KASON HPT-10M-3 Plastic Pipe Hydrostatic Pressure Tester

1. Overview

The KASONXG-10M hydrostatic burst tester is suitable for testing the instantaneous hydraulic burst of various plastic pipes used for fluid transportation and the failure resistance of thermoplastic pipes under long-term constant pressure. It is an essential testing instrument for research institutes, quality inspection departments, and pipe manufacturers.

The hydrostatic tester utilizes computer-embedded control. Its modular design enables individual control. If a problem occurs in any line, simply closing the shutoff valve at the current station will not affect the normal operation of other stations. It features functions such as pipe rupture detection, real-time monitoring, call data recovery, test result printing, storage, and sample pre-processing settings. To accommodate national holidays, it can store up to seven days of data.

2. Standard Compliance:

Standard No.	Standard Name
GB/T6111-2018	Test method for the internal pressure resistance of thermoplastic pipes for the transportation of liquids
GB/T15560-1995	Test method for the hydraulic transient burst and pressure resistance of plastic pipes for the transportation of fluids
GB/T18252-2008	Determination of the long-term hydrostatic strength of thermoplastic pipes for plastic piping systems by the extrapolation method
ASTM D1598-2004	Pipe, Plastic, Under Constant Internal Pressure, Time-to-Failure of (No S/S Document)
ASTMD1599	Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings
ASTM D1599	Standard Test Method forResistance to Short-Time Hydraulic Pressure of PlasticPipe, Tubing, and Fittings1
GB/T18476—2001	Polyolefin pipes for conveying fluids - Determination of resistance to crack growth - Test method for slow crack growth in notched pipes (notch test)
ISO1167	Thermoplastic pipes, fittings, and assemblies for conveying fluids - Determination of resistance to internal pressure
ISO13479	Determination of resistance of polyolefin pipes for the conveyance of fluids to crack propagation
ISO9080	Plastics piping and ducting systems - Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation (ISO9080, Ed. 1.0 (2003) MOD)
DIN EN 921 (1995-01)	Thermoplastics pipes - Determination of resistance to internal pressure at constant temperature

3. Working Principle

This instrument can perform both hydrostatic and burst tests. Parameters such as the pipe's hoop stress, wall thickness, and average outer diameter are entered into a PC to automatically calculate the test pressure. Alternatively, the test pressure can be manually entered based on actual experience. The computer transmits this information to a slave computer (MCU) via the RS232 serial bus. The slave computer automatically maintains a constant pressure on the pipe. A high-pressure plunger pump generates a high-pressure liquid pressure source. This pressure is then delivered through a pressure control system via a high-pressure hose to the specimen in a constant temperature chamber, allowing for long-term hydrostatic or burst tests on the pipe.

4. Instrument Features

Control System:

- **Two-Level Monitoring**

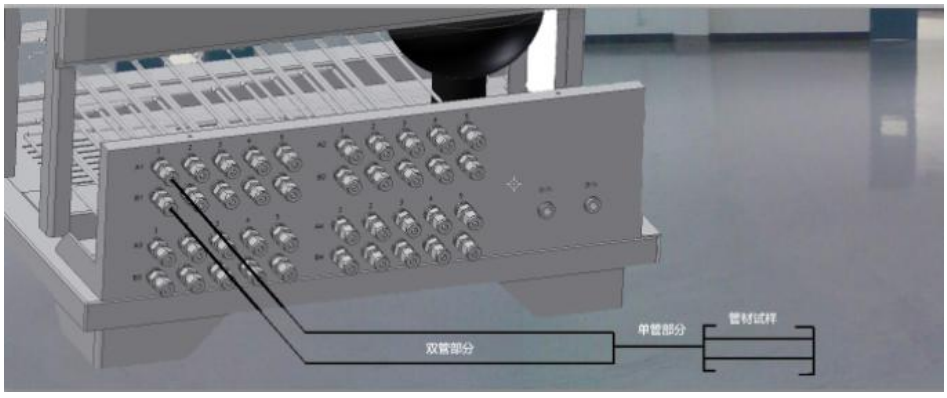
The first level provides 1-hour, detailed monitoring; the second level provides comprehensive, full-process monitoring. Equipped with a computer and printer, the instrument offers functions such as leak detection, rupture identification, real-time monitoring, power-off pressure maintenance, power-off data storage, call-in data recovery, test result printing and storage, and automatic pressure formula calculation. The graph display is synchronized with the actual test time.

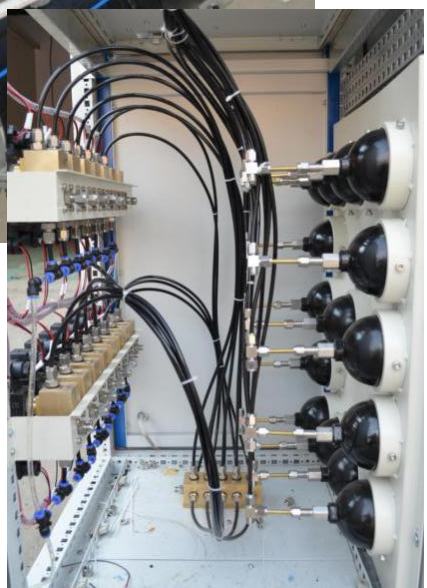
- **Multi-Purpose Unit**

It can perform both long-term hydrostatic testing of pipelines and burst testing of pipes (each circuit can perform both burst and pressure tests). It can also be used for thermal stability testing of thermoplastic pipes under hydrostatic conditions. Each circuit features multi-stage accumulator pressure control, ensuring fast response and stable pressure control, extending the service life of the solenoid valve.

- **Dual-Pipe Circuit Structure**

Traditional hydrostatic testing machines for pipes use a pressure supply to a boost valve, where pressure is collected, and then transmitted to the specimen. The other end is connected to a pressure relief valve, eliminating any backflow and creating a pressure differential between the specimen and the sensor. Our product utilizes a novel design: the pressure control system utilizes a dual-circuit structure with independent pressure supply and pressure collection. This means that two pipes connect the pressure unit to the specimen: one is a boost pipe for both boosting and releasing pressure, and the other is used to measure specimen pressure, with pressure taken directly from the specimen inlet.





- **Premium Quality**

The entire unit utilizes EU CE-certified electronic components, German

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solenoid valves, and GEMS sensors. This ensures exceptional long-term reliability and stability, high efficiency in testing multiple ports, and low operating costs for excellent economic benefits.

- **Wide Pressure Control Range**

Each of the five workstations has a freely adjustable pressure control range of 0.2-10 MPa.

Another workstation has a blasting pressure control range of 0.2-10 MPa.

- **High Pressure Control Precision, No Out-of-Drawbacks**

Each workstation is equipped with a small pressure accumulator. This accumulator consists of a pressure bladder and a metal pressure tank. During assembly, the bladder is filled with nitrogen gas at a certain pressure. Its primary function is to stabilize the test pressure in the pipeline and buffer any sudden pressure surges caused by pressure buildup, preventing the test pressure from overshooting.

- **High Reliability**

All electrical, mechanical, and software components are equipped with safety features, including protection against electrical leakage, short circuits, static electricity, interference, leakage, power outages, misoperation, and water shortages.

- **Integrated modular assembly**

The modular structure allows each module to function as a single workstation. Independent workstations do not interfere with each other and can be set independently within a range from 0.5 MPa to full load. A test rupture in one test path does not affect the normal testing of other paths.

- **Comprehensive functions**

It features rupture detection, real-time monitoring, power-off pressure maintenance, power-off protection, and automatic power-on recovery. It also prints and stores test results. The main control interface is available in Chinese and English, providing multi-language operation.

It includes a pressure measuring device, whose reference level is aligned with the constant temperature medium chamber.

- **User-friendly design**

It offers automatic and manual time increment options to compensate for ineffective time and to adjust the test pressure mid-test to meet specific pipe testing requirements.

A single host computer can control multiple constant temperature medium chambers. The computer software module automatically collects the temperatures of multiple tanks, presets the relationship between the constant temperature medium chambers and pressure stations, and plots temperature control curves.

It features automatic solenoid valve cleaning and automatic pressure relief functions. Remote Control

This function allows for separation of operator and tester functionality. If the pressure controller is connected to the internet, test status can be uploaded in real time, allowing for remote control and status

monitoring. Currently supported are iOS and Android phones/tablets, as well as Windows computers.

The product consists of three components: a pressure unit, a water tank, and a clamp. The specifications and models of each component are user-selectable, and custom designs are also available.

Pressure Source: High Pressure, High Flow, Automatic Water Storage, and Stable Energy Storage

- The main pressure source utilizes an imported pump head, a self-contained unit that can connect to multiple units.
- The pressure control instrument features a reliable mechanical gauge for fast response and stable pressure control.
- The main pressure is high and has a high flow rate.
- The pressure range is wide, with the energy storage pressure adjustable from 4 to 120 MPa.
- The hydrostatic pressure station is low-noise, safe, and stable.
- The instrument has built-in leakage protection.
- The flexible connection ensures low noise.

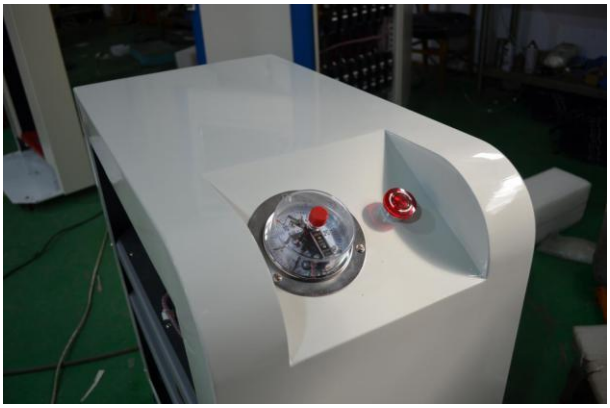
5. Technical Parameters

KASONXG-10M-3 Plastic Pipe Hydrostatic Pressure Tester(Dual circuit)		
Tester Accuracy Level		0.5 level
Maximum Test Pressure		10MPa
Number of Test Paths		3-channel
Control Method		Industrial touch screen computer control
Data Storage		Each channel has power-off data protection and can be restored upon restart
Time	Timing time	0 to 9999 hours and 59 minutes
	Timing accuracy	±0.1%
	Time resolution	1 second
	Minimum setting unit	min
Pressure	Pressure control range	0.2 to 10 MPa
	Pressure display unit	MPa, bar, or PSI
	Pressure control accuracy	-1% to +2%
	Full-load constant pressure control accuracy	Within ±0.3%
	Pressure display resolution	0.001 MPa, 0.01 bar, or 1 PSI

	Measurement range	0-100% FS
	Indication error limit	Within ±1% of displayed value
Range	Sample tube diameter	Ø16mm-Ø400mm

6. Configuration

Name	Origin and Application	QTY
Solenoid valve	GEVA, Netherlands	Number of workstations*2
Pressure transmitter	GEMS, UK	Number of workstations*1
Electric contact pressure gauge	Made in China	1
High-pressure plunger pump	Botolini	1
Accumulator	Fenghua	Number of workstations*1
Computer (PC)	Lenovo computers	1 Set
Printer	HP color printers	1 Set
Pressure pipe	Pressure pipe connecting pressure main unit to constant temperature media tank	2 PCS/Workstation
Main pressure connection hose	Pressure main unit to pressure source	1 PC
Pressure relief hose	Recovered water low-pressure pipe	1 PC
Stainless steel reinforced PTFE hose	High-temperature and high-pressure stainless steel reinforced PTFE hose	1 PC/Workstation
Software	Independently developed software	1 Set

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FOCUS IN MATERIAL TEST

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