

POLYCOLD® PGC-152 GAS CHILLER

edwardsvacuum.com

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.

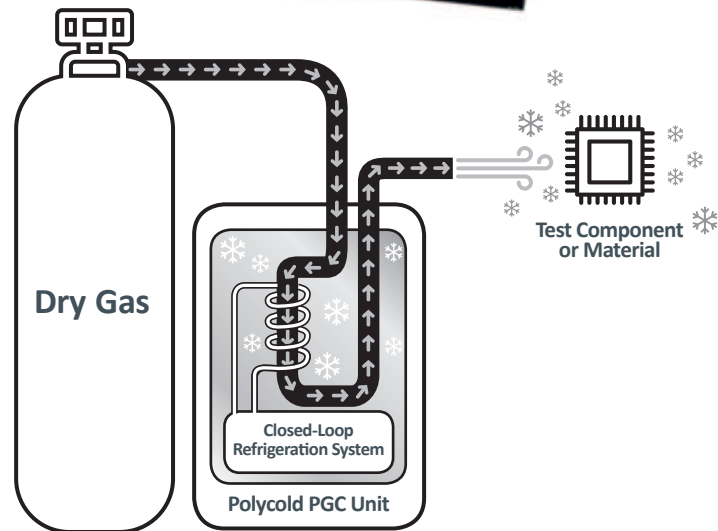
The PGC-152 is CE marked and meets Semi S2 requirements. Polycold’s proprietary and patented refrigerant mixtures are fully compliant with current European environmental regulations. The Polycold® PGC Gas Chillers are the most cost-effective systems available to cool a gas stream in this low temperature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

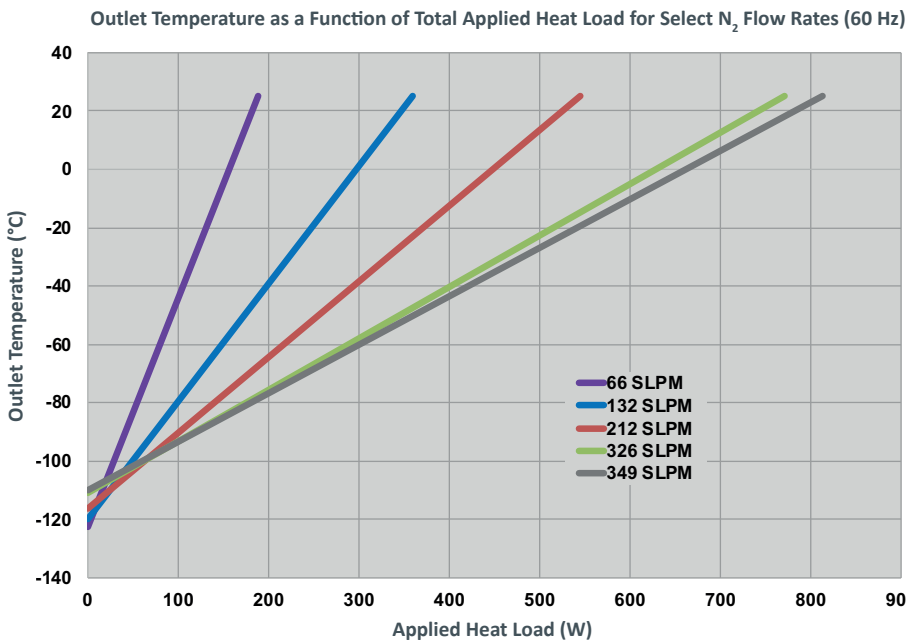
Typical Performance Specifications	
Maximum Gas Heat Load (Watts @ 25 C inlet)	810
Temperature Range C (F)	-90° C to -125° C (-130° F to -193° F)
Maximum Flow Rate (SCFH)	750
Time to Pre-Cool Heat Exchanger Prior to Initial Use	20 min.

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

Polycold® PGC-152 Gas Chiller Performance

Specifications are subject to change without notice.



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.

GLOBAL CONTACTS

© Edwards Limited 2021. All rights reserved Edwards and the Edwards logo are trademarks of Edwards Limited.

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this datasheet.

Edwards Ltd, registered in England and Wales No. 6124750, registered office: Innovation Drive, Burgess Hill, West Sussex, RH15 9TW, UK.

EMEA		ASIA PACIFIC	
UK	+44 (0) 1444 253 000 (local rate) 0845 921 2223	China	+86 400 111 9618
Belgium	+32 2 300 0730	India	+91 20 4075 2222
France	+33 1 4121 1256	Japan	+81 47 458 8836
Germany	0800 000 1456	Korea	+82 31 716 7070
Italy	+ 39 02 48 4471	Singapore	+65 6546 8408
Israel	+ 972 8 681 0633	Taiwan	+886 3758 1000
		AMERICAS	
		USA	+1 800 848 9800
		Brazil	+55 11 3952 5000

