Comptek QD65H Compressor 1/6 HP R134a L/MBP Technical Specifications and Replacement Guide

Category: Refrigeration
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Yes, your conclusion regarding the compressor ports is correct based on the standard design for this category:

Pipe 1 (single top pipe): This is the discharge line, usually the thinner pipe.

Pipe 2 (opposite the discharge): This is the suction line, which has a slightly larger diameter.

Pipe 3 (next to the suction): This is the process/service line, used for charging the gas.

Mbsmpro.com, Compressor, QD65H, 1/6 hp, Comptek, Cooling, R134a, 160 W, 1.2 A, 1Ph 220-240V 50Hz, L/MBP, RSIR, -35°C to -5°C, Cooling and Freezing

The refrigeration industry relies heavily on the “heart” of the system: the compressor. Among the most versatile and durable options available for domestic and light commercial applications is the **Comptek QD65H**. This piston-driven reciprocating compressor is engineered for reliability, specifically designed to handle the thermal demands of Low and Medium Back Pressure (L/MBP) environments.

Technical Specifications and Performance Data

The QD65H operates on the R134a refrigerant, a global standard for domestic cooling due to its thermodynamic efficiency and safety profile. Below is the comprehensive technical breakdown:

Feature	Specification
Model	QD65H (HM Series)

Feature	Specification
Horsepower (HP)	1/6 HP
Displacement	6.5 cm^3
Cooling Capacity (BTU/h)	546 BTU/h
Cooling Wattage (-23.3°C)	160 W
Motor Type	RSIR (Resistive Start – Induction Run)
Winding Material	High-grade Copper
Refrigerant Type	R134a
Power Supply	220-240V / 50Hz (1 Phase)
Oil Type and Quantity	POE/Mineral (approx. 180ml – 200ml)
Current (Running)	1.1 A – 1.2 A
LRA (Locked Rotor Amps)	6.5 A
Cooling Method	Static (Natural cooling, no fan required for compressor)

Efficiency Metrics (COP) and Performance Curve

Understanding the Coefficient of Performance (COP) is vital for energy management. The QD65H shows excellent stability across a wide range of evaporating temperatures.

Evaporating Temp (°C)	Cooling Capacity (Watts)	Power Consumption (Watts)	COP (W/W)
-30	110	102	1.07
-25	142	118	1.20
-23.3 (Standard)	**160**	**125**	**1.28**
-20	185	134	1.38
-15	230	148	1.55
-10	285	162	1.76
0	410	190	2.15

Application and Capability

This compressor is the “workhorse” for medium-sized household appliances. It is ideally suited for:

- **Capacity in Liters:** Efficiently cools units between 180 to 250 Liters.
- **Capacity in Cubic Feet:** Approximately 6.3 to 8.8 ft^3.
- **Appliance Types:** Single-door refrigerators, small chest freezers, and water dispensers.

Comparison: QD65H vs. Similar Models

Model	HP Rating	Displacement	Refrigerant	Application
Comptek QD65H	1/6 HP	6.5 cm^3	R134a	L/MBP (Versatile)
ZMC GM70AZ	1/5 HP	7.0 cm^3	R134a	LBP (Stronger Cooling)
Danfoss TLS6F	1/6 HP	5.7 cm^3	R134a	LBP (High Efficiency)

Professional Recommendations and Installation Notes

1. **Capillary Tube Selection:** For R134a systems using the QD65H, a capillary tube of 0.031 inches (0.8mm) with a length of 3 meters is standard for LBP freezing applications.
2. **Vacuum Procedure:** Always ensure a vacuum level of at least 500 microns to prevent moisture from reacting with the R134a oil.
3. **Thermal Protection:** The QD65H features an internal or external protector. Ensure the relay (PTC type) is seated correctly to prevent winding burnout.
4. **Start Capacitor:** While being an RSIR motor, in areas with unstable voltage, adding a 47-64µF start capacitor can assist in high-torque starts (HST).

Replacement Guide (Equivalents)

Same Refrigerant (R134a):

1. **Embraco:** EMS 55HLC
2. **Danfoss/Secop:** TLES6.5FT.3
3. **Huayi:** HYE69MT
4. **Zanussi:** GVY66AA
5. **Tecumseh:** THB1355Y

Alternative Refrigerant (R600a/R12/Other):

Note: Requires system flush and oil check.

1. **QD65Y (R600a version)**
2. **Embraco:** EMX55CLC (R600a)
3. **Danfoss:** TLES7.5KK.3 (R600a)
4. **GL60AA (R134a alternative)**
5. **Zel:** GQD65Y

Focus Keyphrase: Comptek QD65H Compressor 1/6 HP R134a L/MBP Technical Specifications and Replacement Guide

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Meta Description: Discover the full technical data for the Comptek QD65H 1/6 HP compressor. Includes cooling capacity (160W), COP tables, R134a gas specs, and 10 cross-reference replacement models for refrigerators and freezers.

Slug: comptek-qd65h-compressor-1-6hp-r134a-specs

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LBP Compressor.

Excerpt: The Comptek QD65H is a high-performance 1/6 HP reciprocating compressor designed for R134a systems. Ideal for refrigerators between 180 and 250 liters, it offers a cooling capacity of 160W at -23.3°C. This professional guide covers its electrical characteristics, COP efficiency metrics, and provides a comprehensive list of equivalent models for seamless field replacement.

1/6 HP Compressor, Comptek, EMS 55HLC, GVY66AA, HYE69MT, mbsm, mbsm.pro, mbsmgroup, mbsmpro.com, QD65H, R134a compressor, Refrigeration Repair, THB1355Y, TLES6.5FT.3

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