"Case Study for Graphite component on DTC-250C (Venture)"

Customer name : **M/s.** , **Bangalore.**

Case Study No. : TSG-CS-038 / TR-010. **(Conducted at customer end.)**

Machine Details : Venture DTC-250C, Fanuc O M System

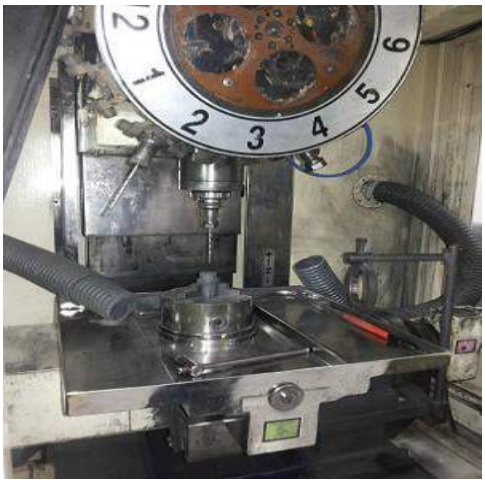
Main Features : Spindle-BT-30 taper, 6000 rpm with Direct drive, LM Guide ways for all 3 Axes, Traverse (X, Y&Z) - 400 / 250 / 350 mm, Spindle Power 3.7/5.5 kw, Nikken CNC 180 Rotary table with chuck mounted and both side Vacuum pipe for suck the graphite powder during profile or hole making.

Component Name : Paper packing M/C Accessories, Toolings and etc.,

Output

Component Material: **Graphite** (Green **Carbide)**.

VENTURE DTC 250-C



CARBIDE TOOLS

<u>Example of Cutting operations & its Cycle time</u>: (Few opn.only).

Actual cutting parameters and cycle time depends on Component material, Tools, Tool holders and Fixture concept.

Sl. No.	Operation	Tool	Spindle speed (rpm)	Feed (mm/min)	DOC (mm)	Cutting Time (min : Sec)
1	Drilling	Ø 1.8 HSS with Diamond coated	1500	70	-	01 : 09
2	Drilling	Ø 2.0 HSS with Diamond coated	1700	60	-	00 : 25
3	Chamfering	Ø 8 X 90˚Chamfer Tool	1200	50	0.5	01: 36
4	Profile Cutter	Ø 45 Diamond coated form cutter	800	100	5.0	03 : 27

Achievements:

1. Time taken on machine for complete profile machining is 06.37 min. @ 06.35 min.
2. Customer is satisfied with Machine performance, Accuracy, Surface finish & Cycle time.
3. Surface finish is good within permissible limits, since it is 16 years old machine.
4. Component Individual profile angle with respect to center bore, Slot width and symmetry maintained as per drawing.

The objective of the case study is to show the Machine performance, Capability, Quality & Surface finish.