GBW-60 Computer Controlled Erichsen Cupping Tester

1, General introduction

GBW-60 Erichsen cupping tester is mainly used to check the ductility of metal sheet and strip. It conform with ISO 20482:2003 Metallic materials - sheet and strip - Erichsen cupping test standard. GB 5125-2008 (Method for deep drawing cup testing of non-ferrous metal). Can inspect the ductility deformation performance of test sample and inspect anisotropism of metal sheet.

Erichsen cupping test mean use certain size steel ball or ball shape punch, press a sample that be loaded a 10KN pressure, till the sample appear a penetrate through crack. Check the deep (mm) at this situation, this deep value is called Erichsen cupping test result value.

2, Features

1, Adopt advanced new structure, servo motor constant speed loading, constant rate control, microcontroller to control the punching process, can preset the speed.

2, Clamping force is apply by independent hydraulic oil source, can adjust the clamping load, can independent calibrate.

3, Force measuring change from oild sensor to load cell, encoder to measure the cupping value. Our low friction moving device technology used in the punch moving system, improve the test data repeatability, accuracy and reliability.

4, Test fixture easy to change, sample dismantle and installation convenient. install the sample, then press a button will automatically clamping. Can input or change test parameter, punching process is PID control, automatically judge the sample cracking and automatically stop. With watch window, can easy observe sample cracking, for the ultrathin sample can manually stop the test.

5, Test result is computer display, with peak value memory function, max. punching load, Erichsen cupping value etc., can save the test result, curve drawing, test report etc., one test finish can automatically back to initial condition.

3, References

ASTM 20482 "Metallic materials - sheet and strip - Erichsen cupping test standard"

GB 5125 "Method for deep drawing cup testing of non-ferrous metal "

3, Main technical specification

Specimen thickness	0.1-2mm
Max. width of Plate Specimen	90-100mm
Punch max. stroke	60mm
Max. punching load	60Kn
Max. clamping load	10Kn
Display resolution	0.01mm
Load accuracy	±1%
Deformation accuracy	±0.5%
Test speed	0.05mm/min -200mm/min
Erichsen Cupping fixture	Standard cupping ball: φ20±0.05mm Standard cushion type die hole: φ33±0.1mm Standard fixed mould hole: φ27±0.05mm
Deep drawing cup fixture	Punching head: dpφ32 Punching mould : ddφ32.28; ddφ32.35; ddφ32.43; ddφ32.50; ddφ32.60; ddφ32.75; ddφ32.90; ddφ33.05; ddφ33.20; ddφ33.35; ddφ33.50; ddφ33.80; ddφ34.10; ddφ34.50; ddφ35.00; ddφ35.60; ddφ36.30; ddφ37.00
Computer screen display	Punching load, clamping load, displacement, Erichsen cupping value, rate, curve etc.
Control type	Computer control
Hydraulic oil	N46 hydraulic oil
Power supply	380V/220V.
Dimensions	780mm×780mm×1100mm
Weight	260Kg

6, Main accessories

Item	Quantity
Frame	1 set
Include hydraulic oil station, low friction punching head moving system	
High precision ball leading screw	1 set
AC servo motor	1 set
High accuracy photoelectronic encoder	1 set
Load cell	1 set
Computer	1 set
Printer	1 set
Standard Erichsen Cupping fixture	1 set
Standard cupping ball: φ20±0.05mm	
Standard cushion type die hole: φ33±0.1mm	
Standard fixed mould hole: φ27±0.05mm	
Deep drawing cup fixture (optional)	
Sample punching mould (optional) (φ55 or φ60)	
Operation manual	
Certificate	
Packing list	
Professional measuring software in English	1 set
Documents (Manual, packing list, certificate)	