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**PRODUCT DATA SHEET**
Catalogue reference for product evaluation

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# Refrigerator Model | PolarX - 588

**Category:** Refrigeration and Air Conditioning · **Country of Origin:** India

## Product Overview

The Refrigerator Model PolarX - 588 forms a functional domestic refrigerator model when plugged onto the base unit PolarX - 588, part of the HSI training system. This Refrigerator Model features a transparent refrigeration chamber (265x265x265mm) with a 150W electric PTC heater as cooling load, a thermostatic expansion valve, and a capillary tube (1.6~2.2m) selectable via solenoid valves. Sensors monitor temperature (3x, -100~400°C) and pressure (-1~15bar), with optional software enabling fault simulation and p-h diagram tracking.

View this product online: https://scienticoindia.com/product/refrigerator-model-polarx-588/




**Request a model-specific quotation**
Include quantity and delivery country.

## Technical Specifications

### Refrigerator Model PolarX - 588, Technical Specifications

| Component | Type / Detail |
|---|---|
| System Integration | Model of a refrigerator to plug onto the base unit |
| Training Technology | Hardware/Software Integration (HSI) technology |
| Refrigeration Chamber | Evaporator, fan, cooling load |
| Chamber Front | Transparent |
| Heater | Electric heater to generate the cooling load |
| Expansion Elements | Selectable via solenoid valves: expansion valve or capillary tube |
| Sensors | Record temperature and pressure |
| Software Control | Operation of solenoid valves, fan, heater and fault simulation via software |
| Software Connectivity | Control functions and data acquisition via USB under Windows 10 (optional) |
| Software Package | Educational software, data acquisition, system operation, comes with base unit PolarX - 588 (optional) |

### Technical Data

*Refrigeration Chamber*

| Parameter | Value |
|---|---|
| Dimensions (L x W x H) | 265x265x265mm |

| Parameter | Value |
|---|---|
| Electric PTC Heater (cooling load) | 150W |

*Expansion Elements*

| Parameter | Value |
|---|---|
| Type | Thermostatic Expansion Valve |
| Capillary Tube Length | 1.6~2.2m |
| Selection | Separate valves to operate expansion valve or capillary tube |

*Fan*

| Parameter | Value |
|---|---|
| Function | Air circulation |

*Measuring Ranges*

| Parameter | Value |
|---|---|
| Temperature | 3x -100~400°C |
| Pressure | -1~15bar |

## Key Features

### Key Features

- **System Type:** Refrigerator Model for HSI-based refrigeration and air conditioning training
- **Base Compatibility:** Plugs onto base unit PolarX - 588 to form a complete refrigeration circuit
- **Refrigeration Chamber:** 265x265x265mm, transparent front
- **Cooling Load:** Electric PTC heater, 150W
- **Expansion Elements:** Thermostatic expansion valve and capillary tube (1.6~2.2m), solenoid valve selectable
- **Fan:** Ensures even air circulation within the chamber
- **Software Control:** Manages solenoid valves, fan, heater, and fault simulation (optional)
- **Connectivity:** USB data acquisition under Windows 10 (optional)
- **Temperature Sensors:** 3x, range -100~400°C
- **Pressure Range:** -1~15bar

### Experiments

- Design and operation of a simple refrigeration system
- Different expansion elements: operation with capillary tube, operation with expansion valve
- Operating behaviour under load
- Refrigeration cycle in the p-h diagram
- Fault simulation

### Construction and Design

The Refrigerator Model PolarX - 588 attaches securely to the base unit using fasteners and connects via refrigerant hoses to complete the refrigeration circuit. The refrigeration chamber measures 265x265x265mm and features a transparent front. An electric PTC heater rated at 150W generates the cooling load, while a fan ensures even air circulation within the chamber. Solenoid valves allow selection between a thermostatic expansion valve and a capillary tube (length 1.6~2.2m). All components are neatly organized on a panel for clear visibility.

### Required for Operation (optional)

- Base unit for refrigeration and air conditioning training system, PolarX - 588

### Scope of Delivery

- 1 module

- 1 Instructional Manual

## Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

## Frequently Asked Questions

*Q: What does the Refrigerator Model PolarX - 588 simulate?*
A: When used with the base unit, it forms a functional model of a domestic refrigerator.

*Q: What expansion elements are available?*
A: A thermostatic expansion valve and a capillary tube (length 1.6~2.2m), selectable via solenoid valves.

*Q: How is the cooling load generated?*
A: An electric PTC heater rated at 150W simulates the cooling load within the refrigeration chamber.

*Q: Can this module simulate faults?*
A: Yes. The optional software offers fault simulation capabilities alongside control of solenoid valves, fan, and heater.

*Q: What are the chamber dimensions?*
A: The refrigeration chamber measures 265x265x265mm and has a transparent front.

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