

ECK1216 ECK1232 ECK1250

ECK1216/ECK1232/ECK1250

数控活塞环外圆车床

CNC For Piston Ring Contour

功能简介 | Brief Introduction of Functions

- 本系列机床由精度高刚度大的普通车床改造而成，配置平动式数控仿形刀架（一派数控专利产品），通过调用电子凸轮数据即可加工活塞环外圆或立体靠模。机床无需实物凸轮、机械仿形装置及杠杆比调节装置，结构简单紧凑，维护方便。
- 基于电子凸轮运用的数控仿形刀架，具有仿形精度高、产品换型快、精度保持性好等特点；
- 电子凸轮数据由“一派活塞环自由形线处理软件”（一派数控软件著作权产品）生成，软件提供了多种环周径向压力曲线设计方法，具备自由形线、压力分布、动态特性的分析处理功能；
- 可选配活塞环自由形线测量仪，并利用测量数据与理论数据的误差值，补偿修正伺服机构的加工误差，进一步提高加工精度，得到满意的自由形线曲线；
- 可选配增加X轴伺服，用于活塞环铸造用金属型模加工。
- This series of lathes are manufactured through modifying high-accuracy and high-rigidity common numerically-controlled lathes. Equipped with transnational numerically-controlled profiling cutter saddles (patent product of EPOCH NC), these lathes can process the excircle of piston rings or solid cam through calling the data of the electronic cam. Without a solid cam, mechanical profile device and lever ratio adjusting device, these lathes have a simpler structure and can be maintained more conveniently.
- The numerically-controlled profiling cutter saddle based on electronic cam is characterized by highly accurately profiling, more quickly changing types of the products and well keeping good accuracy;
- The data of the electronic cam are produced by the "Epoch piston ring free-profiling curve treatment software" (copyright product of EPOCH NC), which provides manifold design methods of radial pressure curve and have the functions of analysis and treatment of free-profiling curve, pressure distribution and dynamic characteristics;
- These lathes can be equipped with piston ring free-profiling curve measuring instrument. Through the error between the measured data and theoretic data, the processing error of the servo device can be compensated and corrected to further promote the processing accuracy and get satisfactory free-profiling curve;
- These lathes can add X axis servo that can machine metal cam which will be used for casting piston rings.



主要技术指标 | Main Technical Indexes

项目 Item	ECK1216	ECK1232	ECK1250
活塞环直径 Piston Ring Diameter (mm)	Φ80 ~ Φ160	Φ140 ~ Φ320	Φ200 ~ Φ500
最大加工环叠长度 Maximum Piston Rings Length (mm)	150	150	150
最大加工扁度 Maximum Ellipticity (mm)	8.0	10.0	12.0
主轴精度 Spindle Precision Accuracy (mm)	0.01	0.01	0.01
主轴最高转速 Maximum Spindle Speed (rpm)	200	160	120
外径尺寸公差 Diameter Tolerance (mm)	±0.03	±0.04	±0.05
工序能力指数CPK Process Capability	≥1.33	≥1.33	≥1.33
粗糙度 Surface Roughness (μm)	Ra3.2	Ra3.2	Ra3.2
仿形轮廓度 Profile Accuracy (mm)	±0.03	±0.04	±0.05