# Mbsm.pro, Compressor, P14TY, 3/8 hp, Cooling, hmbp, r12, 1ph220v

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https://www.mbsm.pro/wp-content/uploads/2025/04/Mbsm\_dot\_pro\_private\_PDFMbsm\_dot \_pro\_private\_PDF\_S26TY.pdf The **P14TY** is a refrigerant compressor model listed in the provided datasheet, designed for use in refrigeration or air conditioning systems. Below is a summarized technical breakdown of its key specifications:



#### **P14TY Compressor Specifications**

| Parameter              | Value   | Notes  |
|------------------------|---|--|
| Model                  | P14TY   | Part of a series (likely Panasonic or similar brand).        |
| Power (HP)             | 3/8 HP  | ~0.375 horsepower.   |
| Displacement           | 14.00 cm <sup>3</sup>                               | Cylinder volume per revolution.                              |
| Refrigerant            | R12 (CFC)   | Older refrigerant (now phased out; check local regulations). |
| Cooling Capacity       | <pre>- W: 985 W - kcal/h: 996 - BTU/h: ~3,360</pre> | At -25°C evaporating temp (CECOMAF conditions).              |
| COP (Efficiency)       | 1.73 (W/W)  | Coefficient of Performance.                                  |
| <b>Oil Type/Volume</b> | 400 cm <sup>3</sup>                                 | Mineral or alkylbenzene oil (for R12).                       |
| Weight                 | 11.5 kg   |  |
| Motor Type             | CSIR (Capacitor Start,<br>Induction Run)            | Single-phase operation.                                      |
| Starting Method        | Relay (R)   |  |
| Voltage/Frequency      | 220-240V, 50Hz                                      | Single-phase AC.   |
| Expansion Type         | Capillary tube (C) or<br>Valve (V)                  | Configurable based on application.                           |

#### **Key Observations**

- 1. Refrigerant (R12):
  - The P14TY is designed for R12, an obsolete CFC refrigerant banned under the Montreal Protocol due to ozone depletion. Modern alternatives (e.g., R134a, R404A) require retrofitting or replacement.
- 2. Applications:
  - Likely used in medium-temperature refrigeration (e.g., commercial refrigerators, chillers) given its capacity and COP at -25°C evaporating temperature.
- 3. Efficiency (COP 1.73):
  - $\circ$  Lower COP compared to modern compressors, indicating higher energy consumption.
- 4. Replacement Considerations:
  - If retrofitting for alternative refrigerants, ensure compatibility with oil type (e.g., POE for HFCs) and system components.
  - Verify electrical specs (voltage, starting torque) for new installations.

### Testing Conditions (CECOMAF/ASHRAE)

- Evaporating Temp: -25°C (LBP testing for low-temperature applications).
- Condensing Temp: 55°C.
- Ambient Temp: 32°C.

## Actionable Recommendations

#### • For Maintenance:

- $\circ$  Check oil levels and contamination if still using R12.
- $\circ$  Inspect capacitors/relays (common failure points in CSIR motors).
- For Replacement:
  - $\circ$  Consider modern equivalents (e.g., Panasonic/Copeland models for R404A/R134a).
  - $\circ$  Consult HVAC technician for system compatibility and retrofitting.