CW-Hydraulic dead weight tester

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Overview

Dead weight tester can be used to calibrate electronic or mechanical pressure measuring instruments, which meets the requirements of the JJG59-2022 "Hydraulic Dead Weight Tester" and JJG99-2006"Weights" national measurement verification regulations.

Basic Principle

The principle of dead weight testers is based on the physical definition of pressure, i.e. the pressure per unit area.

- Pressure =F/A

Dead weight tester is a measuring instrument that uses the principle of hydrostatic balance (that is, the pressure acting on the effective area of the piston is balanced with the gravity it loads) for pressure measurement and calibration.

Applications

1. Primary standard for defining the pressure scale in a range of up to 1600bar.

2. Pressure reference for factory and calibration lab for the testing, adjustment and calibration of pressure measuring instruments.

Specifications

- Model (optional): CW-6T CW-60T CW-250T CW-600T CW-1000T CW-1600T

  Range (MPa): (0.06~0.6) (0.1~6) (0.5~25) (1~60) (2~100) (2~160)

  Accuracy: 0.005%; 0.01%; 0.02%; 0.05% of Readings

- **Material**

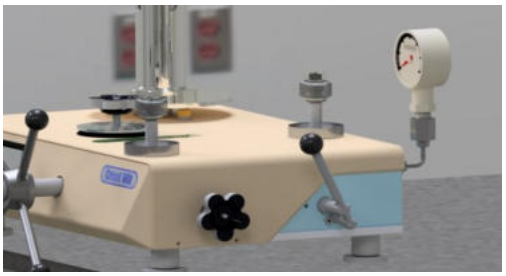
  Piston system (the rod and cylinder): tungsten carbide

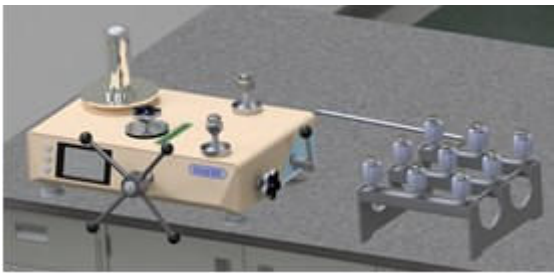
  Weight (Masses): Non-magnetic stainless steel (0.005%, 0.01%, 0.02%); Carbon steel (0.05%)

  Base: stainless steel

- The capacity of the oil cup is 500ml, and the oil cup can be equipped with an oil filter device according to customer needs, so as to prevent impurities from entering the oil pipeline and causing the pressure gauge damaged;
- When the piston floats to the proper position, the edge of the front panel of the equipment will light up with a light strip to remind the user that the piston has begun to float, and the pressure regulator needs to be slowly rotated to pressurize to prevent pressure overload;

Extensions connecting port





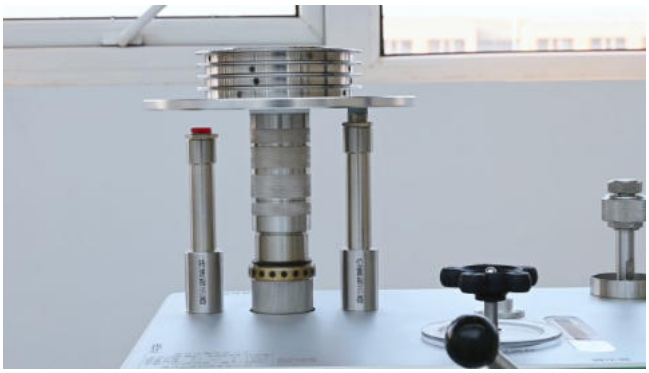
- Connection thread: M20*1.5, weights adjusted as user's local gravity
- Pre-pressure pump overload protection function: if the user mis operates and does not close the shut-off valve of the pre-pressure pump, when the pressure exceeds 10MPa, the pre-pressure pump check valve will automatically relieve the pressure to avoid damage to the pre-pressure pump or piston core system.
- Motor type（ speed around 30r/min）；(optional)
- The piston system is an integrated modular design: easy to disassemble

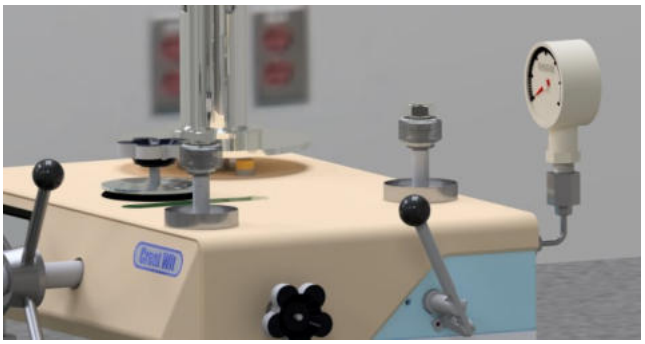
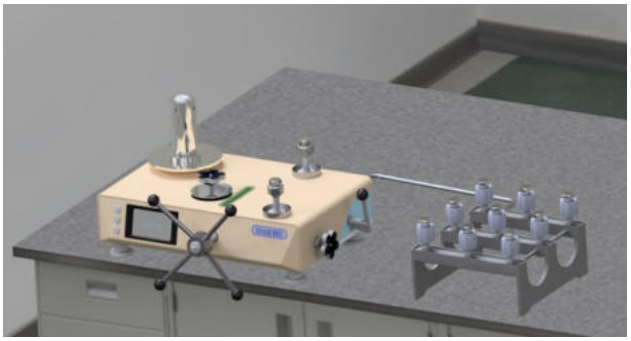
- 5 inches touch screen can display some important parameters such as the current ambient temperature (accuracy ±1°C) and humidity (accuracy 5%), piston real-time speed, piston floating position, etc.;

Datasheet

Model		CW-6T		CW-60T				CW-250T				CW-600T				CW-1000T			CW-1600T		
Range/MPa		0.06~0.6		0.1~6				0.5~25				1~60				1~100/2~100			2~160		
MAX/MPa		0.6		6				25				60				100			160		
MIN/MPa		0.06		0.1				0.5				1				1/2			2		
Piston effective area /cm^2		1		0.5		0.2		0.2		0.1		0.1		0.05		0.05			0.05		
Piston and chassis	Mass/kg	0.6		0.5		0.2		1		0.5		1		0.5		0.5/1			1		
	pressure/MPa	0.06		0.1		0.1		0.5		0.5		1		1		1/2			2		
Weights	Mass/kg	0.1	0.5	0.5	2.5	0.2	1	1	5	0.5	2.5	1	5	0.5	2.5	0.5	1	5	0.5	1	5
	pressure/MPa	0.01	0.05	0.1	0.5	0.1	0.5	0.5	2.5	0.5	2.5	1	5	1	5	1	2	10	1	2	10
	qty/pc	4	10	4	11	4	11	4	9	4	9	4	11	4	11	1	4	9	1	4	15
Total weight (with weights)/kg		41		65		47		85		60		95		65		85			115		
Medium		Mixture of kerosene and transformer oil						Bis(2-ethylhexyl) sebacate													
Thread		M20×1.5																			
Accuracy		0.005%/0.01%/0.02%/0.05%																			
Dimensions/mm		600×500×350																			

Details



Waring light strip

Extensions