

POLYCOLD® PGC-152 GAS CHILLER

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Polycold® Gas Chillers use Polycold®'s auto-cascade refrigerant cycle with a mixed gas refrigerant, to provide ultra-low temperatures without the cost, risk or inconvenience of liquid nitrogen. Now you can cool your dry gas to temperatures between -90°C and -125°C without sacrificing high flow rates.

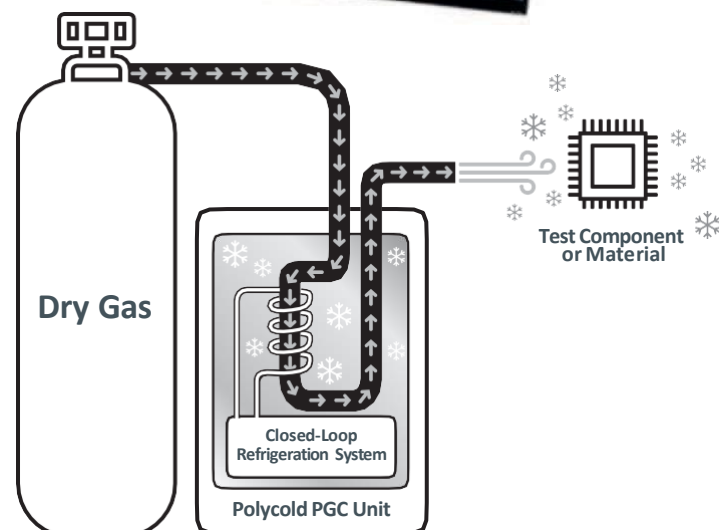
The PGC-152 is CE marked and meets Semi S2 requirements. Polycold's proprietary and patented refrigerant mixtures are fully compliant with current European environmental regulations. The Polycold® PGC Gas Chillers are the most cost-effective systems available to cool a gas stream in this low temperature range.

Applications include:

Thermal Testing of Electronics, Cooling of Wafer Chucks in Semiconductor Process Tools, Cold Gas Venting of Vacuum Chambers, Rheology, Low Temperature Characterization of Materials, etc.

- Cools Compressed Dry Gas
- -90° to -125°C (-130° to -193°F , 183° to 148°K)
- Continuous Cooling
- Heat Removal to 810 Watts

Polycold® Gas Chillers cool dry gases (such as nitrogen, argon or air) from ambient to cryogenic temperature without precooling. The Gas Chiller is a closed-loop refrigeration system which cools a gas stream using a refrigerant to gas tube-in-tube heat exchanger. The gas stream is non-recirculating.



Features and Benefits

- Free standing, compact size
- Rated for continuous operation
- Air-cooled or water-cooled models
- Uses a single compressor for reliable performance
- 50 or 60 Hz operation, single phase
- CE marked, Semi S2 compliant
- Refrigerant gases are US EPA– SNAP approved
- CFC-Free and HCFC Free refrigerants meet European Union laws
- Patented refrigerant gases
- Flow control solenoid and flow sensor

Polycold® PGC-152 Gas Chiller Specifications

Typical Performance Specifications				
Maximum Gas Heat Load (Watts @ 25 C Inlet)	810			
Temperature Range C (F)	-90° C to -125° C (-130° F to -193° F)			
Maximum Flow Rate (SCFH)	750			
Time to Pre-Cool Heat Exchanger Prior to Initial Use	20 min.			
Typical Gas Flow Conditions:				
N ₂ Flow Rate (SCFH)	N ₂ Flow Rate (SLPM)	Inlet Pressure (PSIG)	Outlet Pressure (PSIG)	Pressure Drop (PSI)
140	66	5	3	2
280	132	23	18	5
450	212	45	36	9
690	326	75	65	10
740	349	80	68	12

Physical Data

PGC Unit Dimensions:

Width, mm (in.)	508 (20)
Depth, mm (in.)	457 (18)
Height, mm (in.)	889 (35)

Weight, kg (lb.) 108 (240)

Gas Inlet/Outlet Tubing Diameter, mm (in.) 9.5 (3/8)

Max. Angle of Inclination (for moving, etc.) 45 degrees

Utilities

Gas Source (Customer's Dry Gas) e.g. Air, Nitrogen, Argon, etc.

Required Gas Source Dewpoint (for extended run times) Colder than -80 C

Maximum Gas Source Temperature 30 C

Maximum Temperature Air Inlet to Condenser 32 C

Remote Reading Thermocouple on Gas Outlet Type T

Voltage Range: At 50 Hertz

180-216

At 60 Hertz

187-253

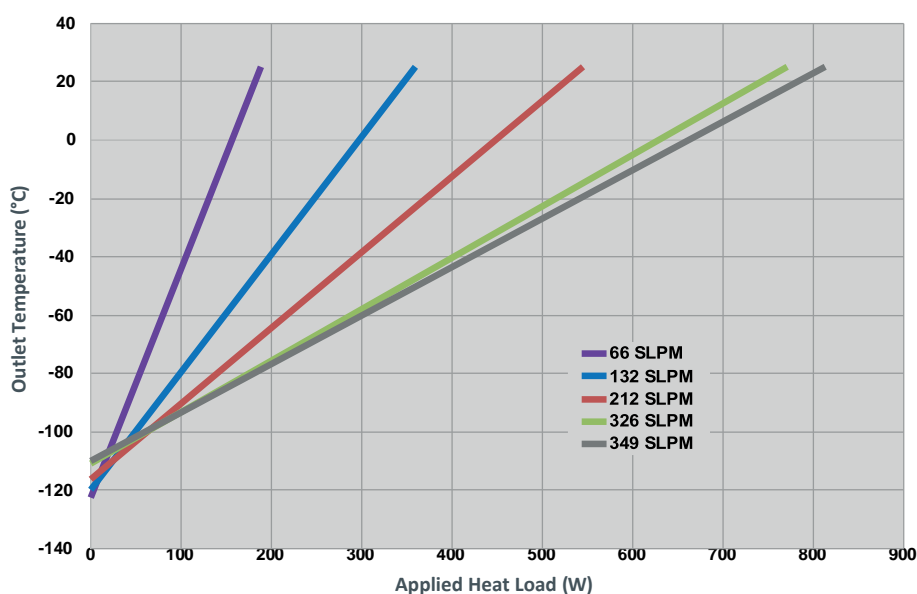
Rated Load Amps

12.5

Specifications are subject to change without notice.

Polycold® PGC-152 Gas Chiller Performance

Outlet Temperature as a Function of Total Applied Heat Load for Select N₂ Flow Rates (60 Hz)



The outlet temperature of the PGC-152 is based upon the external heat load as well as the flow rate of nitrogen through the unit. Both the flow rate and the applied heat load can be varied to obtain the desired outlet temperature for the process.

Official Distributor in Australia



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