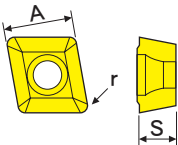


鎢鋼鑽刀片

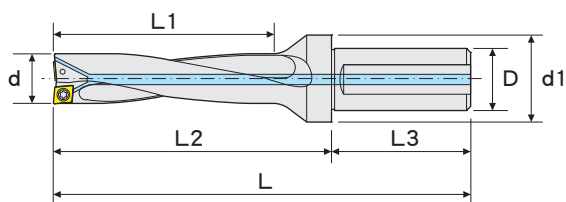
CARBIDE DRILLING INSERTS

加工材質	P	鋼材 Alloy Steels							◎		◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend				
	M	不銹鋼 Stainless Steels							◎						
	K	鑄鐵 Cast Iron							◎						
	N	鋁合金 Aluminum Alloys							—		F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing				
	S	高溫合金 High-Temp Alloys							◎						
	H	調質鋼 Hardened Steels							◎						
刀片 Insert	訂購編號 Order No.	材質碼 Grade							尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿 頁數 Tool Page
		CM10	CVD		PVD				A	B	S	r	d1		
			CM6337	CM6347	CM6213	CM6223	CM6032	CM6233							
應用於盲孔加工、穿孔加工【刀片單面使用】。 Blind Hole Drilling & Through Hole Drilling 【Single-Sided Inserts】。															
	S	WDXT042004-MG						●	4.2	—	2.0	0.4	—		
F	S	M	R												
	S	WDXT052504-MG						●	5.0	—	2.5	0.4	—		
F	S	M	R												
	S	WDXT063006-MG						●	6.0	—	3.0	0.6	—		
F	S	M	R												
	S	WDXT073506-MG						●	7.5	—	3.5	0.6	—		
F	S	M	R												

→ 切削條件表 Cutting Condition P.610

DWD 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 3xd



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訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD04-02013-03D-C	13.0	39	57	50	107	20	27	WD..0420..	TS1801	ETF06
DWD04-020135-03D-C	13.5	42	60	50	110	20	27			
DWD04-02014-03D-C	14.0	42	60	50	110	20	27			
DWD04-020145-03D-C	14.5	45	64	50	114	20	27			
DWD04-02015-03D-C	15.0	45	64	50	114	20	27			
DWD05-020155-03D-C	15.5	48	67	50	117	25	27	WD..0525..	TS2003	ETF06
DWD05-02016-03D-C	16.0	48	67	50	117	25	27			
DWD05-020165-03D-C	16.5	51	70	50	120	25	27			
DWD05-02017-03D-C	17.0	51	70	50	120	20	27			
DWD05-020175-03D-C	17.5	54	73	50	123	25	27			
DWD05-02018-03D-C	18.0	54	73	50	123	25	27	WD..0630..	TS2203	ETF07
DWD06-020185-03D-C	18.5	57	76	50	126	25	27			
DWD06-02019-03D-C	19.0	57	76	50	126	25	27			
DWD06-020195-03D-C	19.5	60	79	50	129	25	27			
DWD06-02020-03D-C	20.0	60	79	50	129	25	27			
DWD06-020205-03D-C	20.5	63	87	56	143	25	33			
DWD06-02021-03D-C	21.0	63	87	56	143	25	33			
DWD06-020215-03D-C	21.5	66	90	56	146	25	33			
DWD06-02022-03D-C	22.0	66	90	56	146	25	33			
DWD06-020225-03D-C	22.5	69	93	56	149	32	43	WD..0735..	TS2511	ETF08
DWD07-02023-03D-C	23.0	69	93	56	149	32	43			
DWD07-020235-03D-C	23.5	72	96	56	152	32	43			
DWD07-02024-03D-C	24.0	72	96	56	152	32	43			
DWD07-020245-03D-C	24.5	75	99	56	155	32	43			
DWD07-02025-03D-C	25.0	75	99	56	155	32	43			
DWD07-020255-03D-C	25.5	78	105	60	165	32	43			
DWD07-02026-03D-C	26.0	78	105	60	165	32	43			
DWD07-020265-03D-C	26.5	81	109	60	169	32	43			
DWD07-02027-03D-C	27.0	81	109	60	169	32	43			
DWD07-020275-03D-C	27.5	84	112	60	172	32	43			
DWD07-02028-03D-C	28.0	84	112	60	172	32	43			

→ 搭配刀片
Insert P.400

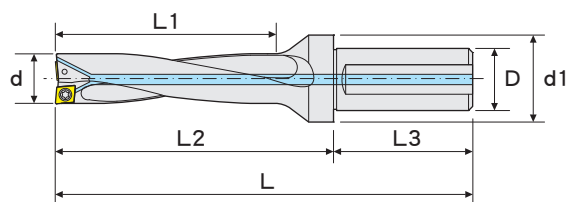
→ 切削條件表
Cutting Condition P.610

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

INDEXABLE- HIGH SPEED DRILLS- DWD- 3xd



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➡ 切削條件表 P.610
Cutting Condition

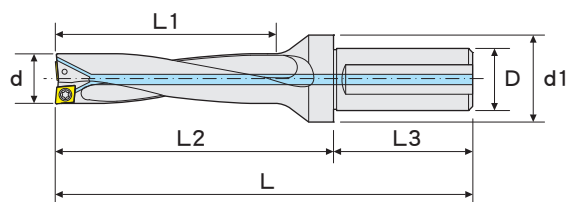
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

HOLEMAKING

鑽削刀桿

DWD 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 4xd



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訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD04-02013-04D-C	13.0	52	70	50	120	20	27	WD..0420..	TS1801	ETF06
DWD04-020135-04D-C	13.5	56	74	50	124	20	27			
DWD04-02014-04D-C	14.0	56	74	50	124	20	27			
DWD04-020145-04D-C	14.5	60	79	50	129	20	27			
DWD04-02015-04D-C	15.0	60	79	50	129	20	27			
DWD05-020155-04D-C	15.5	64	83	50	133	20	27	WD..0525..	TS2003	ETF06
DWD05-02016-04D-C	16.0	64	83	50	133	25	27			
DWD05-020165-04D-C	16.5	68	87	50	137	25	27			
DWD05-02017-04D-C	17.0	68	87	50	137	20	27			
DWD05-020175-04D-C	17.5	72	91	50	141	25	27			
DWD05-02018-04D-C	18.0	72	91	50	141	25	27	WD..0630..	TS2203	ETF07
DWD06-020185-04D-C	18.5	76	95	50	145	25	27			
DWD06-02019-04D-C	19.0	76	95	50	145	25	27			
DWD06-020195-04D-C	19.5	80	99	50	149	25	27			
DWD06-02020-04D-C	20.0	80	99	50	149	25	27			
DWD06-020205-04D-C	20.5	63	108	56	164	25	33			
DWD06-02021-04D-C	21.0	63	108	56	164	25	33			
DWD06-020215-04D-C	21.5	66	112	56	168	25	33			
DWD06-02022-04D-C	22.0	66	112	56	168	25	33	WD..0735..	TS2511	ETF08
DWD06-020225-04D-C	22.5	69	116	56	172	25	33			
DWD07-02023-04D-C	23.0	69	116	56	172	32	33			
DWD07-020235-04D-C	23.5	72	120	56	176	32	33			
DWD07-02024-04D-C	24.0	72	120	56	176	32	33			
DWD07-020245-04D-C	24.5	75	124	56	180	32	33			
DWD07-02025-04D-C	25.0	75	124	56	180	32	33			
DWD07-020255-04D-C	25.5	78	131	60	191	32	43			
DWD07-02026-04D-C	26.0	78	131	60	191	32	43			
DWD07-020265-04D-C	26.5	81	136	60	196	32	43			
DWD07-02027-04D-C	27.0	81	136	60	196	32	43			
DWD07-020275-04D-C	27.5	84	140	60	200	32	43			
DWD07-02028-04D-C	28.0	84	140	60	200	32	43			

→ 搭配刀片
Insert P.400

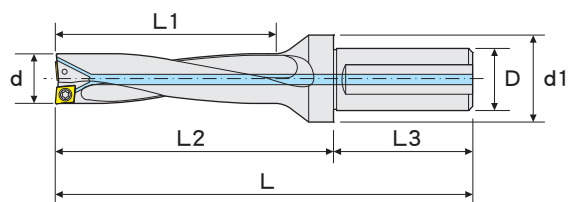
→ 切削條件表
Cutting Condition P.610

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

INDEXABLE- HIGH SPEED DRILLS- DWD- 4xd



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➡ 切削條件表 P.610
Cutting Condition

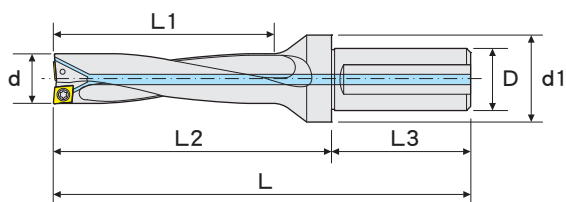
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

HOLEMAKING

鑽削刀桿

DWD 快速鑽頭 - 5 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 5xd



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訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw 	Wrench 
	d	L1	L2	L3	L	D	d1			
DWD04-02013-05D-C	13	65	83	50	133	20	25	WD..0420..	TS1801	ETF06
DWD04-02014-05D-C	14	70	88	50	138	20	25			
DWD04-02015-05D-C	15	75	94	50	144	20	25			
DWD05-02016-05D-C	16	80	100	50	149	20	25	WD..0525..	TS2003	ETF06
DWD05-02017-05D-C	17	85	105	50	154	20	25			
DWD05-02018-05D-C	18	90	110	50	159	25	25			
DWD06-02019-05D-C	19	95	115	50	164	25	25	WD..0630..	TS2203	ETF07
DWD06-02020-05D-C	20	100	120	50	169	25	25			
DWD06-02021-05D-C	21	105	125	56	185	25	33			
DWD06-02022-05D-C	22	110	130	56	190	25	33	WD..0735..	TS2511	ETF08
DWD07-02023-05D-C	23	115	140	56	195	25	33			
DWD07-02024-05D-C	24	120	145	56	200	25	33			
DWD07-02025-05D-C	25	125	150	56	205	32	33			
DWD07-02026-05D-C	26	130	155	60	217	32	43			
DWD07-02027-05D-C	27	135	163	60	223	32	43			
DWD07-02028-05D-C	28	140	168	60	228	32	43	WD..0940..	TS3510	ETF15
DWD09-02029-05D-C	29	145	173	60	233	32	43			
DWD09-02030-05D-C	30	150	178	60	238	32	43			
DWD09-02031-05D-C	31	155	183	60	243	32	43			
DWD09-02032-05D-C	32	160	188	60	248	32	43			
DWD09-02033-05D-C	33	165	193	60	253	32	43			
DWD09-02034-05D-C	34	170	198	60	257	32	43			
DWD09-02035-05D-C	35	175	203	60	263	32	43			
DWD09-02036-05D-C	36	180	208	60	268	32	43	WD..1250..	TS5008	ETF20
DWD12-02044-05D-C	44	220	255	70	325	40	53			

→ 搭配刀片
Insert P.400

→ 切削條件表
Cutting Condition P.610

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

Table 184

DSP 快速鑽頭 切削條件表

INDEXABLE- HIGH SPEED DRILLS- DRILLING CONDITION TABLE

加工材質 Material	工件料號 Material Code	硬度 Hardness	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)				
				Φ 13~15	Φ 16~21	Φ 22~27	Φ 28~33	Φ 34~41
碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<30	100~150	0.04~0.08	0.05~0.09	0.06~0.12	0.07~0.13	0.08~0.15
		HRC30~45	70~140	0.04~0.07	0.05~0.08	0.05~0.09	0.06~0.12	0.07~0.14
調質鋼 Hardened Steels	SKT,SKD	HRC45~55	—	—	—	—	—	—
不銹鋼 Stainless Steels	SUS304	—	80~140	0.04~0.08	0.05~0.09	0.05~0.10	0.06~0.12	0.07~0.14
鑄鐵 Cast Iron	FC,FCD	HRC<30	100~150	0.05~0.08	0.06~0.11	0.07~0.13	0.08~0.15	0.10~0.18
鋁合金 Aluminum Alloys	AI 5052 / 6061 / 7075	—	150~250	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
高溫合金 High-Temp Alloys	Ti-6Al-4V	HRC<30	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08
備註 Remarks	※ 4倍長請調降主軸轉速(S)和每轉進給量(f) 10%。 When 4xD, please reduce 10% of rpm and feed per tooth.							

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 185

DW / DDW 快速鑽頭 切削條件表

INDEXABLE- HIGH SPEED DRILLS- DRILLING CONDITION TABLE

加工材質 Material	工件料號 Material Code	硬度 Hardness	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)				
				Φ 14~20.5	Φ 22~25.5	Φ 26~30	Φ 31~39	Φ 40~60
碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<30	90~140	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
		HRC30~45	70~120	0.05~0.07	0.05~0.09	0.06~0.11	0.07~0.14	0.08~0.17
調質鋼 Hardened Steels	SKT,SKD	HRC45~55	—	—	—	—	—	—
不銹鋼 Stainless Steels	SUS304	—	60~140	0.05~0.09	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
鑄鐵 Cast Iron	FC,FCD	HRC<30	90~140	0.06~0.10	0.06~0.12	0.07~0.14	0.08~0.16	0.10~0.20
鋁合金 Aluminum Alloys	AI 5052 / 6061 / 7075	—	150~250	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
高溫合金 High-Temp Alloys	Ti-6Al-4V	HRC<30	30~60	0.03~0.05	0.03~0.06	0.04~0.08	0.05~0.10	0.06~0.12
備註 Remarks	※ 4倍長請調降主軸轉速(S)和每轉進給量(f) 10%。 When 4xD, please reduce 10% of rpm and feed per tooth.							

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed rate(F) (10~40%).
4. 以上數據為建議值，適當的條件仍需視機台狀況，夾治具品質，潤滑冷卻系統...等而改變。

These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.