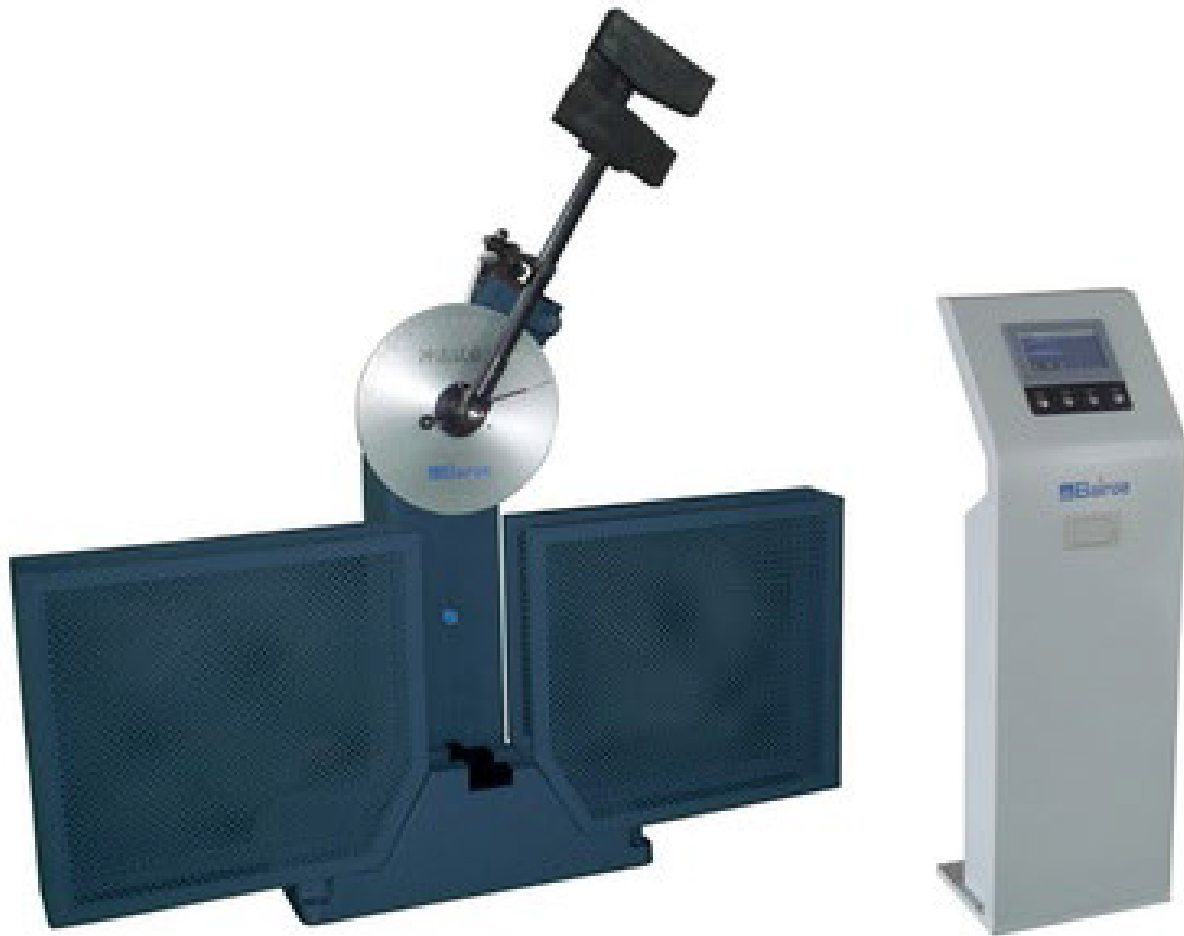


# Electronic Pendulum Impact Testing Machine CBD-300



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## Equipment introduction

1. Name: Electronic Pendulum Impact Testing Machine
2. Model: CBD-300
3. Equipment Introduction

The testing machine is easy and efficient for operation. Thrust in the sample, use pendulum remaining energy, the pendulum is automatically lift swing for next impact test. The machine is manufactured according to the national standard [GB/T 3808-2002 pendulum impact testing machine inspection], [GB/T 229-2007 metallic materials Charpy pendulum impact test] for impact testing of metallic materials. Maximum impact energy is 300 joules, attach a 150 joules pendulum. The specimen cross-section is 10\*10mm<sup>2</sup>, mainly for testing a large black metal toughness, such as steel and steel alloys for use.

### 4. The main structure and transmission

The testing machine consists of the following components: main frame, actuator, hanging off the pendulum body, CBD controller, TFT display human-computer interaction device, dial, pendulum, guards.

Acquisition system consists of two parts dealing with CPLD + MCU core, and peripheral control of optical isolation input circuit, output circuit, serial communication circuit, interactive display circuit, photoelectric encoder input circuit.

Opto-isolated input circuit to connect an external control buttons, proximity switch, photoelectric switch, limit switch, etc., can effectively prevent external electromagnetic interference. The opto-isolated input can be easily connected to a variety of levels, but without adding special level processing circuit.

24V driver output circuit is open-drain output, single-drive capability of 500mA, you can easily direct drive of the relay, AC contactor, solid state relays. Compared to the relay driver output has a response faster.

Serial communication can easily connect a computer to realize computer control operation of the testing machine.

Encoder circuit with differential input form (long drive), the differential circuit can be effective anti-interference.

Optical encoder signals, opto-isolated inputs and output driver circuit connected directly CPLD. CPLD rapid acquisition optical encoder signals and accurate count, and deal with input and output signals, and then handshake with MCU with these signals, the entire control system to maintain fast, stable and accurate.

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## 5. Specifications

5.1 Impact energy: 300J, 150J

5.2 Dial scale and dividing the value range

Energy Range	0 ~ 300J	0 ~ 150J
Dial cell division value of each grid	2J	1J
Angle Display Resolution [Actual calculation of the energy value of this point of view prevail]	0.025°	0.025°

5.3 Pendulum torque (the impact of constant)

Impact Energy	300J	150J
Pendulum Torque	160.7695N•m	80.3848N•m

5.4 Pre-swing angle of pendulum: 150°

5.5 Distance between pendulum shaft center to impact point (center of sample): 750mm

5.6 Impact speed: 5.2m/s

5.7 Specimen supports span: 40mm

5.8 Supports ends of the specimen radius: (GB/T 3808, GB/T 229) 1.5mm

5.9 Specimen supports surface angle: 0°

5.10 Impact knife radius: (GB/T 3808, GB/T 229) 2 ~ 2.5mm

5.11 Impact knife angle: 30°

5.12 Impact knife thickness: 16mm

5.13 Specimen size: 10mm \* 10mm \* 55mm

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# Electronic Pendulum Impact Testing Machine CBD-300

5.14 Weight: about 450kg

5.15 Dimensions: 2124mm\*600mm\*1340mm

5.16 Power supply: 300W / AC380V / 50Hz

## 6. Product configuration

No.	Item	Quantity	Remarks
1	CBD-300 Electronic Pendulum Impact Testing Machine	1	With 300J pendulum
2	150J pendulum	1	
3	CBD Controller	1	TFT display, CPLD acquisition
4	Hand-held control box	1	Metal button

## 7. Installation

Installation requirements: testing machines are installed on a solid foundation, install level degree  $\leq 0.2/1000$ , the surrounding space left is not less than 1m, interior clean, dry, non-vibration and corrosive gas, power supply AC380V, 50Hz, voltage fluctuations no more than  $\pm 10\%$  of the rated value.

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