



CRITICAL COMPONENTS
GROUP

Polycold® PGCL Closed Loop Gas Chillers

VACUUM PRODUCTS

Benefits

- Reduces operating cost associated with open loop gas chillers
- Gas is recycled continuously to eliminate cost of continuous gas supply
- Eliminates problems associated with liquid chillers
- Improves tool performance
- Enables higher wafer yields
- Enables higher wafer throughput
- Lower chuck temperature allows for higher thermal loads while maintaining wafer at required temperature

The PGCL Closed-Loop Gas Chiller provides substrate cooling in a broad range of applications, such as cooling of wafer chucks in semiconductor process tools, thermal testing of electronics and other applications where gas cooling offers specific advantages, including reduced operating cost and lower risk of tool downtime and contamination.

Product Description

Polycold® Closed Loop Gas Chillers incorporate both a closed loop refrigerating system and a recirculating gas coolant system, which cools a gas stream using highly efficient refrigerant heat exchangers. The gas stream is recirculating, using any inert dry gas (such as nitrogen, helium, argon or dry air) as the coolant medium. Chilled gas recirculation offers easy serviceability and inherently reliable operation. The PGCL utilizes field-proven modules for unparalleled reliability while also maintaining a small footprint. Clean coolant gas has low cost of ownership and allows high temperature bake out without pressure buildup.

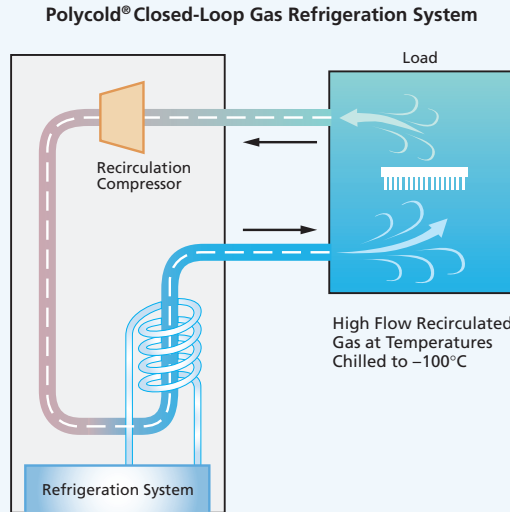
Features:

- Two models: 630 watts / 800 watts Cooling
- Temperatures to below -100°C possible
- Rated for Continuous Cooling
- Recirculates Compressed Dry Gas
- Autofill
- CE, SEMI F47 & SEMI S2 compliant.
- Refrigerant gases are US EPA-SNAP approved, CFC-Free, HCFC-Free, and meet European Union laws
- Reliable performance
- Long life, with low to no maintenance



Polycold® Closed Loop Gas Chiller

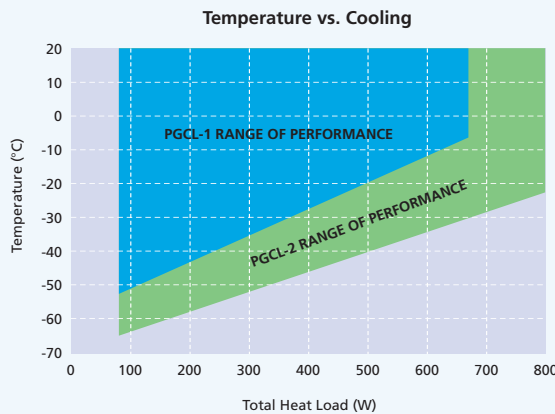
Polycold® Closed-Loop Gas Refrigeration System



Technical Specifications

	PGCL-1	PGCL-2
Heat Removal at -40 °C Load Outlet	630 Watts	800 Watts
Maximum Flow Rate (SCFM) at 120 psig	22 SCFM	22 SCFM
Time to Pre-Cool Heat Exchanger	45 min.	45 min.
Physical Data		
PGCL Unit dimensions:		
Width, mm (in.)	558 (22)	558 (22)
Depth, mm (in.)	610 (24)	610 (24)
Height, mm (in.)	1880 (74)	1880 (74)
Weight, kg (lb.)	362 (800) for 480v 288 (635) for 208v	321 (710)
Utilities		
Gas Source	Nitrogen, Helium, Argon, etc.	Nitrogen, Helium, Argon, etc.
Cooling Water, 15 °C to 30 °C Flow Rate	8 gpm	10 gpm
Normal Voltage*		
50 Hertz	200, 208 / 440, 460, 480v	380, 400, 420, 480v
60 Hertz	208 / 230, 440, 460, 480v	440, 460, 480v
Input Power, kw	6.8	8.5

* Acceptable voltage range is +/- 10% of normal voltages listed.



Useable cooling power is equal to the difference between the outlet temperature of the PGCL and the temperature exiting the device being cooled times the mass flow rate times the specific heat capacity of the gas.

Specifications are subject to change without notice.

For more information, please contact your local Brooks Automation sales representative or visit www.brooks.com.

