.5$

Middle Insert	Order No.	Dia Range
	C050308-G	$\phi 25 \sim \phi 28.7$
	C06T308-G	$\phi 28.71 \sim \phi 30.7$ $\phi 30.71 \sim \phi 34.9$
	C08T308-G	$\phi 34.91 \sim \phi 38.9$ $\phi 38.91 \sim \phi 42.9$
	C10T308-G	$\phi 42.91 \sim \phi 47.9$ $\phi 47.91 \sim \phi 52.5$
	C12T308-G	$\phi 52.51 \sim \phi 54.9$
	C10T308-G	$\phi 54.91 \sim \phi 58.3$
	C12T308-G	$\phi 58.31 \sim \phi 64.5$

Central Insert	Order No.	Dia Range
	I050308-L	$\phi 25 \sim \phi 28.7$ $\phi 28.71 \sim \phi 30.7$
	I06T308-L	$\phi 30.71 \sim \phi 34.9$
	I08T308-L	$\phi 34.91 \sim \phi 38.9$ $\phi 38.91 \sim \phi 42.9$ $\phi 42.91 \sim \phi 47.9$ $\phi 47.91 \sim \phi 52.5$
		$\phi 52.51 \sim \phi 54.9$
		$\phi 54.91 \sim \phi 58.3$
	I12T308-L	$\phi 58.31 \sim \phi 64.5$

With Insert Pockets (Type I)



Product List for Deep Hole Drill (Type I)

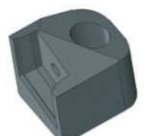
Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	J ϕ 49.50DZ-J ϕ 52.50DZ	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Middle Pocket	DZM08	1	M4	T15
Central Pocket	DZC10	1	M4	T15
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ10LH	3	M4	T15
Drill Head	J ϕ 52.51DZ-J ϕ 54.90DZ	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Middle Pocket	DZM08	1	M4	T15
Central Pocket	DZC12	1	M4	T15
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I08T308-G	1	M2.5JK	T7
Central Insert	C12T308-G	1	M2.5JK	T7
Guide Pad	DQ10LH	3	M4	T15
Drill Head	J ϕ 54.91DZ-J ϕ 58.30DZ	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Middle Pocket	DZM12	1	M4	T15
Central Pocket	DZC10	1	M4	T15
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I12T308-G	1	M2.5JK	T7
Central Insert	C10T308-G	1	M2.5JK	T7
Guide Pad	DQ10LH	3	M4	T15
Drill Head	J ϕ 58.31DZ-J ϕ 64.50DZ	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Middle Pocket	DZM12	1	M4	T15
Central Pocket	DZC12	1	M4	T15
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Middle Insert	I12T308-G	1	M2.5JK	T7
Central Insert	C12T308-G	1	M2.5JK	T7

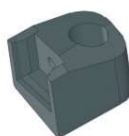


Insert with universal chip breaker

Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP11		P11T308-G

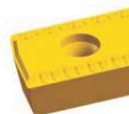


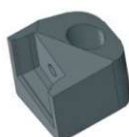
Central Pocket	Order No.	Central Insert	Order No.
	DZC10		C10T308-G
	DZC12		C12T308-G

Middle Pocket	Order No.	Middle Insert	Order No.
	DZM08		I08T308-G
	DZM12		I12T308-G



Insert with special chip breaker(suitable for hard chip-breaking)

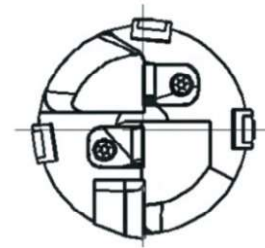
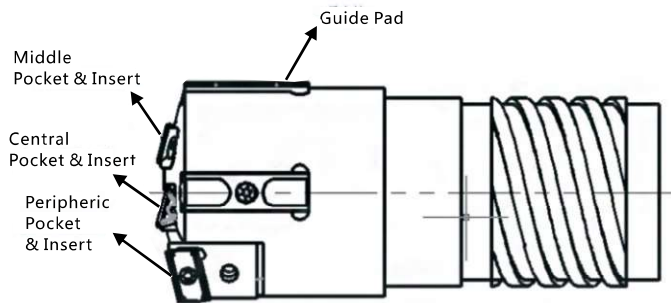
Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP11		P11T308-L

Middle Pocket	Order No.	Middle Insert	Order No.
	DZC10		C10T308-G
	DZC12		C12T308-G

Central Pocket	Order No.	Central Insert	Order No.
	DZM08		I08T308-L
	DZM12		I12T308-L

Indexable Carbide Deep Hole Drill (TypeII)

Products List for Deep Hole Drill (TypeII)



Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	SJ ϕ 65.00-SJ ϕ 65.59	1		
Peripheral Pocket	DZP18	1	M5-N	HG-4
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	1	M5	T20
Peripheral Insert	P13T308-G	1	M3	T10
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ12H-H6	3	M5	T20
Drill Head	SJ ϕ 65.60-SJ ϕ 68.39	1		
Peripheral Pocket	DZP18	1	M5-N	HG-4
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	1	M5	T20
Peripheral Insert	P13T308-G	1	M3	T10
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ12H	3	M5	T20
Drill Head	SJ ϕ 68.40-SJ ϕ 73.49	1		
Peripheral Pocket	DZP18	1	M5-N	HG-4
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	1	M5	T20
Peripheral Insert	P13T308-G	1	M3	T10
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ14H	3	M5	T20
Drill Head	SJ ϕ 73.50-SJ ϕ 79.99	1		
Peripheral Pocket	DZP22	1	M6-N	HG-5
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	1	M5	T20

Product Code	Order No.	Quantity Required	Screw	Wrench
Peripheral Insert	P180608-G	1	M4	T15
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ14H	3	M5	T20
Drill Head	SJ ϕ 80.00-SJ ϕ 82.69	1		
Peripheral Pocket	DZP22	1	M6-N	HG-5
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	1	M5	T20
Peripheral Insert	P180608-G	1	M4	T15
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ16H	3	M5	T20
Drill Head	SJ ϕ 82.70-SJ ϕ 90.49	1		
Peripheral Pocket	DZP22	1	M6-N	HG-5
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC20	1	M5	T20
Peripheral Insert	P180608-G	1	M4	T15
Middle Insert	TPMT16T312-G	1	M3	T10
Central Insert	TPMT220612-G	1	M4	T15
Guide Pad	DQ16H	3	M5	T20
Drill Head	SJ ϕ 90.50-SJ ϕ 106.99	1		
Peripheral Pocket	DZP22	1	M6-N	HG-5
Middle Pocket	DZM20	1	M5	T20
Central Pocket	DZC20	1	M5	T20
Peripheral Insert	P180608-G	1	M4	T15
Middle Insert	TPMT220612-G	1	M4	T15
Central Insert	TPMT220612-G	1	M4	T15
Guide Pad	DQ16H	3	M5	T20
Drill Head	SJ ϕ 107.00-SJ ϕ 120.00	1		
Peripheral Pocket	DZP18	1	M5-N	HG-4
Middle Pocket	DZM15	3	M5	T20
Central Pocket	DZC15	1	M5	T20
Peripheral Insert	P13T308-G	1	M3	T10
Middle Insert	TPMT16T312-G	3	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ14H	4	M5	T20
Drill Head	SJ ϕ 120.01-SJ ϕ 125.00	1		
Peripheral Pocket	DZP22	1	M6-N	HG-5
Middle Pocket	DZM15	1	M5	T20
Central Pocket	DZC15	3	M5	T20
Peripheral Insert	P180608-G	1	M4	T15
Middle Insert	TPMT16T312-G	3	M3	T10
Central Insert	TPMT16T312-G	1	M3	T10
Guide Pad	DQ16H	4	M5	T20



Insert with universal chip breaker

Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP18		P13T308-G
	DZP22		P180608-G

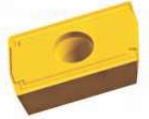


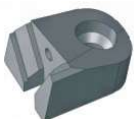
Central Pocket	Order No.	Central Insert	Order No.
	DZC15		TPMT16T312-G
	DZC20		TPMT220612-G

Middle Pocket	Order No.	Middle Insert	Order No.
	DZM15		TPMT16T312-G
	DZM20		TPMT220612-G



Insert with special chip breaker(suitable for hard chip-breaking)

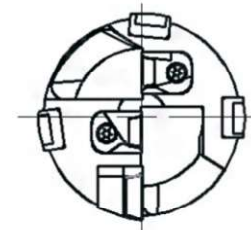
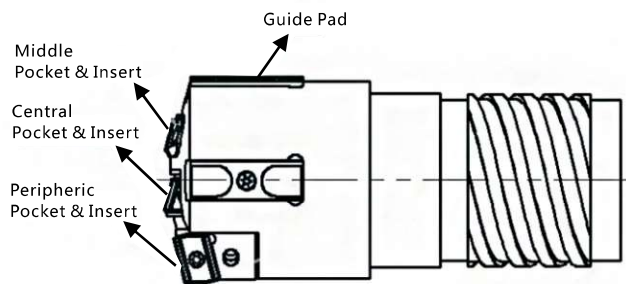
Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP18		P13T308-S
	DZP22		P180608-S

Middle Pocket	Order No.	Middle Insert	Order No.
	DZM15		TPMT16T312-S
	DZM20		TPMT220612-S

Central Pocket	Order No.	Central Insert	Order No.
	DZC15		TPMT16T312-S
	DZC20		TPMT220612-S

Indexable Carbide Deep Hole Drill (TypeIII)

Products List for Deep Hole Drill (TypeIII)



Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	J φ 64.51-J φ 65.59	1		
Peripheral Pocket	DZP19	1	M5-N	HG-4
Middle Pocket	DZM17-13	1	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P14T308-G1	1	M3	T10
Middle Insert	I13T308-G1	1	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ12H-H6	3	M5	T20
Drill Head	J φ 65.60-J φ 68.39	1		
Peripheral Pocket	DZP19	1	M5-N	HG-4
Middle Pocket	DZM17-13	1	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P14T308-G1	1	M3	T10
Middle Insert	I13T308-G1	1	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ12H	3	M5	T20
Drill Head	J φ 68.40-J φ 72.99	1		
Peripheral Pocket	DZP19	1	M5-N	HG-4
Middle Pocket	DZM17-13	1	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P14T308-G1	1	M3	T10
Middle Insert	I13T308-G1	1	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ14H	3	M5	T20
Drill Head	J φ 73.00-J φ 79.99	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Middle Pocket	DZM17-13	1	M5	T20

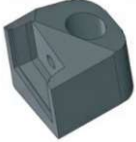
Product Code	Order No.	Quantity Required	Screw	Wrench
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P190608-G1	1	M4	T15
Middle Insert	I13T308-G1	1	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ14H	3	M5	T20
Drill Head	J ϕ 80.00-J ϕ 82.69	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Middle Pocket	DZM17-13	1	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P190608-G1	1	M4	T15
Middle Insert	I13T308-G1	1	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ16H	3	M5	T20
Drill Head	J ϕ 82.70-J ϕ 90.49	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Middle Pocket	DZM24-19	1	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P190608-G1	1	M4	T15
Middle Insert	I190608-G1	1	M3.5	T15
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ16H	3	M5	T20
Drill Head	J ϕ 90.50-J ϕ 106.99	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Middle Pocket	DZM24-19	1	M5	T20
Central Pocket	DZC24-19	1	M5	T20
Peripheral Insert	P190608-G1	1	M4	T15
Middle Insert	I190608-G1	1	M3.5	T15
Central Insert	C190608-G1	1	M3.5	T15
Guide Pad	DQ16H	3	M5	T20
Drill Head	J ϕ 107.00-J ϕ 120.00	1		
Peripheral Pocket	DZP19	1	M5-N	HG-4
Middle Pocket	DZM17-13	3	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P14T308-G1	1	M3	T10
Middle Insert	I13T308-G1	3	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ14H	4	M5	T20
Drill Head	J ϕ 120.1-J ϕ 125.00	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Middle Pocket	DZM17-13	3	M5	T20
Central Pocket	DZC17-13	1	M5	T20
Peripheral Insert	P190608-G1	1	M3	T10
Middle Insert	I13T308-G1	3	M3	T10
Central Insert	C13T308-G1	1	M3	T10
Guide Pad	DQ14H	4	M5	T20

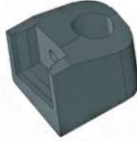


Insert with universal chip breaker



Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP19		P14T308-G1
	DZP23		P190608-G1(GS)

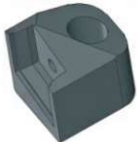
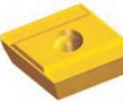
Central Pocket	Order No.	Central Insert	Order No.
	DZC17-13		C13T308-G1
	DZC24-19		C190608-G1

Middle Pocket	Order No.	Middle Insert	Order No.
	DZM17-13		I13T308-G1
	DZM24-19		I190608-G1



Efficient processing groove insert

Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP19		P14T308-G
	DZP23		P190608-G1(GS)

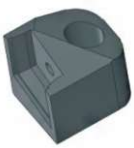
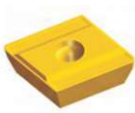
Middle Pocket	Order No.	Middle Insert	Order No.
	DZC17-13		C13T308-G
	DZC24-19		C190608-G

Central Pocket	Order No.	Central Insert	Order No.
	DZM17-13		I13T308-G
	DZM24-19		I190608-G(G1)



Insert with special chip breaker(suitable for hard chip-breaking)

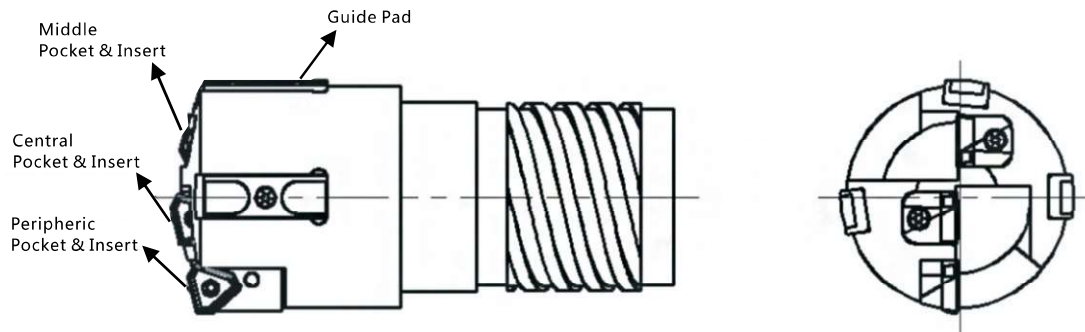
Peripheral Pocket	Order No.	Peripheral Insert	Order No.
	DZP19		P14T308-L1
	DZP23		P190608-L1

Central Pocket	Order No.	Central Insert	Order No.
	DZC17-13		C13T308-L1
	DZC24-19		C190608-L1

Middle Pocket	Order No.	Middle Insert	Order No.
	DZM17-13		I13T308-L1
	DZM24-19		I190608-L1

Indexable Carbide Deep Hole Drill (TypeIV)

Products List for Deep Hole Drill (TypeIV)



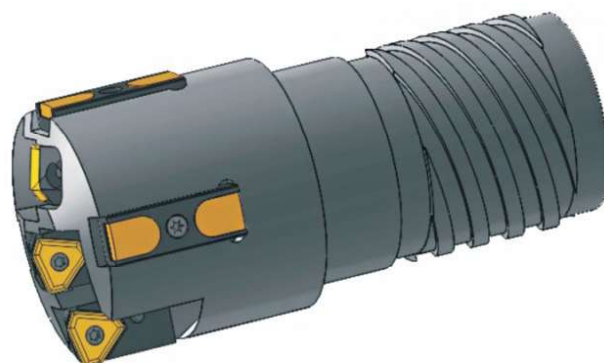
Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	IJ ϕ 48.00-IJ ϕ 51.99	1		
Peripheral Pocket	DZIP14	1	M3.5-N	HG-2.5
Middle Pocket	DZIC14	1	M4	T15
Central Pocket	DZIC14	1	M4	T15
Peripheral Insert	TPMX14T308	1	M2.5	T7
Middle Insert	TPMX14T308	1	M2.5	T7
Central Insert	TPMX14T308	1	M2.5	T7
Guide Pad	DQ10LH	3	M4	T15
Drill Head	IJ ϕ 52.00-IJ ϕ 54.99	1		
Peripheral Pocket	DZIP17	1	M5-N	HG-4
Middle Pocket	DZIC14	1	M4	T15
Central Pocket	DZIC14	1	M4	T15
Peripheral Insert	TPMX17T408	1	M3.5	T15
Middle Insert	TPMX14T308	1	M2.5	T7
Central Insert	TPMX14T308	1	M2.5	T7
Guide Pad	DQ10LH	3	M4	T15
Drill Head	IJ ϕ 55.00-IJ ϕ 57.99	1		
Peripheral Pocket	DZIP17	1	M5-N	HG-4
Middle Pocket	DZIC14	1	M4	T15
Central Pocket	DZIC17	1	M4	T15
Peripheral Insert	TPMX17T408	1	M3.5	T15
Middle Insert	TPMX14T308	1	M2.5	T7
Central Insert	TPMX17T408	1	M3.5	T15
Guide Pad	DQ10LH	3	M4	T15
Drill Head	IJ ϕ 58.00-IJ ϕ 63.99	1		
Peripheral Pocket	DZIP17	1	M5-N	HG-4
Middle Pocket	DZIC17	1	M4	T15

Product Code	Order No.	Quantity Required	Screw	Wrench
Central Pocket	DZIC17	1	M4	T15
Peripheral Insert	TPMX17T408	1	M3.5	T15
Middle Insert	TPMX17T408	1	M3.5	T15
Central Insert	TPMX17T408	1	M3.5	T15
Guide Pad	DQ10LH	3	M4	T15
Drill Head	IJ ϕ 64.00-IJ ϕ 67.99	1		
Peripheral Pocket	DZIP24	1	M5-N	HG-4
Middle Pocket	DZIC17	1	M4	T15
Central Pocket	DZIC17	1	M4	T15
Peripheral Insert	TPMX240512	1	M4	T15
Middle Insert	TPMX17T408	1	M3.5	T15
Central Insert	TPMX17T408	1	M3.5	T15
Guide Pad	DQ12H	3	M5	T20
Drill Head	IJ ϕ 68.00-IJ ϕ 77.99	1		
Peripheral Pocket	DZIP17	1	M5	HG-4
Middle Pocket	DZIC24	1	M5	T20
Central Pocket	DZIC24	1	M5	T20
Peripheral Insert	TPMX17T408	1	M3.5	T15
Middle Insert	TPMX240512	1	M4	T15
Central Insert	TPMX240512	1	M4	T15
Guide Pad	DQ14IH	3	M5	T20
Drill Head	IJ ϕ 78.00-IJ ϕ 84.99	1		
Peripheral Pocket	DZIP24	1	M5-N	HG-4
Middle Pocket	DZIC24	1	M5	T20
Central Pocket	DZIC24	1	M5	T20
Peripheral Insert	TPMX240512	1	M4	T15
Middle Insert	TPMX240512	1	M4	T15
Central Insert	TPMX240512	1	M4	T15
Guide Pad	DQ16H	3	M5	T20
Drill Head	IJ ϕ 85.00-IJ ϕ 91.99	1		
Peripheral Pocket	DZIP28	1	M6-N	HG-5
Middle Pocket	DZIC24	1	M5	T20
Central Pocket	DZIC24	1	M5	T20
Peripheral Insert	TPMX280716	1	M5	T20
Middle Insert	TPMX240512	1	M4	T15
Central Insert	TPMX240512	1	M4	T15
Guide Pad	DQ16H	3	M5	T20
Drill Head	IJ ϕ 92.00-IJ ϕ 98.99	1		
Peripheral Pocket	DZIP24	1	M5-N	HG-4
Middle Pocket	DZIC28	1	M5	T20
Central Pocket	DZIC28	1	M5	T20
Peripheral Insert	TPMX240512	1	M4	T15
Middle Insert	TPMX280716	1	M5	T20
Central Insert	TPMX280716	1	M5	T20
Guide Pad	DQ16H	3	M5	T20

Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	IJ ϕ 99.00-IJ ϕ 106.99	1		
Peripheral Pocket	DZIP28	1	M6-N	HG-5
Middle Pocket	DZIC28	1	M5	T20
Central Pocket	DZIC28	1	M5	T20
Peripheral Insert	TPMX280716	1	M5	T20
Middle Insert	TPMX280716	1	M5	T20
Central Insert	TPMX280716	1	M5	T20
Guide Pad	DQ16H	3	M5	T20
Drill Head	IJ ϕ 107.00-IJ ϕ 117.99	1		
Peripheral Pocket	DZIP24	1	M5-N	HG-4
Middle Pocket	DZIC17	3	M4	T15
Central Pocket	DZIC24	1	M5	T20
Peripheral Insert	TPMX240512	1	M4	T15
Middle Insert	TPMX17T408	3	M3.5	T15
Central Insert	TPMX240512	1	M4	T15
Guide Pad	DQ14IH	4	M5	T20
Drill Head	IJ ϕ 118.00-IJ ϕ 125.00	1		
Peripheral Pocket	DZIP24	1	M5-N	HG-4
Middle Pocket	DZIC24	3	M5	T20
Central Pocket	DZIC24	1	M5	T20
Peripheral Insert	TPMX240512	1	M4	T15
Middle Insert	TPMX240512	3	M4	T15
Central Insert	TPMX240512	1	M4	T15
Guide Pad	DQ14IH	4	M5	T20



Insert with universal chip breaker



Peripheric Pocket	Order No.	Peripheric Insert	Order No.
	DZIP14		TPMX14T308
	DZIP17		TPMX17T408
	DZIP24		TPMX240512
	DZIP28		TPMX280716

Central Pocket	Order No.	Central Insert	Order No.
	DZIC14		TPMX14T308
	DZIC17		TPMX17T408
	DZIC24		TPMX240512
	DZIC28		TPMX280716

Middle Pocket	Order No.	Middle Insert	Order No.
	DZIC14		TPMX14T308
	DZIC17		TPMX17T408
	DZIC24		TPMX240512
	DZIC28		TPMX280716



Insert with special chip breaker(suitable for hard chip-breaking)

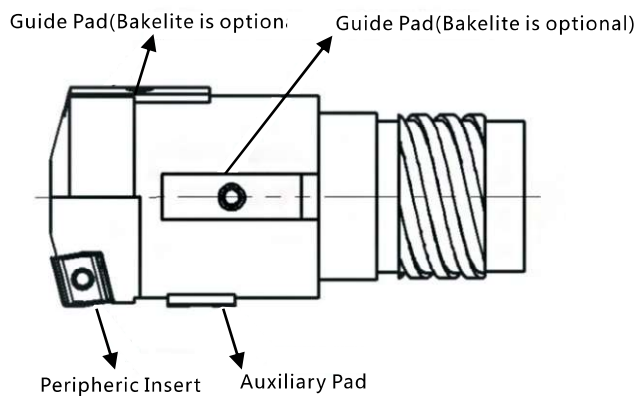
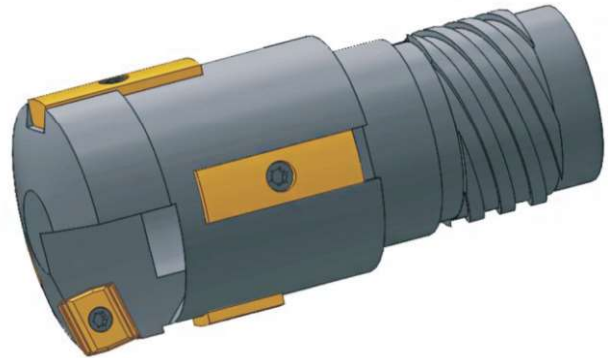
Peripheric Pocket	Order No.	Peripheric Insert	Order No.
	DZIP14		TPMX14T308-L
	DZIP17		TPMX17T408-L
	DZIP24		TPMX240512-L
	DZIP28		TPMX280716-L

Middle Pocket	Order No.	Middle Insert	Order No.
	DZIC14		TPMX14T308-L
	DZIC17		TPMX17T408-L
	DZIC24		TPMX240512-L
	DZIC28		TPMX280716-L

Central Pocket	Order No.	Central Insert	Order No.
	DZIC14		TPMX14T308-L
	DZIC17		TPMX17T408-L
	DZIC24		TPMX240512-L
	DZIC28		TPMX280716-L

Indexable Counterbore (for rough and semi-finish machining)

Indexable Counterbore with Insert Only
As Per Request



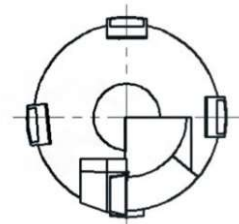
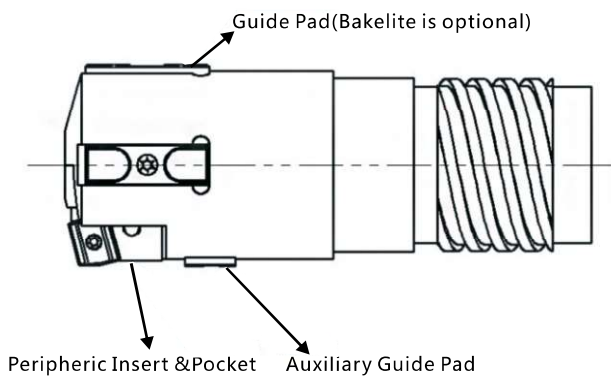
Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	JK ϕ 25.00-JK ϕ 28.70	1		
Peripheral Insert	P060308-G	1	M2.2JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Auxiliary Pad	FDQ06016	1	M2.5	T8
Bakelite guide pad	DQ0625JM	1	M2.5	T8
Drill Head	JK ϕ 28.71-JK ϕ 30.70	1		
Peripheral Insert	P060308-G	1	M2.2JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Auxiliary Pad	FDQ06018	1	M2.5	T8
Bakelite guide pad	DQ0625JM	1	M2.5	T8
Drill Head	JK ϕ 30.71-JK ϕ 34.90	1		
Peripheral Insert	P08T308-G	1	M2.5JK	T7
Guide Pad	DQ0625	2	M2.5	T8
Auxiliary Pad	FDQ06018	1	M2.5	T8
Bakelite guide pad	DQ0625JM	1	M2.5	T8
Drill Head	JK ϕ 34.91-JK ϕ 38.90	1		
Peripheral Insert	P08T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	2	M3	T10
Auxiliary Pad	FDQ0812	1	M3	T10
Bakelite guide pad	DQ0825JM	1	M3	T10

Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	JK ϕ 38.91-JK ϕ 47.90	1		
Peripheral Insert	P09T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	2	M3	T10
Auxiliary Pad	FDQ0812	1	M3	T10
Bakelite Pad	DQ0825JM	1	M3	T10
Drill Head	JK ϕ 47.91-JK ϕ 49.40	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Guide Pad	DQ1030	2	M3	T10
Auxiliary Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ1030JM	1	M3	T10
Drill Head	JK ϕ 49.41-JK ϕ 65.00	1		
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	2	M5	T20
Auxiliary Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ12JM	1	M5	T20

Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

Indexable Counterbore with Insert and Pockets As Per Request



Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	JK ϕ 45.00-JK ϕ 47.99	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Guide Pad	DQ0825	3	M3	T10
Auxiliary Guide Pad	FDQ0812	1	M3	T10
Bakelite Pad	DQ0828JM	1	M3	T10
Drill Head	JK ϕ 48.00-JK ϕ 49.49	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Guide Pad	DQ1030	3	M3	T10
Auxiliary Guide Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ1030JM	1	M3	T10
Drill Head	JK ϕ 49.50-JK ϕ 64.99	1		
Peripheral Pocket	DZP11	1	M4-N	HG-3
Peripheral Insert	P11T308-G	1	M2.5JK	T7
Guide Pad	DQ12H	3	M5	T20
Auxiliary Guide Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ12JM	1	M5	T20
Drill Head	JK ϕ 65.00-JK ϕ 72.99	1		
Peripheral Pocket	DZP19	1	M5-N	HG-4
Peripheral Insert	P14T308-G1	1	M3	T10
Guide Pad	DQ14H	3	M5	T20
Auxiliary Guide Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ14JM	1	M5	T20

Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

Product Code	Order No.	Quantity Required	Screw	Wrench
Drill Head	JK ϕ 73.00-J ϕ 79.99	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Peripheral Insert	P190608-G1	1	M4	T15
Guide Pad	DQ14H	3	M5	T20
Auxiliary Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ14JM	1	M5	T20
Drill Head	JK ϕ 80.00-JK ϕ 106.99	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Peripheral Insert	P190608-G1	1	M4	T15
Guide Pad	DQ16H	3	M5	T20
Auxiliary Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ16JM	1	M5	T20
Drill Head	JK ϕ 107.00-JK ϕ 180.00	1		
Peripheral Pocket	DZP23	1	M6-N	HG-5
Peripheral Insert	P190608-G1	1	M4	T15
Guide Pad	DQ16H	5	M5	T20
Auxiliary Pad	FDQ1015	1	M3	T10
Bakelite Pad	DQ16JM	1	M5	T20

Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

Deep Hole Drill for Tube Sheet

Applied on Heat Exchanger Machining in Power Generation and Chemical Industry

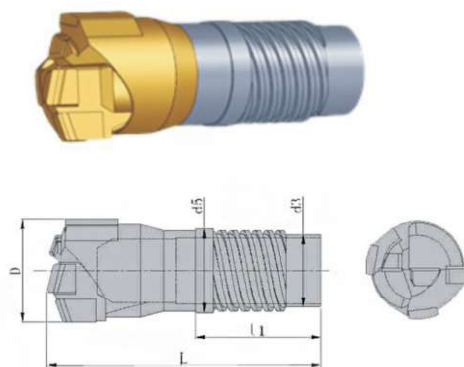
Tube sheet is widely used in chemical container, pressure vessel, power generation equipment, boiler, condenser, central air conditioning, evaporator, sea water desalination and other industries with main features of multiple holes, small apertures, dense holes, high accuracy and surface finish requirements in the sheet. Outer diameter, thickness, hole numbers and precision of tube sheet are varied among different industries and functions. Therefore, machines and drill bits are also different when drilling on the sheet. Equipment can be divided into special machine and ordinary machines and tools can be divided into drill bit with internal and external chip removal. BTA drilling tools are more suitable for tube sheet drilling considering production efficiency and holes quality. It is also a trend for selecting drill bits of tube sheet. Both machines and tube sheet quality will significantly influence equipment assembly and performance.



Deep Hole Drill for Tube Sheet

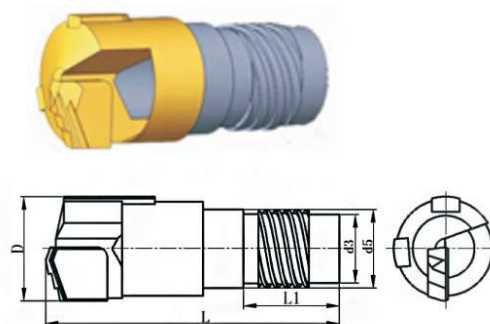
Type6

Order No.	Diameter	Dimension			
		L	d3	d5	L1
GB6-Dxx.xx-SK	φ 15.60-φ 16.20	43	10.8	12.6	20
GB6-Dxx.xx-SK	φ 16.21-φ 16.70	43	10.8	12.6	20
GB6-Dxx.xx-SK	φ 16.71-φ 17.20	43	11.8	13.6	20
GB6-Dxx.xx-SK	φ 17.21-φ 17.70	43	11.8	13.6	20
GB6-Dxx.xx-SK	φ 17.71-φ 18.40	47	12.5	14.5	21.5
GB6-Dxx.xx-SK	φ 18.41-φ 18.90	47	12.5	14.5	21.5
GB6-Dxx.xx-SK	φ 18.91-φ 19.20	47	13.5	15.5	21.5
GB6-Dxx.xx-SK	φ 19.21-φ 20.00	47	13.5	15.5	21.5
GB6-Dxx.xx-SK	φ 20.01-φ 20.90	52.5	14	16	21.5
GB6-Dxx.xx-SK	φ 20.91-φ 21.80	52.5	14	16	21.5
GB6-Dxx.xx-SK	φ 21.81-φ 22.90	56	16	18	21.5
GB6-Dxx.xx-SK	φ 22.91-φ 24.10	56	16	18	21.5
GB6-Dxx.xx-SK	φ 24.11-φ 25.20	57.5	17.5	19.5	21.5
GB6-Dxx.xx-SK	φ 25.21-φ 26.40	57.5	17.5	19.5	21.5

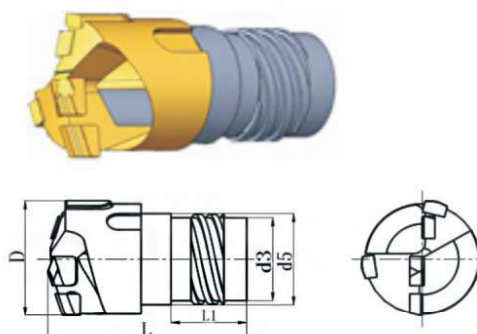


Type5

Order No.	Diameter	Dimension			
		L	d3	d5	L1
GB5-Dxx.xx-SK	φ 15.60-φ 16.20	43	10.8	12.6	20
GB5-Dxx.xx-SK	φ 16.21-φ 16.70	43	10.8	12.6	20
GB5-Dxx.xx-SK	φ 16.71-φ 17.20	43	11.8	13.6	20
GB5-Dxx.xx-SK	φ 17.21-φ 17.70	43	11.8	13.6	20
GB5-Dxx.xx-SK	φ 17.71-φ 18.40	47	12.5	14.5	21.5
GB5-Dxx.xx-SK	φ 18.41-φ 18.90	47	12.5	14.5	21.5
GB5-Dxx.xx-SK	φ 18.91-φ 19.20	47	13.5	15.5	21.5
GB5-Dxx.xx-SK	φ 19.21-φ 20.00	47	13.5	15.5	21.5
GB5-Dxx.xx-SK	φ 20.01-φ 20.90	52.5	14	16	21.5



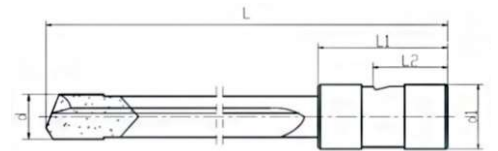
Order No.	Diameter	Dimension			
		L	d3	d5	L1
GB6-Dxx.xx-SK	φ 20.91-φ 21.80	52.5	14	16	21.5
GB6-Dxx.xx-SK	φ 21.81-φ 22.90	56	16	18	21.5
GB6-Dxx.xx-SK	φ 22.91-φ 24.10	56	16	18	21.5
GB6-Dxx.xx-SK	φ 24.11-φ 25.20	57.5	17.5	19.5	21.5
GB6-Dxx.xx-SK	φ 25.21-φ 26.40	57.5	17.5	19.5	21.5



Carbide Gundrill

Carbide gundrill is applicable for deep holes that maintain drilling accuracy at IT6-IT10, length/dia ration over 100 and Ra < 3 micron

Dia Range	d1	L1	L2	L
φ 4.50- φ 9.99	16	45	31	As per request
φ 10.00- φ 13.99	20	63	34	As per request
φ 14.00- φ 20.00	25	70	34	As per request
φ 20.01- φ 30.00	32	70	34	As per request



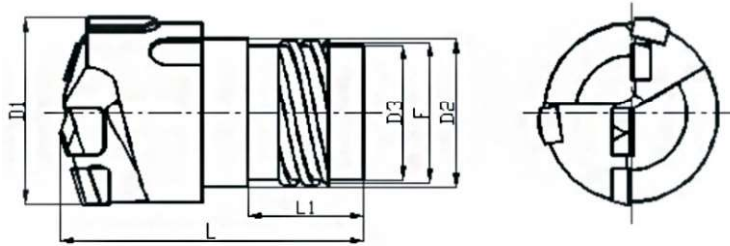
Carbide Gundrill Recommended Cutting Parameter

Material	HB	Cutting Speed V _c m/min	Drill Diameter mm		
			4.50-6.30	6.00-12.50	12.50-40.50
			进给量 Feed f(mm/r)		
Carbon Steel	90-200	60-120	0.005-0.030	0.015--0.055	0.020-0.110
	125-225	50-120	0.005-0.030	0.015--0.055	0.020-0.110
	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
Low Alloy	150-260	40-120	0.004-0.030	0.010--0.055	0.020-0.110
	220-450	40-120	0.004-0.025	0.010--0.050	0.020-0.100
High Alloy	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
	250-350	50-100	0.005-0.025	0.010--0.050	0.030-0.100
Cast Steel	90-225	50-120	0.005-0.030	0.010--0.055	0.020-0.110
	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
Femetic Stainless steel	150-270	40-90	0.004-0.025	0.010--0.040	0.020-0.100
Martensitic Stainless Steel					
Austenitic Stainless Steel	150-275	40-90	0.004-0.025	0.010--0.040	0.020-0.100
Mallezble Cast Iron	110-145	70-90	0.008-0.030	0.020--0.070	0.050-0.190
	150-270	60-90	0.005-0.030	0.010--0.070	0.030-0.190
Gary Cast Iron	150-220	60-90	0.005-0.030	0.010--0.070	0.030-0.190
	200-330	15-90	0.003-0.030	0.005--0.070	0.010-0.190
Milling Cast Iron	125-230	70-90	0.008-0.030	0.020--0.070	0.050-0.190
	200-300	60-90	0.005-0.030	0.010--0.070	0.030-0.190
Aluminium Alloy	40-100	65-300	0.005-0.040	0.020--0.070	0.030-0.150
Copper and Copper Alloy	70-160	65-300	0.005-0.040	0.020--0.070	0.030-0.150
	50-200	65-300	0.005-0.040	0.020--0.070	0.030-0.150

Brazed Carbide Deep Hole Drill

Carbide deep hole drill is applied deep holes with drilling accuracy at IT8-IT9, drilling length /diameter < 100 , surface roughness Ra < 3.2um. There are 3 types of deep hole drills, BTA, Ejector Drilling head, showed with B, P, D.B and P type drilling heads are commonly used.

B type Drilling Head(Single Tube)

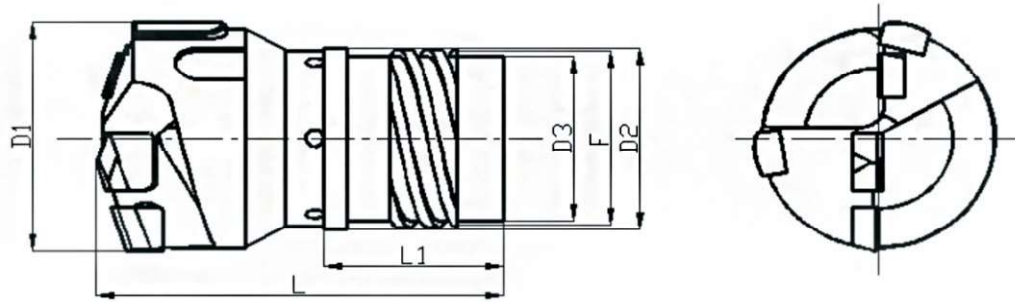


B type Drilling Head List

Drilling Dia	D2	D3	L1	F
6.0-6.59	4.6	4	15	4.5×2.0/Single Corner
6.6-7.29	5.1	4.5	15	5.0×2.0/Single Corner
7.3-7.79	5.6	5	15	5.5×2.0/Single Corner
7.8-8.59	6.1	5.5	20	6.0×3.0/Single Corner
8.6-9.49	6.6	6	20	6.5×3.0/Single Corner
9.5-10.49	7.1	6.4	20	7.0×3.0/Single Corner
10.5-11.49	7.6	6.8	20	7.5×4.0/Single Corner
11.5-12.5	8.1	7.2	20	8.0×4.0/Single Corner
12.51-13.5	9	7.5	23	8.5×4.0/Single Corner
13.51-14.5	11	10	23	11.0×5.0/Double Corner
14.51-15.5	12	11	23	12.0×5.0/Double Corner
15.51-16.5	12.5	10.5	22	12.0×2.0/Four Corners
16.51-17.5	13.5	11.5	23	13.0×2.0/Four Corners
17.51-18.4	14.5	12.5	24	14.0×2.0/Four Corners
18.41-20.0	15	13.5	30	14.5×2.5/Four Corners
20.01-21.8	16	14	26	15.5×2.5/Four Corners
21.81-24.1	18	16	27	17.5×3.0/Four Corners
24.11-26.4	19.5	17.5	27	19.0×3.0/Four Corners
26.41-28.7	21	19	27	20.5×3.0/Four Corners
28.71-31.0	23.5	21	30	23.0×4.0/Four Corners
31.01-33.3	25.5	23	30	25.0×4.0/Four Corners
33.31-36.2	28	25.5	30	27.5×4.0/Four Corners
36.21-39.6	30	27	37	29.4×5.0/Four Corners
39.61-43.0	33	30	37	32.4×5.0/Four Corners
43.01-47.0	36	33	37	35.4×5.0/Four Corners
47.01-51.7	39	36	37	38.4×5.0/Four Corners
51.71-56.2	43	39.5	41	42.4×6.0/Four Corners
56.21-65.99	47	43.5	41	46.4×6.0/Four Corners
66.0-72.99	58	53	77	57.5×8.0/Four Corners
73.0-79.99	63	58	77	62.5×8.0/Four Corners
80.0-86.99	69	64	100	68.5×12.0/Four Corners
87.0-100.0	76	71	100	75.5×12.0/Four Corners



P Type Drill(Double Tube)

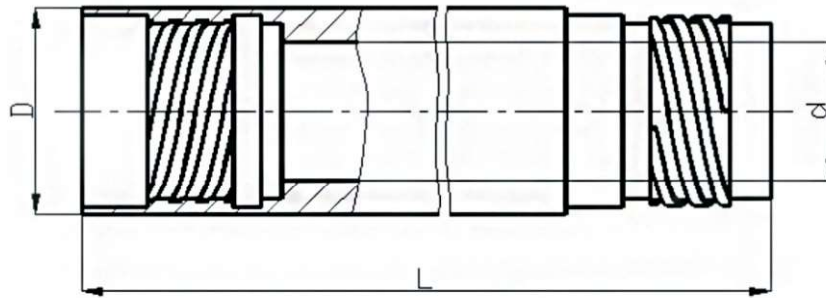


P Type Drills List

Drill Diameter	D2	D3	L1	F
18.41-20.0	16	14	21.5	15.5×2.5/Four Corners
20.01-21.8	18	16	21.5	17.5×3.0/Four Corners
21.81-24.1	19.5	17.5	21.5	19.0×3.0/Four Corners
24.11-26.4	21	19	21.5	20.5×3.0/Four Corners
26.41-28.7	23.5	21	24.5	23.0×4.0/Four Corners
28.71-31.0	25.5	23	24.5	25.0×4.0/Four Corners
31.01-33.3	28	25.5	24.5	27.5×4.0/Four Corners
33.31-36.2	30	27	30.5	29.4×5.0/Four Corners
36.21-39.6	33	30	30.5	32.4×5.0/Four Corners
39.61-43.0	36	33	30.5	35.4×5.0/Four Corners
43.01-47.0	39	36	30.5	39.4×5.0/Four Corners
47.01-51.7	43	39.5	34.5	42.4×6.0/Four Corners
51.71-56.2	47	43.5	34.5	46.4×6.0/Four Corners
56.21-65.0	51	47.5	34.5	50.4×6.0/Four Corners

Drilling Rod

Coupling drilling rod for B Type Deep Hole Drill (One is require
d)



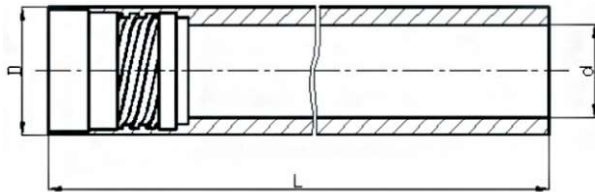
B type Drilling List

Drilling Diameter	Drilling Rod(B Type)	
	D	d
18.41-20.0	17.0	11.5
20.01-21.8	18.0	12.0
21.81-24.1	20.0	13.0
24.11-26.4	22.0	14.0
26.41-28.7	24.0	15.5
28.71-31.0	26.0	17.0
31.01-33.3	28.0	18.5
33.31-36.2	30.0	20.0
36.21-39.6	33.0	23.0
39.61-43.0	36.0	25.5
43.01-47.0	39.0	28.0
47.01-51.7	43.0	31.0
51.71-56.2	47.0	35.0
56.21-64.5	51.0	36.0
64.51-65.5	56.0	39.0
65.51-72.8	62.0	45.0
72.81-79.8	68.0	48.0
79.81-86.8	75.0	55.0
86.81-101.6	82.0	60.0
101.61-111.6	94.0	72.0
111.61-125.0	106.0	82.0

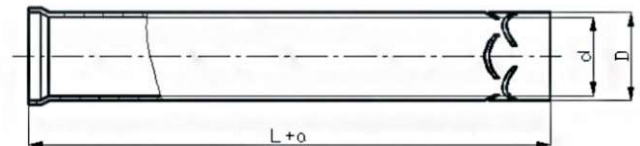
P Type Deep Hole Drill Matching Connecting Rod (External and Internal Rod)length of connecting rod: guide supporting pocket, central supporting pocket's width and length inside connecting parts plus component's length should all be considered



Coupling Drilling Rod for P Type Deep Hole Drills



External Drilling Rod



Internal Drilling Rod

Product List for B Type Drilling Rod

D1 Drilling Ranges	External Drilling Rod P Type		Internal Drilling Rod P Type	
	D	d	D	d
18.41-20.0	18.0	12.0	10.0	9.0
20.01-21.8	19.5	14.0	12.0	11.0
21.81-24.1	21.5	15.0	13.0	12.0
24.11-26.4	23.5	16.0	14.0	13.0
26.41-28.7	26.0	18.0	16.0	14.0
28.71-31.0	28.0	20.0	18.0	16.0
31.01-33.3	30.5	22.0	20.0	18.0
33.31-36.2	33.0	24.0	22.0	20.0
36.21-39.6	35.5	26.0	24.0	22.0
39.61-43.0	39.0	29.0	27.0	25.0
43.01-47.0	42.5	32.0	30.0	28.0
47.01-51.7	46.5	35.0	32.0	30.0
51.71-56.2	51.0	39.0	36.0	34.0
56.21-65.0	55.5	43.0	40.0	38.0

P Type Deep Hole Drill Matching Connecting Rod (External and Internal Rod) length of connecting rod: guide supporting pocket, central supporting pocket's width and length inside connecting parts plus component's length should all be considered

P type internal connecting rod length = external connecting rod's length + a

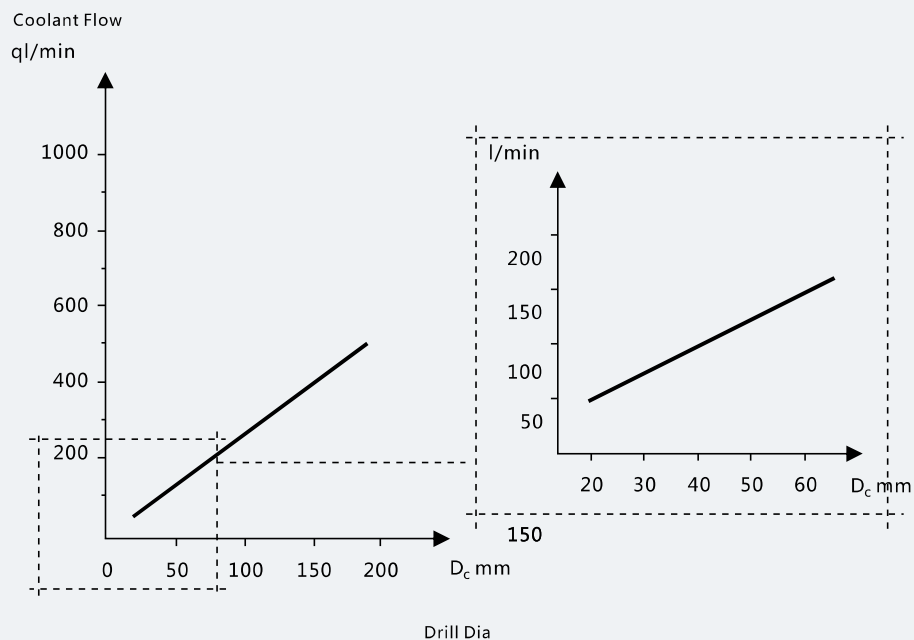
a is up to connecting parts

Recommended Cutting Parameter for Deep Hole Drilling

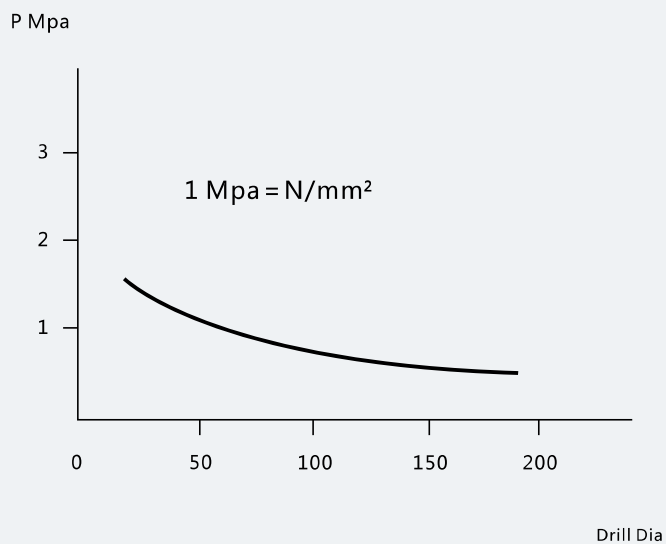
Material	HB	(m/min)	Feed f (mm/rev)				
			12-25	25-43	43.1-65	65-85	> 85
Carbon steel	125	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	190	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	250	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	220	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	300	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
Low carbon alloy steel	200	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	275	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	300	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	350	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
High carbon alloy steel	200	50-120	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	325	50-120	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
Stainless steel	200	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	240	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	180	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
Malleable cast iron	130	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	230	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
Gray cast iron	160	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	250	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
Nodular cast iron	180	50-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	260	50-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
Refined Aluminum Alloy	60	60-130	0.05-0.15	0.08-0.2	0.12-0.35	0.1-0.3	0.1-0.3
	100	60-130	0.05-0.15	0.08-0.2	0.12-0.35	0.1-0.3	0.1-0.3
Cast Aluminum Alloy	75	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	90	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	130	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
Copper Alloy	110	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	90	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	100	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
Fe-based Alloy	200	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.1-0.3	0.1-0.3
	280	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
Ni-based Alloy	250	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
Co-based Alloy	350	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
	320	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
Titanium Alloy		30-60	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3



Recommended Coolant Flow



Recommended Coolant Pressure



Cutting parameter is for reference only and should be adjusted based on actual cutting conditions

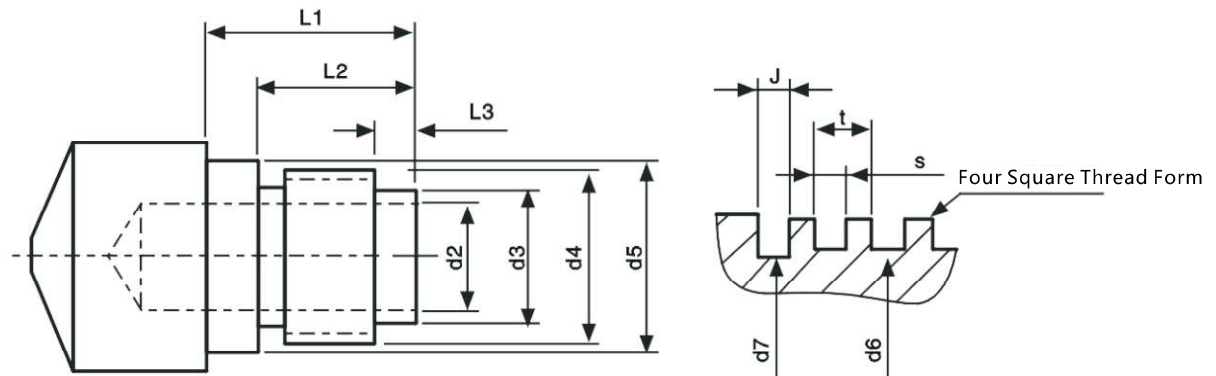


Trouble Shooting

Line #	Issues	Reason	Solution
1	Too short chips	Incorrect cutting parameter	Ajust Speed and Feed
		Incorrect chip breaker, fillet angle too small or too deep	Change chip breaker
		Unstable component material	Ajust to appropriate Speed and Feed
		Inappropriate initial cutting (component is not centered)	Ajust component with central height
2	Too long chips	Incorrect cutting parameter	Ajust Speed and Feed
		Incorrect chip breaker, fillet angle too small or too deep	Change chip breaker
3	Unstable chips	Unstable component material	Ajust to appropriate Speed and Feed
		Incorrect feeding device (for example use hydrolinder as feeding device)	Consult equipment supplier or sales engineer
		Not enough coolant resulting in chip congestion	Increase coolant
		Component and tools are not rigid resulting in vibration	Consult equipment supplier or sales engineer
4	fibrous chips	Unstable component material	Ajust to appropriate Speed and Feed
		Incorrect feeding device (for example use hydrolinder as feeding device)	Consult equipment supplier or sales engineer
		Contaminated coolant	Clean the coolant
		Chemical reaction between component and carbide cutting tools	Check and change cutting tools grade
		Cutting edge chips off	Change the drill
		Low feed	Increase the feed
5	Carbide cutting edge Chip off	Cutting tools are not sharp enough	Resharp and grind the cutting edge
		Not enough coolant	Check flow and pressure
		Contaminated coolant	Clean the coolant
		Small guide bushing tolerance	Change smaller dia drill if necessary
		Eccentricity between shank and spindle	Adjust eccentricity
		Incorrect cutting edge parameter	Change cutting edge parameter
		Unstable component material	Ajust to appropriate Speed and Feed

Line #	Issues	Reason	Solution
6	Short cutting life	Inappropriate feed or speed	Adjust feed and speed
		Inappropriate carbide grade or coating	Change grade according to materials
		Not enough coolant	Check coolant temperature and coolant system
		Incorrect coolant	Incorrect coolant
		Eccentricity between shank and spindle	Adjust eccentricity
		Incorrect cutting edge parameter	Change cutting edge parameter
		Unstable component material	Adjust to appropriate Speed and Feed
7	Rough surface	Eccentricity	Check and adjust
		Chip breaker too big or lower than central height	Check correct chip breaker
		Incorrect cutting tool or guide bar dimensions	Select correct cutting tools
		Eccentricity between component and drills	Adjust eccentricity
		Vibration	Consult equipment supplier or cutting tools engineer
		Incorrect cutting edge parameter	Change cutting edge parameter
		Low cutting speed	Provide cutting speed
		Low feed while cutting carbide material	Increase feed
		Unstable feed	Improve feed
8	Eccentricity	Deviation between machine and component	Adjust
		Too long drill rod or poor straightness	Adjust
		Too long drill rod or poor straightness	Change cutting tools or parts
		Component material (features, hardness, impurity)	Select correct cutting tools and cutting parameter
9	Spiral holes	Chip off on peripheric inserts clamp	Change
		Wear on guide pad resulting in less support	Change and adjust
		Deviation between machine and component	Adjust
		Less coolant and lubrication	Adjust coolant
10	Too much cutting vibration	Cutting tools are not sharp enough	Select correct cutting tools
		Incorrect cutting parameter	Adjust cutting parameter
		Machine is not rigid with less feed	Adjust machine or decrease drill diameter

Indexable Carbide Deep Hole Drill Thread Diagram



Drill Dia	d2	d3	d4	d5	d6	d7	L1	L2	L3	J	T	S
25~26.4	13	17.5	19	19.5	18	17.7	27	18.5	6	3	3	1.7
26.41~28.7	15	19	20.5	21	19.5	19.2	27	18.5	6	3	3	1.7
28.71~31.8	16	21	23	23.5	21.5	21.2	30	21.5	6	4	4	2.2
31.81~33.3	17.5	23	25	25.5	23.5	23.2	30	21.5	6	4	4	2.2
33.31~36.2	19	25.5	27.5	28	26	25.7	30	21.5	6	4	4	2.2
36.21~39.6	22	27	29.4	30	27.5	27.2	37	26.5	7	4	5	2.7
39.61~43	24.5	30	32.4	33	30.5	30.2	37	26.5	7	4	5	2.7
43.01~47	27	33	35.4	36	33.5	33.2	37	26.5	7	4	5	2.7
47.01~52.5	30	36	38.4	39	36.5	36.2	37	26.5	7	4	5	2.7
52.51~56.2	34	39.5	42.4	43	40	39.7	41	30.5	7	5	6	3.2
56.21~64.5	36	43.5	46.4	47	44	43.7	41	30.5	7	5	6	3.2
64.51~65.5	39	47	51.5	52	47.5	47	77	53	11.5	7	8	4.5
65.51~72.8	45	53	57.5	58	53.5	53	77	53	11.5	7	8	4.5
72.81~79.8	48	58	62.5	63	58.5	58	77	53	11.5	7	8	4.5
79.81~86.8	55	64	68.5	69	64.5	64	100	72	12	11	12	6.5
86.81~101.6	60	71	75.5	76	71.5	71	100	72	12	11	12	6.5
101.61~111.6	72	83	88	89	84	83.2	100	73	13	10	11	6
111.61~125	82	95	100	101	96	95.2	100	73	13	11	12	6.5

Customized threading for drill head is available according to client's drawing and samples.

NOTE

Blank lined area for notes.

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