



Oil-Free, Zero-Maintenance, Ultra-Compact
Liquid-Cooled Series™ Scroll Compressor for Commercial EVs

TECHNICAL DATASHEET

P17H043D-BLDC-LC

10.23.2023 Rev. 09

Introducing the Liquid-Cooled Series™
Next Generation **eCompressor Solution** –
Engineered from the Ground-Up
Specifically for Commercial EVs



100% Oil-Free

Maintenance-free, no risk of oil emulsion, and environmentally friendly



Ultra-Compact and Lightweight Design

Best-in-class power density with space-saving cooling system and integrated motor, controller, and air filter



Zero-Maintenance, Reliable, and Robust Solution

Robust and IP-rated to withstand harsh on-vehicle conditions with no scheduled maintenance required



Quiet and Smooth Operation

Dynamically balanced, valve-less, and nearly pulsation-free



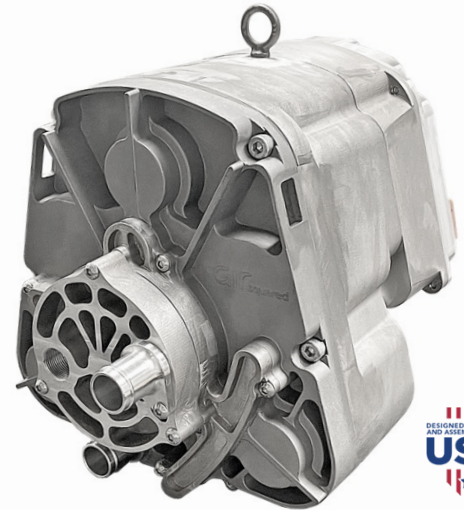
Efficient, High-Pressure Performance

Liquid cooling for high-pressure operation with volumetric efficiency over 95%



eCompressor Intelligent Control

Integrated eDrive with CAN and UDS communication



OPTIONS AND ACCESSORIES

Air Filter Replacement Kit

High-Voltage Mating Harness

CAN Terminating Resistor (Included, Excluded)

OEM CUSTOMIZATION

Qualified OEMs should consult Air Squared for custom configurations and application-specific requirements.

Contact info@airsquared.com.



Performance

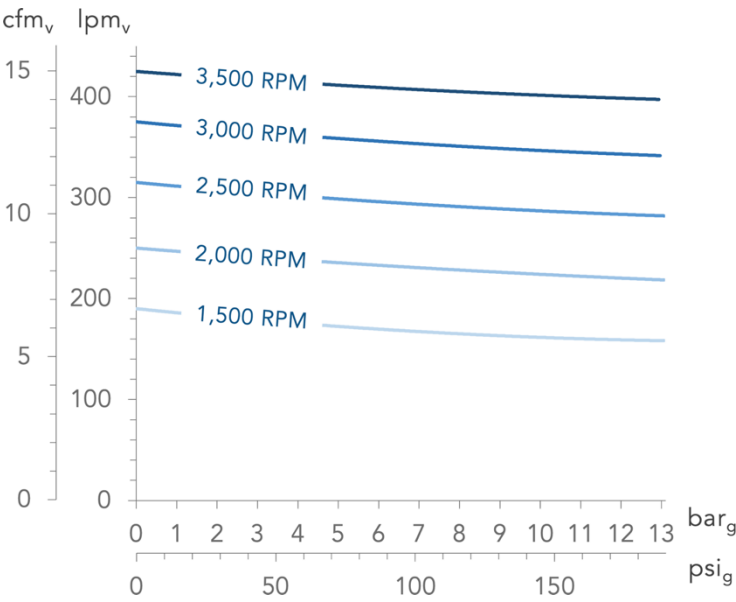
	SI	IMPERIAL
MAX. PRESSURE	13.1 bar _g	190 psi _g
VOLUME RATIO	3.64	
MAX. FLOW	425 lpm _v	15 cfm _v
DISPLACEMENT	134.5 cm ³ / Rev.	8.2 in ³ / Rev.
MAX. SPEED	3,600 RPM	
MOTOR	650 V Brushless DC Motor	
CONTROLLER	Integrated Brushless DC Controller	
COOLING	Integrated Compressor, Motor, and Controller Liquid Cooling <i>External Cooling Loop Required</i>	
INLET FILTER	Integrated > 2 µm Filter <i>99% Efficiency Standard</i>	
AMBIENT TEMP. RANGE	-40 °C – 60 °C	-40 °F – 140 °F
NOMINAL SOUND LEVEL	69 dB(A)	
TOTAL PACKAGE WEIGHT	18 kg	40 lb
	<i>Compressor, Motor, Filter, Controller</i>	
PORT CONFIGURATION	M22 x 1.5 (Air) 1" Fitting (Coolant)	
INGRESS PROTECTION	IP67	
COMPLIANCE	RoHS, REACH, Buy America	
PART NUMBER	P17H043D-B07	

The information presented in this material is based on technical data and test results of nominal units. It is believed to be accurate and reliable. Air Squared does not warrant, guarantee, or assume liability in connection with this information. Picture, Performance, Dimensions, Coolant, and Electrical information for reference use only - visit airsquared.com for current specifications.

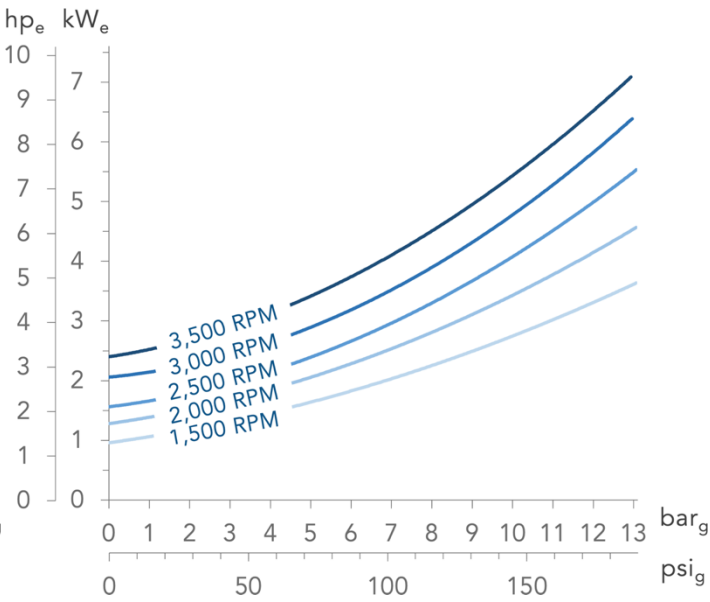
Application conditions may adversely affect performance and product life. It is the responsibility of the user to determine the suitability of the product for intended use.

Performance

FLOW CHARACTERISTICS

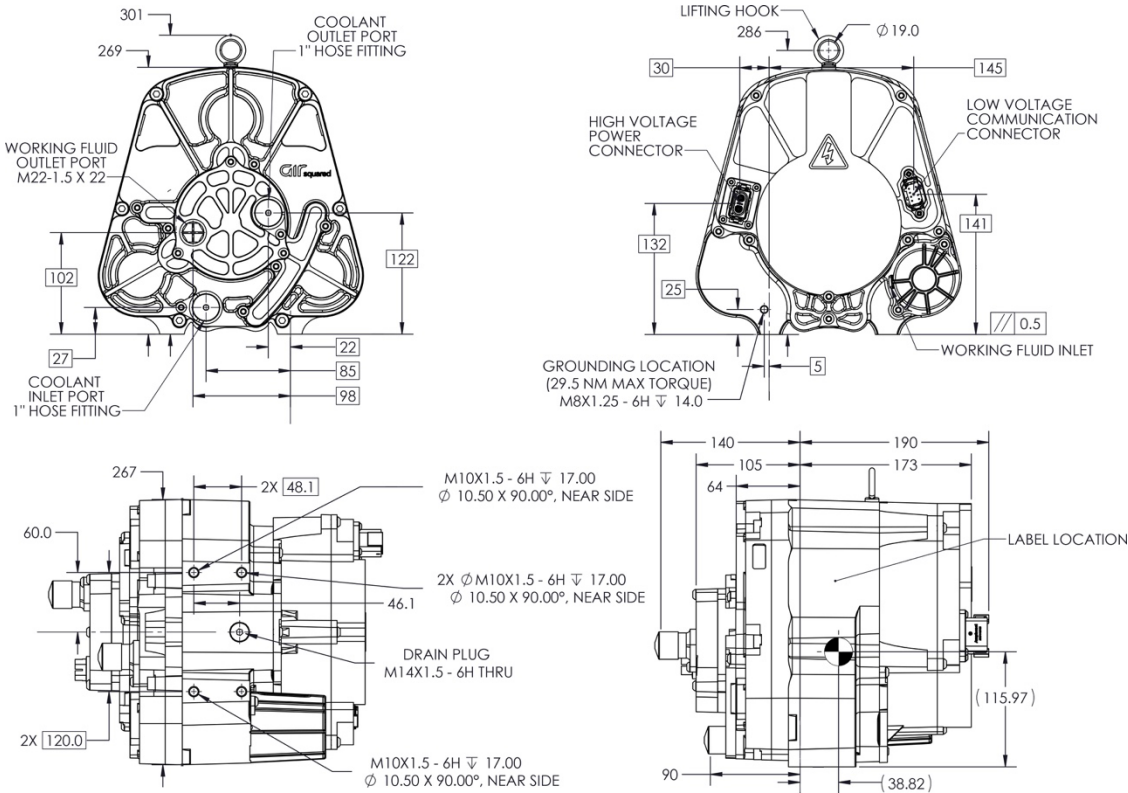


POWER CHARACTERISTICS



Flow Characteristics reflect nominal volume flow with air at NIST standard inlet conditions. Power Characteristics reflect nominal electric power consumption in Broomfield, CO USA with standard motor and controller losses.

Dimensions



Dimensions in millimeters unless otherwise stated.

Electrical

650 V MOTOR

RATED POWER	7 kW _e
CONTINUOUS RATE LINE CURRENT	12.6 A
NOMINAL VOLTAGE	650 VDC
VOLTAGE RANGE	540 – 800 VDC
INTEGRATED MOTOR THERMISTOR	1,000 Ohm

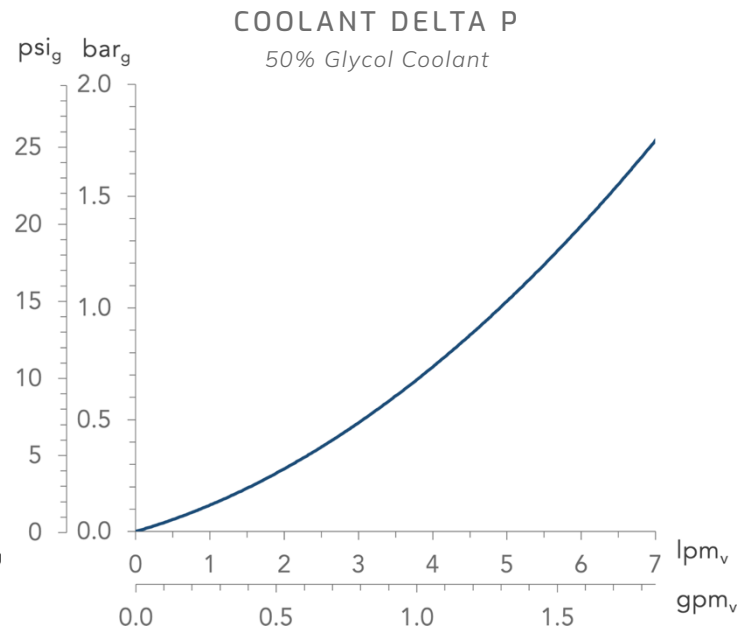
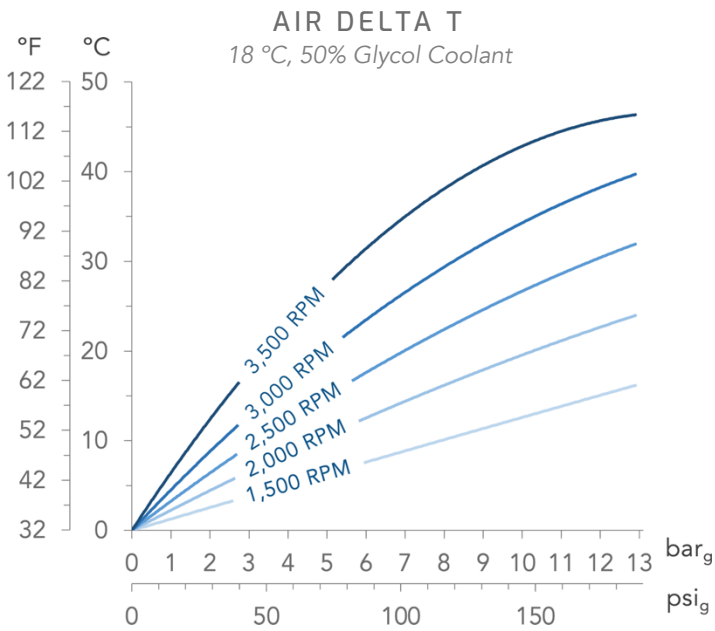
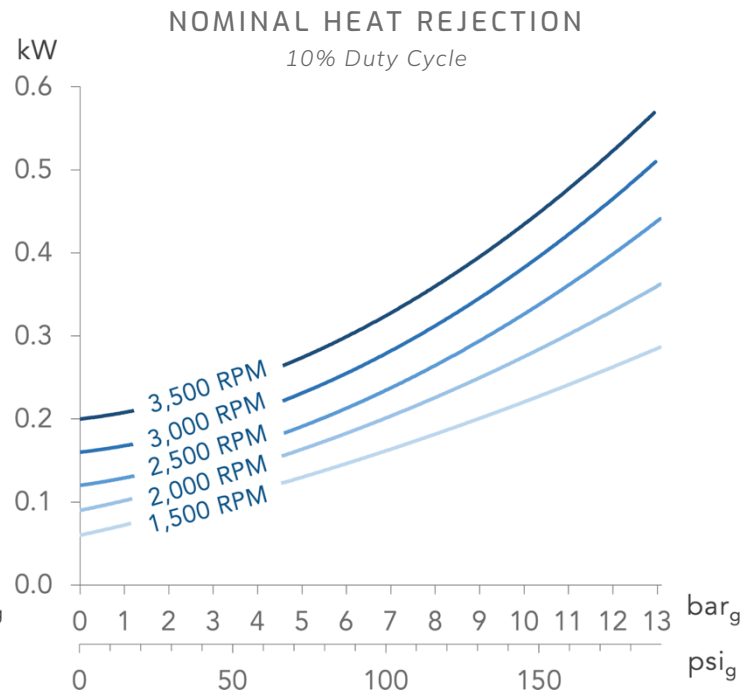
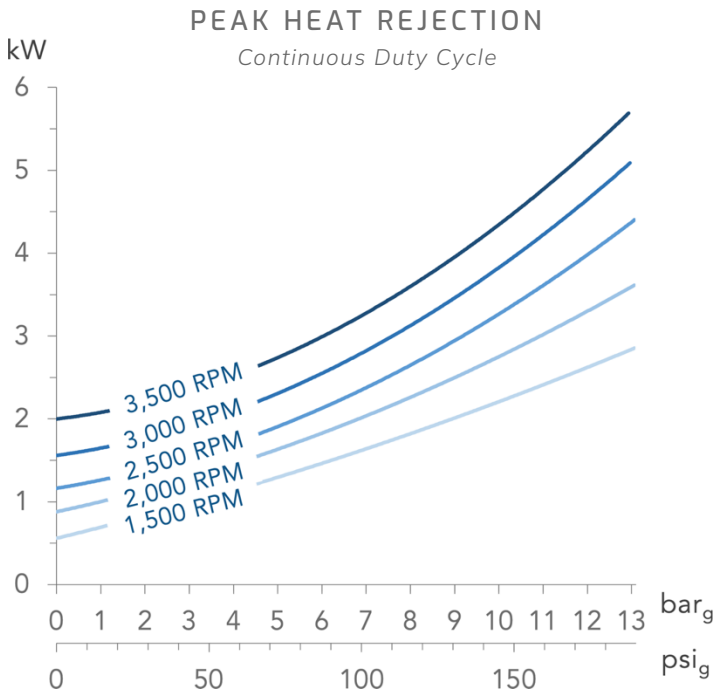
CONTROLLER

COMMUNICATION	CAN J1939 UDS Flash Bootloader
SUPPLY VOLTAGE	9 – 36 VDC
SUPPLY CURRENT	700 mA
COMMUNICATION CONNECTOR	ATM15-08PA-BM02
HIGH VOLTAGE CONNECTOR	ATHP042P25
GROUNDING	M8 Tapped Hole
CAN TERMINATING RESISTOR	Included or Excluded

Cooling

	SI	IMPERIAL
MIN. COOLANT PRESSURE	0.7 bar _a	10 psi _a
MAX. COOLANT PRESSURE	4.1 bar _a	60 psi _a
MIN. COOLANT FLOW	3 lpm	0.80 gpm
COOLANT TEMP. RANGE	-20 °C – 55 °C	-4 °F – 131 °F
INTERNAL COOLING CHANNEL VOLUME	0.32 L	0.09 gal.
COOLANT TYPE	50% Glycol (Preferred) Other (Requires Corrosion Inhibitor)	
PORT CONFIG. (COOLANT)	1" Coolant Fitting	

Cooling



Airsquared

Learn More About Oil-Free Scroll Technology at
<http://airsquared.com>

