

## HY-DWC-40 Impact Specimen Cryostat



## I. INTRODUCTION

HY-DWC-40 impact sample cryogenic tank is the latest compressor refrigeration equipment developed by our company in accordance with the requirements for cryogenic devices in GB/T229-2007 "Metal Charpy Notch Impact Test Method". This equipment adopts cascade compressor refrigeration technology, utilizes the principle of heat balance and circulating stirring method to achieve automatic uniform cooling and constant temperature of the sample, which can fully meet the various temperature control indicators specified in the national standard GB/T229-2007. This equipment is simple and convenient to operate and has high working efficiency. It is the most ideal sample cooling and heat preservation equipment in the metal low-temperature impact test. At the same time, it can also be used for other low temperature detection and test work.

## II. Main technical parameters and configuration:

1. Temperature control range: room temperature ~ -40°C (room temperature 0-25°C)
2. Constant temperature accuracy:  $<\pm 0.5^{\circ}\text{C}$
3. Cooling speed:  
0°C ~ -30°C 1.2°C/min  
-30°C ~ -40°C 1°C/min

Note: The operating environment is used at room temperature (0-25°C), and the compressor temperature dissipation effect is maintained during work. The side doors can be fully opened.

4. Maximum external dimensions: 900×505×950mm (length×height×width)
5. Effective space of studio: 160×140×100mm (length×height×width)
6. Number of samples that can be installed: >60 (size of impact sample: 10×10×55mm)
7. Digital timer: 1 second ~ 99 minutes, resolution 1 second
8. Cooling medium: ethanol or other non-freezing liquid
9. Stirring motor: 8W
10. Power supply: 220V ~ 240V, 50Hz, 1.5kW
11. Working temperature;  $\leq 25^{\circ}\text{C}$

### III. Basic configuration:

1. Compressor: 1 imported compressor
2. Condensing device: high-efficiency finned condenser, external rotor condensing fan
3. High-efficiency plate heat exchanger: 1
4. Throttle device: 1 thermal expansion valve
5. Refrigerant: Non-fluorine environmentally friendly refrigerant.
6. Other refrigeration system accessories: accumulator, oil separator, filter drier, etc.
7. Insulation: Polyurethane foam insulation
8. Mixing device: 2 groups
9. Temperature control device: 1 set of high-precision intelligent digital temperature control instrument.
10. High-precision thermocouple: 1
11. Sample frame: 1 piece
12. Sample clamp: 1 piece

### IV. Equipment features:

The bottom of the equipment is equipped with universal casters, which is convenient to move the position; there is a sample basket, which is convenient to put and take samples; it is equipped with a liquid discharge port, which is convenient to recover the refrigeration medium and clean; it has a temperature alarm reminder and heat preservation timing.

Protection function: machine overload protection, leakage protection, phase loss protection, phase sequence protection, grounding protection, compressor overload protection, system pressure protection, medium over-temperature protection (anti-dry burning), etc.

### V. Installation and use:

This cryostat has the characteristics of simple installation, convenient operation, fast cooling and high temperature control accuracy. The specific installation steps are as follows:

1. Place the cryostat horizontally and lock the casters.
2. Connect the 220V power supply and turn on the power switch.
3. Set temperature control temperature---set constant temperature time
5. After reaching the set temperature and the set constant temperature time, the buzzer will alarm.