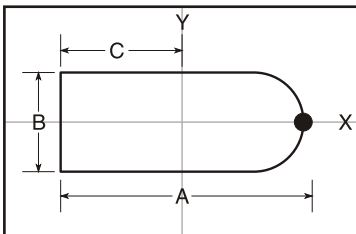


CNC Punch / Cam Profile Grinding Machine



CNC Punch Grinding Machine - V3

LAVINGIA ENTERPRISE
Annedabad - 382 445, India.



Error Compensation
(+ / -)

A	19.755 mm	mm
B	8.350 mm	mm
C	10.000 mm	- 0.005 mm
r1	mm	mm
r2	mm	mm

Mount component oriented as shown above.

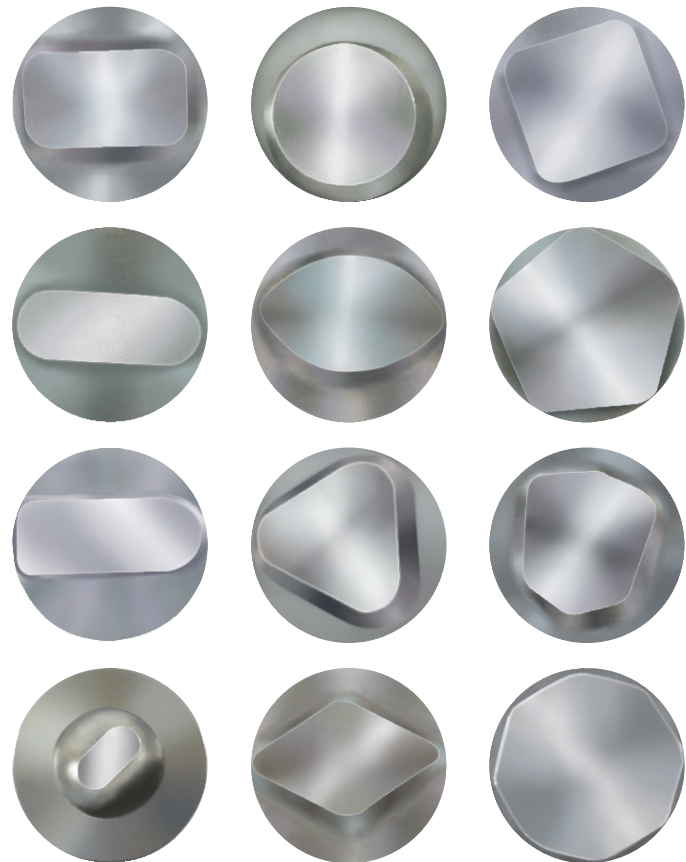
Component Rotational Speed:.....RPM

Cycle Progress : Wheel Dressing After This Cut Demanded.

Cut	Number of Cuts to Go	Dwell/Spark Out Passes to Go	Dressing Y(1) / N(0)	Axis Position Monitor		
				Axis	Position	Remark
Coarse	30	3	1	C	1024	4096/Rev.
Rough	15	2	0	X1	4.175	
Finish	5	2	0	Z		
				X2	A/R/O	Adv / Retra / OFF
Dressing Cut : Depth : 0.015mm, Dress : NA				Wheel Dressing ON		

To position slides for grinding press 'START' push button.
Confirm component orientation.
To begin grinding press 'START' push button again.
Profile Grinding ; see Cycle Progress above.

Screen Shot



Summary Specifications :

Application : Punch profile grinding for pharmaceutical TABLET punches, metal cutting punch tools, automotive CAMs, carbide toolings.

Process : Punch Profile generation by coordinated movement of C-Axis and X-Axis. Wheel profiling by Z&X axis coordinated movement.

Max Profile Dimension (Diametral) : 50mm. Number of Axis : 4,

Grinding wheel : standard-AluOxide, Optional : Super Abrasive.

Grinding Wheel Size (Max) : OD : 400mm X H:50mm X Bore:127mm



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CNC Punch / Cam Profile Grinding Machine

Precise

Precision is at the base of our punch profile grinding. The AC servo drives, directly driven linear motor & absolute position feedback ensure highest quality punch profiles to meet your exacting standards. (Feedback resolution are Angular $<0.1^\circ$, linear $<0.5\mu$) You will exceed your customer's specifications.

Productive

Productivity is assured by high power grinding spindle, large diameter (for higher material removal) and wide grinding wheel (which along with coordinated X/Z movement for wheel profiling takes care of punch neck profile/relief grinding) and ease of change-over from one profile to another in a matter of minute. You will beat your customer's delivery demands.

Reliable

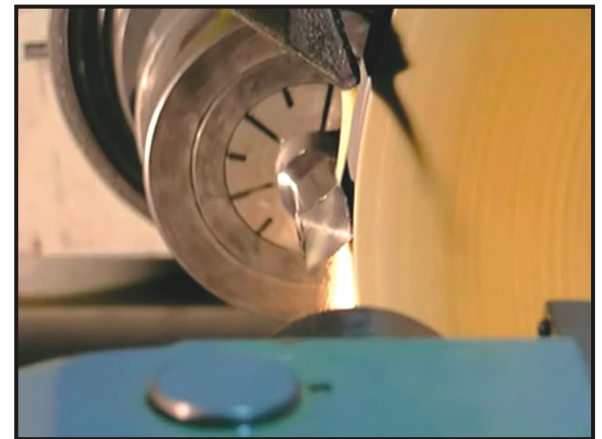
The robust and maintenance free mechanical construction, direct drive linear servo motor for profiling (no ball screw), highest quality electricals, and built in safety interlocks and diagnostic tools ensure very high MTBF and uptime. Now you can make delivery commitments with absolute confidence.

User Friendly

is not just a phrase, it is our endeavor to ensure that minimum operator training and operational skills are required. Our **EazyPunchCAM** software tool eliminates CNC programming. The operator has to define only Profile geometrical parameters, The **EazyPunchCAM** does the rest. You will never worry about your investment in operator training.

Specifications :

Working Space	: Center Height : 150mm (Optional : 185mm) x 200 L
Component Size	: Maximum Dimension : 60mm (Diametral)
Work-Head	: Shaft support : ISO : P4 class angular-contact bearings Drive : 3.2 Nm AC servo-motor / Timing belt Feedback : 13bit (8192ppr) Absolute encoder Work Holding : Collet ; other option to suite component Axis Identification : B - Axis.
Work-Table	: Support : 'V'- Flat guideways lined with PTFE / Bronze composite material Drive : 3.2Nm AC Servo - motor / Ball - Screw - Stroke : 200mm Feedback : 5000 ppr Resolver, Resolution : 0.001mm(1 μ) Axis Identification : Z - Axis.
Work-Head	: Grinding Wheel : OD : 350 / 400mm x H : 10 / 40mm x ID : 127 mm Drive : AC motor - 7.5 HP 1500 RPM / Flat Belt Drive. Optional : Variable Frequency Drive.
Wheel - Slides	: Profiling Slide : Support : X-Roller Linear Bearings Drive : Linear AC Servo - Motor Feedback : Linear Scale, Resolution : 0.0005mm(0.5 μ) Axis Identification : X1 - Axis. Feed Slide : Support : X-Roller Linear Bearings Drive : DC Stepper - Motor / Lead - Screw Minimum Feed Resolution : 0.001mm(1 μ) Axis Identification : X2 - Axis. Optional : AC Servo Drive & Linear Scale with Auto Wheel Size Determination.
Controller	: IPC with integrated software tools. EtherCAT interface & compatible devices. EazyPunchCAM for profile selection, geometrical definition, part processing, and process monitoring
Coolant System	: Tank : 120L, Pump : 35LPM @ 1m water head Magnetic Separator.



OPTIONAL equipment to let you tailor the machine to suite your operational needs.

1. **Rotary Diamond Dressing Device**, driven by a servo motor to eliminate the effect of diamond wear and improve precision.
2. Fully **automatic wheel balancing** to continuously monitor and keep the grinding wheel balanced throughout to ensure optimum surface finish.
3. Auto **grinding wheel size (diameter) sensing** and constant grinding wheel surface speed to eliminate operator input related to grinding wheel.
4. **Coolant filtration system** to enhance surface finish and coolant life.



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