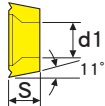
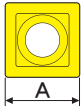


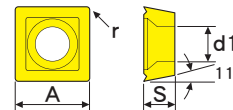
鎢鋼鑽刀片

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	
				CVD	PVD				A	B	S	r	d1			
			CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243						
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】。																
		T	SPMG050204-MG						●	●	●	5.00	—	2.38	0.4	2.30
		F	S	M	R											
		T	SPMG060204-MG						●	●	●	6.00	—	2.38	0.4	2.65
		F	S	M	R											
		T	SPMG07T308-MG						●	●	●	7.94	—	3.97	0.8	2.85
		F	S	M	R											
		T	SPMG090408-MG						●	●	●	9.80	—	4.30	0.8	4.05
		F	S	M	R											
		T	SPMG090408-RG						●	●	●	9.80	—	4.30	0.8	4.05
		F	S	M	R											
		T	SPMG110408-MG						●	●	●	11.5	—	4.80	0.8	4.45
		F	S	M	R											
		T	SPMG110408-RG						●	●	●	11.5	—	4.80	0.8	4.45
		F	S	M	R											

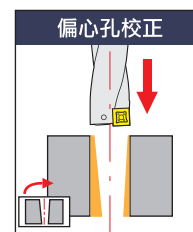
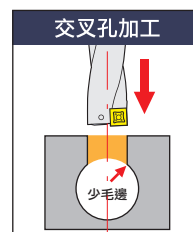
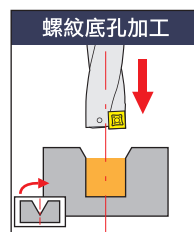
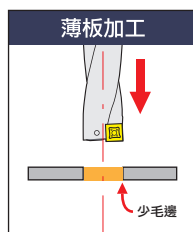
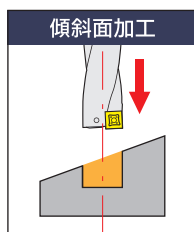
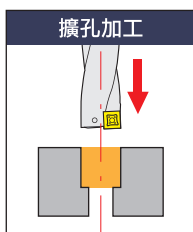


402
407



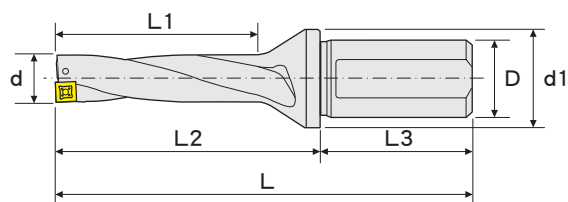
402
407

→ 切削條件表 Cutting Condition P.610



DSP 快速鑽頭 - 2 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 2xd



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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			
DSP05-020125-02D-C	12.5	26	44	50	94	20	25	SPMG0502..	TS2003	ETF06
DSP05-020133-02D-C	13.0	26	44	50	94	20	25			
DSP05-020135-02D-C	13.5	28	46	50	96	20	25			
DSP05-020144-02D-C	14.0	28	46	50	96	20	25			
DSP05-020145-02D-C	14.5	30	49	50	99	20	25			
DSP05-020155-02D-C	15.0	30	49	50	99	20	25			
DSP06-020155-02D-C	15.5	32	52	56	108	25	33	SPMG0602..	TS2205	ETF06
DSP06-020166-02D-C	16.0	32	52	56	108	25	33			
DSP06-020165-02D-C	16.5	34	54	56	110	25	33			
DSP06-020177-02D-C	17.0	34	54	56	110	25	33			
DSP06-020175-02D-C	17.5	36	57	56	113	25	33			
DSP06-020188-02D-C	18.0	36	57	56	113	25	33			
DSP06-020185-02D-C	18.5	38	59	56	115	25	33			
DSP06-020199-02D-C	19.0	38	59	56	115	25	33			
DSP06-020195-02D-C	19.5	40	63	56	119	25	33			
DSP06-020200-02D-C	20.0	40	63	56	119	25	33			
DSP06-020205-02D-C	20.5	42	65	56	121	25	33	SPMG07T3..	TS2511	ETF08
DSP06-020211-02D-C	21.0	42	65	56	121	25	33			
DSP06-020215-02D-C	21.5	44	67	56	123	25	33			
DSP07-020222-02D-C	22.0	44	67	56	123	25	43			
DSP07-020225-02D-C	22.5	46	71	60	131	32	43			
DSP07-020233-02D-C	23.0	46	71	60	131	32	43			
DSP07-020235-02D-C	23.5	48	74	60	134	32	43			
DSP07-020244-02D-C	24.0	48	74	60	134	32	43			
DSP07-020245-02D-C	24.5	50	77	60	137	32	43			
DSP07-020255-02D-C	25.0	50	77	60	137	32	43			
DSP07-020255-02D-C	25.5	52	79	60	139	32	43	SPMG07T3..	TS2511	ETF08
DSP07-020266-02D-C	26.0	52	79	60	139	32	43			
DSP07-020265-02D-C	26.5	54	81	60	142	32	43			
DSP07-020277-02D-C	27.0	54	81	60	142	32	43			
DSP07-020275-02D-C	27.5	56	84	60	144	32	43			

→ 搭配刀片
Insert P.399

→ 切削條件表
Cutting Condition P.610

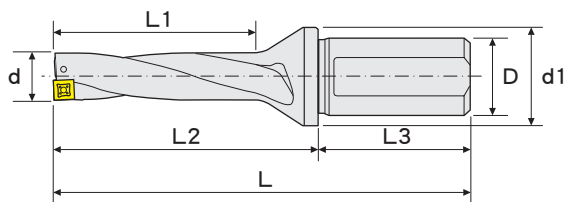
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

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

DSP 快速鑽頭 - 2 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 2xd



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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			
DSP09-02028-02D-C	28.0	56	84	60	144	32	43	SPMG0904..	TS3504	ETF15
DSP09-020285-02D-C	28.5	58	86	60	146	32	43			
DSP09-02029-02D-C	29.0	58	86	60	146	32	43			
DSP09-020295-02D-C	29.5	60	88	60	148	32	43			
DSP09-02030-02D-C	30.0	60	88	60	148	32	43			
DSP09-020305-02D-C	30.5	62	90	60	150	32	43			
DSP09-02031-02D-C	31.0	62	90	60	150	32	43			
DSP09-020315-02D-C	31.5	64	92	60	152	32	43			
DSP09-02032-02D-C	32.0	64	92	60	152	32	43			
DSP09-020325-02D-C	32.5	66	94	60	154	32	43			
DSP09-02033-02D-C	33.0	66	94	60	154	32	43	SPMG1104..	TS4006	ETF15
DSP11-02034-02D-C	34.0	68	96	60	156	32	43			
DSP11-02035-02D-C	35.0	70	98	60	158	32	43			
DSP11-02036-02D-C	36.0	72	100	60	160	32	43			
DSP11-02037-02D-C	37.0	74	102	60	162	32	43			
DSP11-02038-02D-C	38.0	76	104	60	164	32	43			
DSP11-02039-02D-C	39.0	78	106	60	166	32	43			
DSP11-02040-02D-C	40.0	80	115	60	175	40	53			
DSP11-02041-02D-C	41.0	82	117	60	177	40	53			

→ 搭配刀片
Insert P.399

→ 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

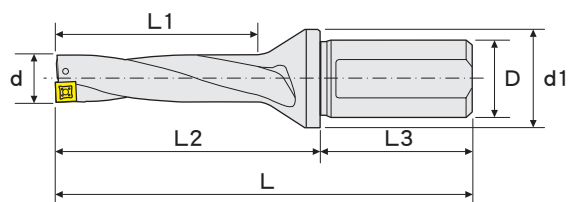
HOLEMAKING

Drilling Toolholders

鑽削刀桿

DSP 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 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			
DSP05-020125-03D-C	12.5	39	57	50	107	20	25	SPMG0502..	TS2003	ETF06
DSP05-020133-03D-C	13.0	39	57	50	107	20	25			
DSP05-020135-03D-C	13.5	42	60	50	110	20	25			
DSP05-020143-03D-C	14.0	42	60	50	110	20	25			
DSP05-020145-03D-C	14.5	45	64	50	114	20	25			
DSP05-020153-03D-C	15.0	45	64	50	114	20	25	SPMG0602..	TS2205	ETF06
DSP06-020155-03D-C	15.5	48	68	56	124	25	33			
DSP06-020163-03D-C	16.0	48	68	56	124	25	33			
DSP06-020165-03D-C	16.5	51	71	56	127	25	33			
DSP06-020173-03D-C	17.0	51	71	56	127	25	33			
DSP06-020175-03D-C	17.5	54	75	56	131	25	33			
DSP06-020183-03D-C	18.0	54	75	56	131	25	33			
DSP06-020185-03D-C	18.5	57	78	56	134	25	33			
DSP06-020193-03D-C	19.0	57	78	56	134	25	33			
DSP06-020195-03D-C	19.5	60	83	56	139	25	33			
DSP06-020203-03D-C	20.0	60	83	56	139	25	33	SPMG07T3..	TS2511	ETF08
DSP06-020205-03D-C	20.5	63	86	56	142	25	33			
DSP06-020213-03D-C	21.0	63	86	56	142	25	33			
DSP06-020215-03D-C	21.5	66	89	56	145	25	33			
DSP07-020223-03D-C	22.0	66	89	56	145	25	43			
DSP07-020225-03D-C	22.5	69	94	60	154	32	43			
DSP07-020233-03D-C	23.0	69	94	60	154	32	43			
DSP07-020235-03D-C	23.5	72	98	60	158	32	43			
DSP07-020243-03D-C	24.0	72	98	60	158	32	43			
DSP07-020245-03D-C	24.5	75	102	60	162	32	43			
DSP07-020253-03D-C	25.0	75	102	60	162	32	43	SPMG07T3..	TS2511	ETF08
DSP07-020255-03D-C	25.5	78	105	60	165	32	43			
DSP07-020263-03D-C	26.0	78	105	60	165	32	43			
DSP07-020265-03D-C	26.5	81	108	60	168	32	43			
DSP07-020273-03D-C	27.0	81	108	60	168	32	43			
DSP07-020275-03D-C	27.5	84	112	60	172	32	43			

→ 搭配刀片
Insert P.399

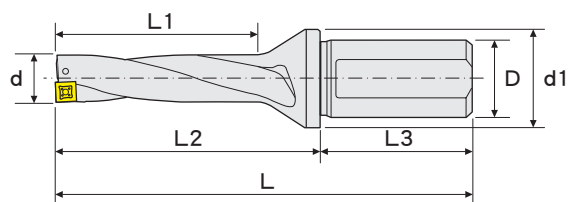
→ 切削條件表
Cutting Condition P.610

※ 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- DSP- 3xd



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➡ 切削條件表 P.610
Cutting Condition

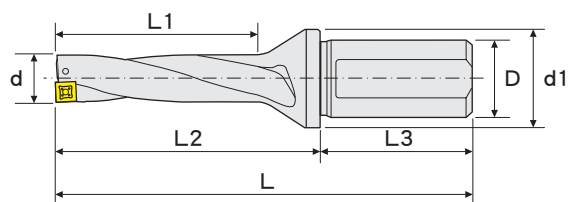
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

HOLEMAKING

鑽削刀桿

DSP 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 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			
DSP05-020125-04D-C	12.5	52	70	50	120	20	25	SPMG0502..	TS2003	ETF06
DSP05-020130-04D-C	13.0	52	70	50	120	20	25			
DSP05-020135-04D-C	13.5	56	74	50	124	20	25			
DSP05-020140-04D-C	14.0	56	74	50	124	20	25			
DSP05-020145-04D-C	14.5	60	79	50	129	20	25			
DSP05-020150-04D-C	15.0	60	79	50	129	20	25			
DSP06-020155-04D-C	15.5	64	84	56	140	25	33	SPMG0602..	TS2205	ETF06
DSP06-020160-04D-C	16.0	64	84	56	140	25	33			
DSP06-020165-04D-C	16.5	68	88	56	144	25	33			
DSP06-020170-04D-C	17.0	68	88	56	144	25	33			
DSP06-020175-04D-C	17.5	72	92	56	148	25	33			
DSP06-020180-04D-C	18.0	72	92	56	148	25	33			
DSP06-020185-04D-C	18.5	76	96	56	152	25	33			
DSP06-020190-04D-C	19.0	76	96	56	152	25	33			
DSP06-020195-04D-C	19.5	80	100	56	156	25	33			
DSP06-020200-04D-C	20.0	80	100	56	156	25	33			
DSP06-020205-04D-C	20.5	84	104	56	160	25	33			
DSP06-020210-04D-C	21.0	84	104	56	160	25	33			
DSP06-020215-04D-C	21.5	88	108	56	164	25	33	SPMG07T3..	TS2511	ETF08
DSP07-020220-04D-C	22.0	88	108	56	164	25	43			
DSP07-020225-04D-C	22.5	92	117	60	177	32	43			
DSP07-020230-04D-C	23.0	92	117	60	177	32	43			
DSP07-020235-04D-C	23.5	96	121	60	181	32	43			
DSP07-020240-04D-C	24.0	96	121	60	181	32	43			
DSP07-020245-04D-C	24.5	100	125	60	185	32	43			
DSP07-020250-04D-C	25.0	100	125	60	185	32	43			
DSP07-020255-04D-C	25.5	104	129	60	189	32	43			
DSP07-020260-04D-C	26.0	104	129	60	189	32	43			
DSP07-020265-04D-C	26.5	108	136	60	196	32	43			
DSP07-020270-04D-C	27.0	108	136	60	196	32	43			
DSP07-020275-04D-C	27.5	112	140	60	200	32	43			

→ 搭配刀片
Insert P.399

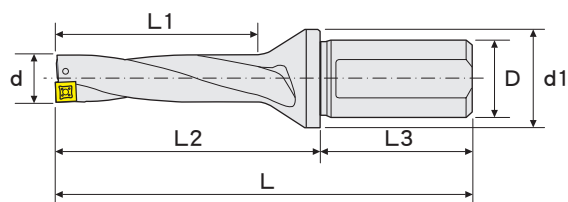
→ 切削條件表
Cutting Condition P.610

※ 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- DSP- 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

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.