

## Pipe Hydrostatic Pressure Testing Machine



### 1, General introduction

HYD series Pipeline hydrostatic pressure testing machine is designed according to ISO 1167, ASTM D1598, ASTM D1599. It's mainly used to test the plastic pipeline, compound pipeline, such as PP-R, PP-B, PP-A, PVC, PE, PE-X etc. Under a stipulated constant hydrostatic pressure force, keeping provision time; or inside the pipe, apply a constant and rapid hydraulic pressure to make the specimen broken in a short period time, check the max. pressure force, then calculate the ring stress. This tester is necessary equipment for plastic pipe manufacturer.

#### Key Features of mainframe

- 1, Customer can choose the test stations 2, 3 or 5, 6, 10 or even more. Pressure 10Mpa (100bar) / 20Mpa (200bar);
- 2, All stations are totally independent, all stations can do burst test, and long term hydrostatic pressure test as well. Like test pressure, test time etc., can be free set on each test stations.
- 3, Setting the test parameter on the software, then operation is automatic till the test finish.
- 4, Test can be operated through the PC software, or manual operate on the meter of the mainframe.
- 5, Pressure-time curve, real-time pressure value checking is available.
- 6, 10mm ~ 1600mm large pipe sample range.

#### Key Features of constant temperature tank

- 1, Constant-temperature tank is composed of 304# stainless steel interior and aluminum alloy/steel plate outer plate, no corrosion,
- 2, Imported circulation pump, high accuracy heater and temperature holding system;
- 3, Rigid and thick heat insulation polyurethane foam, and temperature proof layer to ensure the temperature and energy keeping performance, avoid energy loss.
- 4, For big tank, the cover of tank equipped with automatic lifting device, more reliable and convenient;

### Key Features of end caps/ end closure

- 1, Annual production end closure tens of thousands sets to ensure our technical and quality of this important pipeline hydrostatic pressure test fixtures;;
- 2, We adopt raw material is 45# carbon steel or 304# stainless steel, several type end closures for pipe or pipe fitting;
- 3, ISO 1167 Type A structure, External type: for diameter 16mm till 2000mm, three to six petals structure(not welding), no leakage under high pressure, Nickle coating, reliable and durable, 100% success installation.



**900mm end caps leakage test**



**SS material end closure**



**Pipe fitting end closure**



## 2, Principle

Test pieces are subjected to a specified constant internal hydrostatic pressure for a specified period of time or until a test piece or pieces fail.

Throughout the test, the test pieces are kept in an environment at a specified constant temperature: this is commonly in water ("water-in-water" test).

The following test parameters shall be specified by the standard or specification making reference to this part of ISO 1167:

- a)** the type of end cap to be used (see 5.1 and ISO 1167-2:2006, 4.1);
- b)** the test temperature;
- c)** the number of test pieces;
- d)** the duration of the test under pressure and the criteria for a failure;
- e)** the test pressure,  $p$ , or the circumferential (hoop) stress,  $\sigma$ , to be induced by the test pressure;

**ISO 1167:** *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids -- Determination of the resistance to internal pressure;*

**ASTM D1598:** *Standard Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure;*

**ASTM D1599:** *Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings;*



**3, Main technical specification**

Model	HYD-B	HYD-C
Display type	Digital meter & PC software both	Touching screen & PC software both
Working station	1 to 20 working stations	
Burst test	All stations can execute the burst test	
Hydrostatic pressure test	All stations can execute the long-term hydrostatic pressure test	
Max. pressure	0 ~ 10Mpa (100 bar) / 0 ~ 20Mpa (200 bar)	
Constant pressure accuracy	-1%, +2%	
Pressure resolution	0.001Mpa	
Time count range	1~9999h 59min 59s	
Time display accuracy	1s	
Constant temperature media box temp.	Ambient temperature to 95℃ 15℃ to Ambient temp. with cooling unit	
Temp. indication accuracy	±0.5℃	
Power supply	380V AC 50HZ, 3 phase	
Pipe sample diameter range	10-2000mm (Customized)	

**4, Main accessories**

Item	Quantity
Frame (include solenoid, pressure sensor, accumulator)	1 set
Pressure loading system (include pump, motor, Build-in water Reservoir)	1 set
Constant temperature tank (stainless steel interior)	1 set
Cooling unit for low temperature (Optional)	1 set
Connection hose for pressure control system and constant temperature medium tank	1 set
Connection hose for pressure source and pressure control system	1 set
End closure (According sample diameter size)	
Computer	1 set
Professional test software (English)	1 set
Documents (Manual, packing list, certificate)	