

VHT-5800 Technical Parameter

Technical Data



1. Operating system: Windows CE
2. LCD screen: 10.4 inches HD, true-color digital LCD
3. External lifting pressure: 0-2000Kg (Can be expanded to 5000kg, 10000kg)
4. Force sensor range: 200Kg、500Kg、2000Kg、(5000Kg, 10000 Kg)
5. Force sensor accuracy: 0.5% F*S
6. Working Temperature: -10~60℃
7. Humidity Level: less than 85% R*H
8. Valve opening mode: displacement method, voice frequency method, according to different site scenarios.
 - Displacement Method
 - High-precision displacement transducer helps to size up safety valve opening status – if the valve is opened
 - High-precision displacement transducer measuring range 0 – 5mm
 - Accuracy: 0.05%
 - VF Method
 - VF probe: to monitor safety valve opening status
 - Stereo earphone: monitor VF probe result
 - Application environment: industrial and mining enterprises with complicated noises
9. Initiating pressure error of measurement: 0.5%
10. Power: AC & DC, automatic switchover.
 - Battery charging time: 5-6 hours and continue to performance over 12 hours.
 - Lithium battery: 7.2V, 15Ah.
11. Data storage: The instrument will automatically store 2000 sets of measuring data.
12. Professional data management software can auto create verification report according to the testing data.
13. Electronic hydraulic unit: micro D/C electronic oil pump integrated with main unit, convenient for pressurized operation.
14. Mechanical clamp unit: new type of mechanical structure using titanium alloy (tc-4) ensures the equipment is easy to use as well as verification reliability of limited switch.
15. Weight: Main Body 6Kg, Mechanical Clamp 15 Kg, Hydraulic Unit 3Kg (operating devices weight around 15 kg)

Technical Specialty

1. Apply to any inspection of various spring type safety valves and pressure relief valves with any specifications structure and measurements.
2. Using valve seat ring micro motion mode to size-up valve opening status, it needs only 0.05-0.1mm uplift without operational interference. This practice is strictly up to the regulation of international standard terminology and the relevant regulation mentioned in “Suggestions on Safety Valve Verification of Boilers and Pressure Vessels”.
3. Valve seat ring micro motion mode online testing does not interfere with operation and does not require system voltage transformation when doing online set pressure adjustment for pop safety valve as well as for set pressure adjustment to valve after generator parallel, power station boiler safety valve, steamer safety valve and superheater safety valve.
4. The accuracy of safety valve set-pressure adjustment on-line testing satisfies relevant state regulation.
5. Whorl type clamp insure the mechanical bracket can be firmly placed on the safety valve.
6. Connecting parts are designed to be hydro-cylinder and displacement sensor frame styled installation, safe and reliable, limiting over pulling, valve clack rising level is controlled under 1mm, not affecting production, returning leakage will trigger immediate shut of the valve clacks without affecting the pressure level.
7. Implementing Frame style mechanical clamp, no disassemble required while adjusting safety valve pressure.



8. Two ways of generating external forces:
 - Hydraulic method---sustainable and suitable for massive level of external forces
 - Whorl lifting jack method: convenient to construct, carry and operate, also suitable for aerial work.
- Self-Return Hydro-Cylinder, superfine oil tube reduced the overall weight.
9. Integrating Hydro-Cylinder clip locking, central perch whorl style, whorl lifting jack and limit-compel shutting device together makes the system easy to operate. Shutting device's fine adjustment can be self controlled and it is not necessary to adjust the hydro-cylinder's position.
10. Both metric and British standard of whorl coupling nut and exclusive clamping system significantly increases the suitability.
11. The usage of the Online adjustment and positioning instrument of Safety Valve insured actual leaping level's error is in the acceptable range, testing images uses column diagram (displacement method) and curve diagram (sound frequency detection method) to demonstrate the process, its scientific, straight forward and easy to understand. This minimizes the amount of human error during the measuring process.
12. Displacement method employs high precision displacement sensor, system will automatically act on the information acquired from the sensor, very high accuracy.
13. Sound frequency method employs stereo headphone and stereo HI FI systems, can be selected according to the actual in field conditions.
14. After the measurement, system automatically determines whether the error level is under the stipulated range, thus deciding if the safety valve is working normally.
15. Employing industrial grade self-illuminant color 10.4 inches touching screen.
16. Online testing of safety valve steam release.
17. Device standards customization, within a certain accuracy range, clients can customize the sensor's standardizations.
18. Both instrument's software and hardware perform self-checking.
19. The instrument automatically displays data storage info.
20. Safety valve examination can be carried out in thermal state, cold state and off line station modes, no need to decrease the system pressure, thus to achieve real online adjustments.
21. High accuracy displacement sensing data lines and sound frequency data lines use main signal line.
22. AC and DC switch-over automatically. Battery charging time: 5-6 hours, and continue to performance over 12 hours. Batteries can be charged anytime, and the voltage is showing during charging. When charging is done, circuits can automatically power off, and no human effort involved; instrument works normally during charging.
23. System contains a timing device, activation time is automatically recorded and transmitted to database for storage.
24. The instrument can save over 2000 safety valve measuring data; it can also display measuring data memory space automatically.
25. Uses single transmission and whole transmission, instrument contains USB ports; data can be downloaded into a thumb drive and transmitted to a PC for further usage.
26. 5 tons/10 tons sensors and parts can be provided according to customer's requirements.
27. No need to disassemble the safety valve; instrument can perform seal diameter checks directly.
28. When it's difficult to measure the working media's affect on the valve clack's seal diameter, differential pressure method, and rotating percentage method can be employed to test the accurate initiating pressure and effective seal diameter (this technology is patented by our company).
29. Suitable for Petroleum, Petrochemical, Power Plants, Gas Plants, Steel Plants and other types of industries' safety valve monitoring and adjustment.