

# 3.8cc Twin Series Low Noise, Miniature, Rotary BLDC Refrigeration Compressor

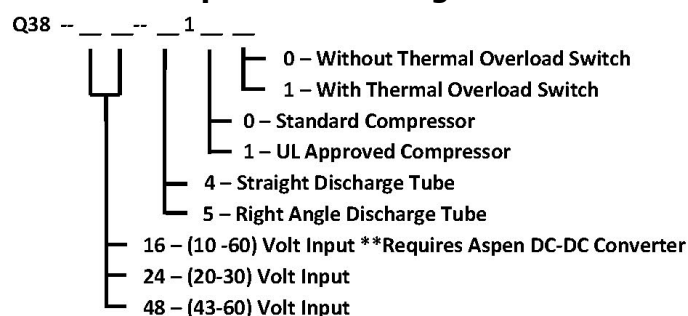
Worldwide patents pending



## Compressor Specifications

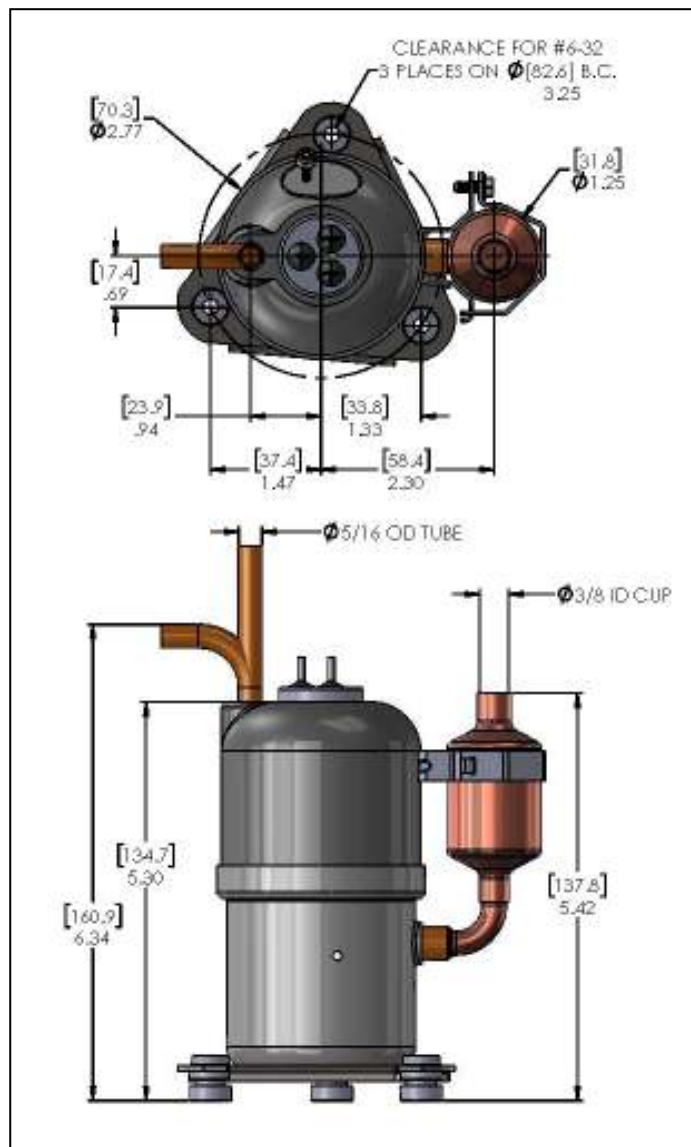
|                                    |                                          |
|------------------------------------|------------------------------------------|
| Refrigerant                        | R134a / R404a / R410a / R290a / R600a    |
| Oil Type                           | Emkarate POE RL 68H                      |
| Oil Quantity                       | Factory Charged                          |
| Motor / Drive                      | BLDC / Sensorless                        |
| Speed Range                        | 2100 – 6500 RPM                          |
| Evaporator Temp. Range             | -22~75°F (-30~24°C)                      |
| Max Condensing Temp.               | 160°F (71°C)                             |
| Max Discharge Temp.                | 240°F (115°C)                            |
| Max Ambient Temp.                  | 120°F (49°C)                             |
| Max Dome Temp.                     | 240°F (115°C)                            |
| Max Operating Pressure             | 350 psi (2.4 MPa)                        |
| Suction Port Size                  | 3/8" ID Cup                              |
| Discharge Port Size                | 5/16" OD Tube                            |
| Analog Voltage                     | 0 - .6 VDC = OFF                         |
| Speed Command (Linear)             | .80 VDC: 2,300 RPM<br>4.5 VDC: 6,500 RPM |
| Cooling Capacity-ASHRAE T<br>2.8cc | R-134a<br>910 W                          |
| Noise Level @ 1 meter              | ~ 40 dBA                                 |
| Weight                             | ~ 1800g                                  |

## Compressor Ordering Guide



**Sample Order # Q38 - 24 - 4101**

**Description – 3.8cc compressor  
Straight Discharge Tube  
(20-30) Volt Input  
Standard Compressor  
With Thermal Overload Switch**

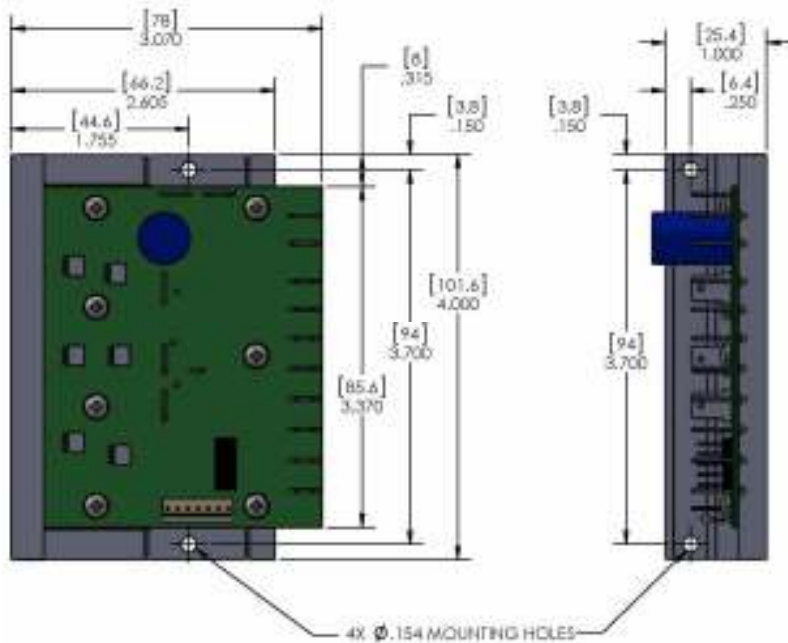


## Compressor Application Notes:

1. Compressor is supplied with Emkarate RL68 POE oil. Addition oil will be required if operating compressor in systems with long tubes, large heat exchangers or internal surfaces that can trap oil and prevent adequate return to the compressor.
2. Recommended airflow over compressor is 1 meter/sec.

# ASPEN High Capacity Drive Board & DC-DC Converter

## High Capacity Drive Board

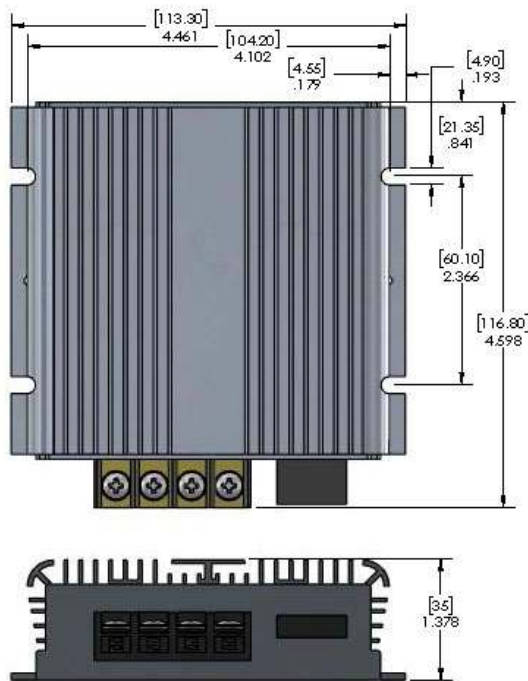


### Drive Board Options

| Input Voltage | Max Current |
|---------------|-------------|
| 20-30V        | 15A         |
| 43-60V        | 10A         |
| 10-60V**      | 10-48A**    |

\*\*Requires use of Aspen DC-DC Converter in conjunction with Compressor Drive. Max current based on voltage input\*\*

## DC-DC Converter



### Compressor Drive & Converter Application Notes:

1. Drive Board is conformally coated, however, care should be taken to prevent operation in corrosive or wet environments. Drive board is thermally protected, however, airflow over the drive board/ converter and heat sink is highly recommended.
2. Maximum current to the compressor is automatically limited by the drive board by reducing the compressor speed as the current approaches set limits.