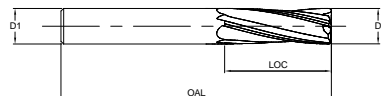


INCH **URT5P1AA** SERIES
 METRIC **URT5P2AA** SERIES

SOLID CARBIDE, CFRP ROUTERS WITH LOW SPIRAL FLUTES

High performance machining of CFRP, Graphite, Wood, Bakelite and Plastics
 YG-1 special CVD coating for extended tool life and better abrasion resistance



INCH SIZES

(Unit : inch)

EDP	Mill Diameter D		Shank Diameter D1	Length of Cut LOC	Overall Length OAL	No. of Flutes
	Fractional	Decimal				
URT5P1AA0125	1/8	.1250	1/8	1/2	3	4
URT5P1AA0250	1/4	.2500	1/4	1	3	4
URT5P1AA0375	3/8	.3750	3/8	1	3	4
URT5P1AA0500	1/2	.5000	1/2	1-1/2	4	4

METRIC SIZES

(Unit : mm)

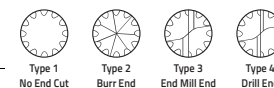
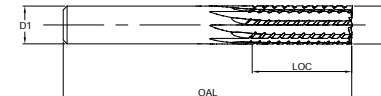
EDP	Mill Diameter D		Shank Diameter D1	Length of Cut LOC	Overall Length OAL	No. of Flutes
	Fractional	Decimal				
URT5P2AA0300	3		3	9	50	4
URT5P2AA0600	6		6	18	65	4
URT5P2AA0800	8		8	24	70	4
URT5P2AA1000	10		10	30	80	4
URT5P2AA1200	12		12	36	100	4

► Available as made to order

INCH **URT5P1AB, URT5P1AC, URT5P1AD, URT5P1AE** SERIES
 METRIC **URT5P2AB, URT5P2AC, URT5P2AD, URT5P2AE** SERIES

SOLID CARBIDE, CFRP ROUTERS WITH CHIP BREAKER STRAIGHT FLUTES

High performance machining of CFRP, using as rougher or finisher
 YG-1 special CVD coating for extended tool life and better abrasion resistance



INCH SIZES

(Unit : inch)

EDP				Mill Diameter D		Shank Diameter D1	Length of Cut LOC	Overall Length OAL	No. of Flutes
TYPE 1	TYPE 2	TYPE 3	TYPE 4	Fractional	Decimal				
URT5P1AB0125	URT5P1AC0125	URT5P1AD0125	URT5P1AE0125	1/8	.1250	1/8	1/2	3	4
URT5P1AB0250	URT5P1AC0250	URT5P1AD0250	URT5P1AE0250	1/4	.2500	1/4	1	3	6
URT5P1AB0375	URT5P1AC0375	URT5P1AD0375	URT5P1AE0375	3/8	.3750	3/8	1	3	8
URT5P1AB0500	URT5P1AC0500	URT5P1AD0500	URT5P1AE0500	1/2	.5000	1/2	1-1/2	4	8

METRIC SIZES

(Unit : mm)

EDP				Mill Diameter D		Shank Diameter D1	Length of Cut LOC	Overall Length OAL	No. of Flutes
TYPE 1	TYPE 2	TYPE 3	TYPE 4	Fractional	Decimal				
URT5P2AB0300	URT5P2AC0300	URT5P2AD0300	URT5P2AE0300	3		3	9	50	4
URT5P2AB0600	URT5P2AC0600	URT5P2AD0600	URT5P2AE0600	6		6	18	65	6
URT5P2AB0800	URT5P2AC0800	URT5P2AD0800	URT5P2AE0800	8		8	24	70	8
URT5P2AB1000	URT5P2AC1000	URT5P2AD1000	URT5P2AE1000	10		10	30	80	8
URT5P2AB1200	URT5P2AC1200	URT5P2AD1200	URT5P2AE1200	12		12	36	100	8

► 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	SLOTting	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	SLOTting	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	SLOTting	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 (Kevlar Fiber Reinforced Plastics)
	No. of Flutes		CFRP / Aluminum
	Type of Shank		CFRP / Titanium
	Helix Angle		Honeycomb
	Chamfer Angle		Gantry Machine
	O.D Tolerance of Reamer (DIN 1420 for H7)		Robot Machine
	Internal Coolant Holes		Hand Held Hand Held(Micro-Stop)
			Type of End Teeth

COMPOSITE MILLING TOOLS INDEX

INCH METRIC	MODEL	NO. OF FLUTES	HELIX ANGLE	DESCRIPTION	SIZE		PAGE
					INCH	METRIC	
URT5P1AA URT5P2AA		4 Flute	15°	Solid Carbide, CFRP Routers with Low Spiral Flute with CVD Coating for Graphite, Plastics, Bakelite and wood	1/8 ~ 1/2	3.0 ~ 12.0	20
URT5P1AB URT5P2AB		4-8 Flute	0°	Solid Carbide, CFRP Routers with Chip Breaker Straight Flutes with CVD Coating for CFRP roughing and one shot operation (Type 1-No End Cut)	1/8 ~ 1/2	3.0 ~ 12.0	21
URT5P1AC URT5P2AC		4-8 Flute	0°	Solid Carbide, CFRP Routers with Chip Breaker Straight Flutes with CVD Coating for CFRP roughing and one shot operation (Type 2-Burr End)	1/8 ~ 1/2	3.0 ~ 12.0	21
URT5P1AD URT5P2AD		4-8 Flute	0°	Solid Carbide, CFRP Routers with Chip Breaker Straight Flutes with CVD Coating for CFRP roughing and one shot operation (Type 3-End Mill End)	1/8 ~ 1/2	3.0 ~ 12.0	21
URT5P1AE URT5P2AE		4-8 Flute	0°	Solid Carbide, CFRP Routers with Chip Breaker Straight Flutes with CVD Coating for CFRP roughing and one shot operation (Type 4-Drill End)	1/8 ~ 1/2	3.0 ~ 12.0	21
URT5P1AF URT5P2AF		Multi Flute	15°	Solid carbide, CFRP Routers with Chip Breaker Helical Flutes with CVD Coating for CFRP roughing and one shot operation (Type 1-No End Cut)	1/8 ~ 1/2	3.0 ~ 12.0	22
URT5P1AG URT5P2AG		Multi Flute	15°	Solid carbide, CFRP Routers with Chip Breaker Helical Flutes with CVD Coating for CFRP roughing and one shot operation (Type 2-Burr End)	1/8 ~ 1/2	3.0 ~ 12.0	22
URT5P1AH URT5P2AH		Multi Flute	15°	Solid carbide, CFRP Routers with Chip Breaker Helical Flutes with CVD Coating for CFRP roughing and one shot operation (Type 3-End Mill End)	1/8 ~ 1/2	3.0 ~ 12.0	22
URT5P1AI URT5P2AI		Multi Flute	15°	Solid carbide, CFRP Routers with Chip Breaker Helical Flutes with CVD Coating for CFRP roughing and one shot operation (Type 4-Drill End)	1/8 ~ 1/2	3.0 ~ 12.0	22
URT5P1AN URT5P2AN		6 Flute /30°	30° /30°	Solid Carbide, CFRP Compression Routers with CVD Coating for CFRP	1/4 ~1/2	6.0 ~ 12.0	23
URT5P1AO URT5P2AO		6 Flute	30° /30°	Solid Carbide, CFRP Compression Routers with chip breakers with CVD coating for CFRP	1/4 ~1/2	6.0 ~ 12.0	23
URT5P1AP URT5P2AP		8 Flute	15°	Solid Carbide, CFRP Finishing Routers with CVD Coating for CFRP	1/4 ~1/2	6.0 ~ 12.0	24
URT5A1AJ URT5A2AJ		Multi Flute	-	Solid Carbide, Fiberglass Routers For GFRP roughing and one shot operation (Type 1-No End Cut)	1/8 ~ 1/2	3.0 ~ 12.0	25
URT5A1AK URT5A2AK		Multi Flute	-	Solid Carbide, Fiberglass Routers For GFRP roughing and one shot operation (Type 2-Burr End)	1/8 ~ 1/2	3.0 ~ 12.0	25
URT5A1AL URT5A2AL		Multi Flute	-	Solid Carbide, Fiberglass Routers For GFRP roughing and one shot operation (Type 3-End Mill End)	1/8 ~ 1/2	3.0 ~ 12.0	25
URT5A1AM URT5A2AM		Multi Flute	-	Solid Carbide, Fiberglass Routers For GFRP roughing and one shot operation (Type 4-Drill End)	1/8 ~ 1/2	3.0 ~ 12.0	25
URT5A1AQ URT5A2AQ		2 Flute	-	Solid Carbide, Kevlar Routers for Kevlar composites	1/4 ~1/2	6.0 ~ 12.0	26
URT5A1AR URT5A2AR		Multi Flute	-	Solid Carbide, Honeycomb Routers for honeycomb core	1/4 ~1/2	6.0 ~ 12.0	27

⊙ : Excellent ○ : Good

CFRP	Working Material			Application				Machine Type	
	GFRP	Kevlar	HoneyComb	Roughing	Slotting	Full Cutting	Finishing	Gantry	Robot
⊙	○			⊙	○	⊙	○	⊙	○
○				⊙	○	⊙	○	⊙	○
○				⊙	○	⊙	○	⊙	○
⊙				⊙	○	⊙	○	⊙	○
○				⊙	○	⊙	○	⊙	○
○				⊙	○	⊙	○	⊙	○
○	○			⊙	○	⊙	○	⊙	○
○				⊙	○	⊙	○	⊙	○
○	○			○	○	○	○	⊙	○
○			○	⊙	○	⊙	○	⊙	○