



SEMICONDUCTOR
PRODUCTS GROUP

Polycold® PGC-152 Gas Chiller

VACUUM PRODUCTS

Polycold Gas Chillers use Polycold's auto-refrigerating cascade technique with a mixed 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 and for just pennies a day.

Features

- Free standing, compact size
- Rated for continuous operation
- Shipped ready to operate
- Air-cooled or water-cooled models
- Uses a single compressor for reliable performance
- 50 or 60 Hz. operation, single phase
- Power switch and eight-foot power cord
- 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

Optional Features

- Remote ON/OFF
- Flow control solenoid & flow sensor

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:

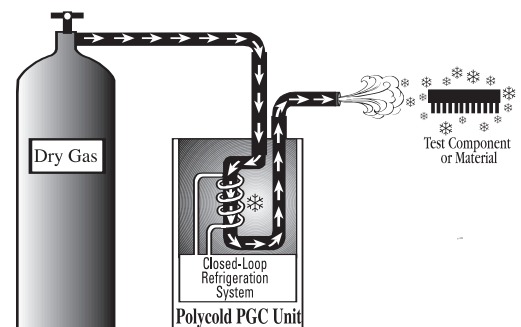
Thermal Testing of Electronics, Cooling of Wafer Chucks in Semiconductor Process Tools, Cold Gas Venting of Vacuum Chambers, Rheology, Low Temperature Characterization of Materials, etc.

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

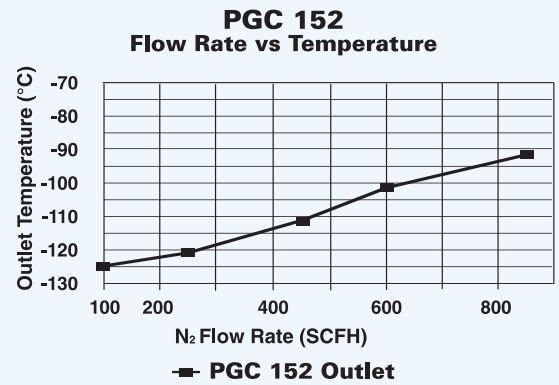
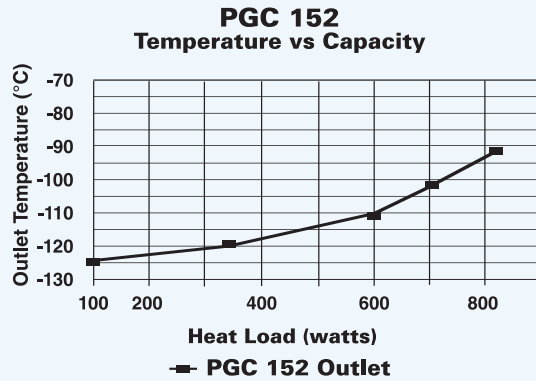
Polycold Gas Chillers cool dry gases (such as nitrogen, argon or air) from ambient to cryogenic temperature without precooling. The Gas Chiller is a closed-loop refrigeration system which cools a gas stream using a refrigerant to gas tube-in-tube heat exchanger. The gas stream is non-recirculating.



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

Technical 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:

Flow Rate (SCFH)	Pressure Inlet (PSIG)	Pressure Outlet (PSIG)	Pressure Drop (PSI)	Exit Gas Temp. (C)
140	5	3	2	-124
280	23	18	5	-120
450	45	36	9	-112
690	75	65	10	-95
740	80	68	12	-91

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.

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

