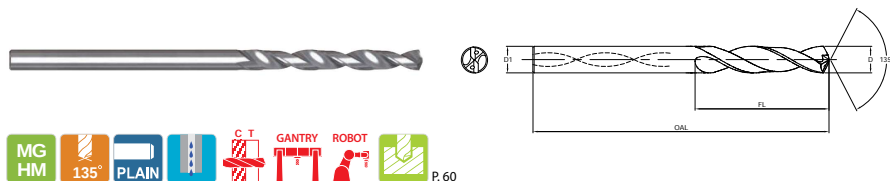


SOLID CARBIDE, DRILLS FOR CFRP / Ti

Excellent choice of Carbide with minimum micro-grain size made to handle all heat release from the hard metal YG-1 special CVD coating and other coatings available for extended tool life and better abrasion resistance



INCH / METRIC SIZES

EDP No. (INCH)	EDP No. (METRIC)	Drill Diameter				Shank Diameter	Flute Length	Overall Length	No. of Flutes
		D (Inch)			D (mm)				
		Fractional	Wire Gage	Decimal					
-	UDR5A2AC0300	-	-	-	3.00	6	28	66	2
UDR5A1AC0125	-	1/8	-	.1250	3.18	6	28	66	2
UDR5A1AC0129	-	-	#30	.1285	3.26	6	28	66	2
UDR5A1AC0156	-	5/32	-	.1562	3.97	6	36	74	2
-	UDR5A2AC0400	-	-	-	4.00	6	36	74	2
UDR5A1AC0159	-	-	#21	.1590	4.04	6	36	74	2
UDR5A1AC0188	-	3/16	-	.1875	4.76	6	36	74	2
UDR5A1AC0189	-	-	#12	.1890	4.80	6	44	82	2
UDR5A1AC0191	-	-	#11	.1910	4.85	6	44	82	2
-	UDR5A2AC0500	-	-	-	5.00	6	44	82	2
UDR5A1AC0201	-	-	#7	.2010	5.11	6	44	82	2
UDR5A1AC0203	-	13/64	-	.2031	5.16	6	44	82	2
UDR5A1AC0219	-	7/32	-	.2188	5.56	6	44	82	2
UDR5A1AC0234	-	15/64	-	.2344	5.95	6	44	82	2
-	UDR5A2AC0600	-	-	-	6.00	6	44	82	2
UDR5A1AC0250	-	1/4	-	.2500	6.35	8	53	91	2
UDR5A1AC0313	-	5/16	-	.3125	7.94	8	53	91	2
-	UDR5A2AC0800	-	-	-	8.00	8	53	91	2
UDR5A1AC0375	-	3/8	-	.3750	9.53	10	61	103	2
-	UDR5A2AC1000	-	-	-	10.00	10	61	103	2
UDR5A1AC0438	-	7/16	-	.4375	11.11	12	71	118	2
-	UDR5A2AC1200	-	-	-	12.00	12	71	118	2
UDR5A1AC0500	-	1/2	-	.5000	12.70	14	77	124	2
-	UDR5A2AC1400	-	-	-	14.00	14	77	124	2
UDR5A1AC0563	-	9/16	-	.5625	14.29	16	83	133	2
UDR5A1AC0625	-	5/8	-	.6250	15.88	16	83	133	2
-	UDR5A2AC1600	-	-	-	16.00	16	83	133	2
UDR5A1AC0688	-	11/16	-	.6875	17.46	18	93	143	2
UDR5A1AC0750	-	3/4	-	.7500	19.05	20	101	153	2
-	UDR5A2AC2000	-	-	-	20.00	20	101	153	2

- CVD Diamond Coating and other coatings are available on Customer Request
- Available as made to order

SOLID CARBIDE, DRILLS / COUNTERSINK FOR CFRP

Optimized for drilling CFRP with excellent performance
Special geometry for superior performance for delamination free drilling
YG-1 special CVD coating for extended tool life and better abrasion resistance
h6 shank tolerance for high precision tool holders



INCH SIZES

(Unit : inch)

EDP	Drill Diameter			C'Sink Diameter	Shank Diameter	Flute Length	Overall Length	No. of Flutes
	D							
	Fractional	Wire Gage	Decimal					
UDC5P1AA0156	5/32	-	.1562	7/16	3/8	1	3-1/2	2
UDC5P1AA0188	3/16	-	.1875	1/2	3/8	1	3-1/2	2
UDC5P1AA0191	-	#11	.1910	1/2	3/8	1	3-1/2	2
UDC5P1AA0250	1/4	-	.2500	9/16	3/8	1	3-1/2	2
UDC5P1AA0313	5/16	-	.3125	11/16	1/2	1	3-1/2	2
UDC5P1AA0375	3/8	-	.3750	3/4	1/2	1	3-1/2	2
UDC5P1AA0438	7/16	-	.4375	7/8	5/8	1-1/2	4	2
UDC5P1AA0500	1/2	-	.5000	7/8	5/8	1-1/2	4	2
UDC5P1AA0563	9/16	-	.5625	1	5/8	1-1/2	4	2
UDC5P1AA0625	5/8	-	.6250	1	5/8	1-1/2	4	2

METRIC SIZES

(Unit : mm)

EDP	Drill Diameter	C'Sink Diameter D2	Shank Diameter D1	Flute Length FL	Overall Length OAL	No. of Flutes
	D					
UDC5P2AA0400	4	12	10	25	90	2
UDC5P2AA0600	6	14	10	25	90	2
UDC5P2AA0800	8	16	12	25	90	2
UDC5P2AA1000	10	20	12	25	90	2
UDC5P2AA1200	12	20	16	40	100	2
UDC5P2AA1400	14	25	16	40	100	2
UDC5P2AA1600	16	25	16	40	100	2

- Available as made to order

CUTTING CONDITIONS LIST

MILLING

MATERIAL	OPERATION	Tool Diameter in (mm)											
		1/8" (3.175mm)			1/4" (6.35mm)			3/8" (9.53mm)			1/2" (12.7mm)		
		RPM	FEED (IPM)	FEED (mm/min.)	RPM	FEED (IPM)	FEED (mm/min.)	RPM	FEED (IPM)	FEED (mm/min.)	RPM	FEED (IPM)	FEED (mm/min.)
CFRP	SLOTING	12000	30	762	6000	30	762	4500	30	762	4000	30	762
	SIDE MILLING (PROFILING)	15000	50	1270	8000	45	1143	5000	45	1143	4000	40	1016
GFRP	SLOTING	10000	25	635	5000	25	635	4000	25	635	3500	25	635
	SIDE MILLING (PROFILING)	12000	35	889	7000	35	889	5500	35	889	4500	35	889
HONEY COMB	SLOTING	25000	100	2540	20000	100	2540	18000	100	2540	15000	400	10160
	SIDE MILLING (PROFILING)	25000	100	2540	25000	100	2540	25000	100	2540	25000	400	10160

DRILLING

WORK MATERIAL	SPEED (SFM)	Tool Diameter (inch)			SPEED (m/min.)	Tool Diameter (mm)		
		1/4-3/8	3/8-1/2	1/2-1.00		6.35-9.525	9.525-12.7	12.7-25.4
		FEED (IPR)				FEED (mm/rev.)		
CFRP, GFRP	300 - 400	.006 - .008	.008 - .015	.015 - .025	91.4 - 121.9	.1524 - .2032	.2032 - .381	.381 - 0.635
CFRP/AL	300 - 400	.006 - .008	.008 - .015	.015 - .025	91.4 - 121.9	.1524 - .2032	.2032 - .381	.381 - 0.635
CFRP/Ti	30 - 70	.006 - .010	.010 - .015	.015 - .020	9.1 - 21.3	.1524 - .254	.1524 - .381	.381 - 0.508

REAMERS

WORK MATERIAL	SPEED (SFM)	Tool Diameter (inch)			SPEED (m/min.)	Tool Diameter (mm)		
		1/4-3/8	3/8-1/2	1/2-1.00		6.35-9.525	9.525-12.7	12.7-25.4
		FEED (IPR)				FEED (mm/rev.)		
CFRP, GFRP	300 - 400	.006 - .008	.008 - .015	.015 - .025	91.4 - 121.9	.1524 - .2032	.2032 - .381	.381 - 0.635
CFRP/AL	300 - 400	.006 - .008	.008 - .015	.015 - .025	91.4 - 121.9	.1524 - .2032	.2032 - .381	.381 - 0.635
CFRP/Ti	30 - 70	.006 - .010	.010 - .015	.015 - .020	9.1 - 21.3	.1524 - .254	.1524 - .381	.381 - 0.508

ICON GUIDE LIST

ICON	Contents	ICON	Contents
	Micro Grain Carbide		Cutting Condition
	Polycrystalline Diamond		CFRP (Carbon Fiber Reinforced Plastics)
	Diamond Coating		GFRP (Glass Fiber Reinforced Plastics)
	Point Angle		KFRP (Kelvar Fiber Reinforced Plastics)
	No. of Flutes		CFRP / Aluminum
			CFRP / Titanium
	Type of Shank		Honeycomb
	Helix Angle		Gantry Machine
	Chamfer Angle		Robot Machine
	O.D Tolerance of Reamer (DIN 1420 for H7)		Hand Held Hand Held(Micro-Stop)
	Internal Coolant Holes		Type of End Teeth