BROOKS AUTOMATION

SEMICONDUCTOR PRODUCTS GROUP

Polycold® AquaTrap® AT-250

VACUUM PRODUCTS

The AquaTrap® is a highly economic means of upgrading your vacuum system by removing the extra water vapor that is present in a wide range of vacuum applications. Reducing the water partial pressure in the process chamber will dramatically improve your pumpdown times. By combining an AquaTrap® with a turbopump, you can increase the water pumping by a factor of up to 10!

Benefits

- Improved throughput for higher yields
- Very low vibration
- Easy to integrate
- Compressor can be located remotely

Reduce Time to Base Pressure up to 75%

The unique pumping surface design of the AquaTrap® provides maximum conductance for optimum pumping speed. The AquaTrap® easily provides water pumping to partial pressures of below $1x10^{-9}$ Torr.

Low Profile for Simple Integration

The low profile (38 mm or 1.5 inches) flange thickness allows the refrigerator to be easily integrated into the vacuum system with minimal disturbance to the existing connections. The AquaTrap® is installed between the turbopump and the system gate valve without requiring any fasteners above the turbopump.

Easy-to-Use

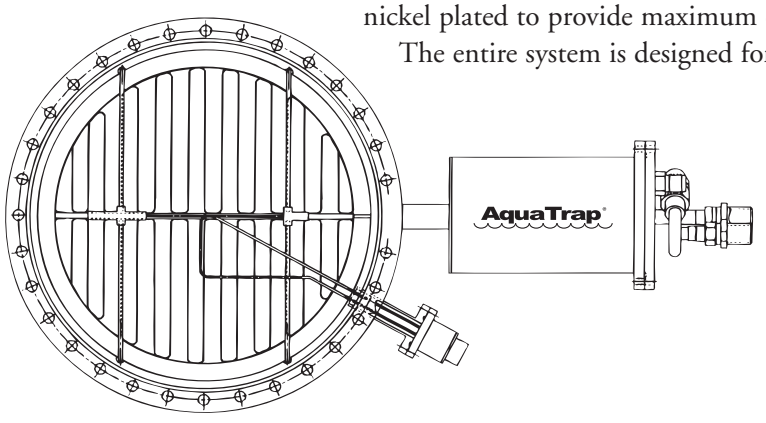
The AquaTrap® has no cumbersome, cold refrigeration lines and the refrigerator can be remotely located up to 100 feet from the compressor. The system is configured with a specially designed AquaTrap® controller which automatically heats and purges the unit for quick and easy regeneration. No complex electronics are required to maintain the optimum water pumping temperatures.

Very Low Vibration

The AquaTrap® refrigerator contains no moving parts thereby minimizing any effect on the vacuum system's vibration signature. No moving parts also means less opportunity for mechanical failures and downtime!

Problem Free Operation

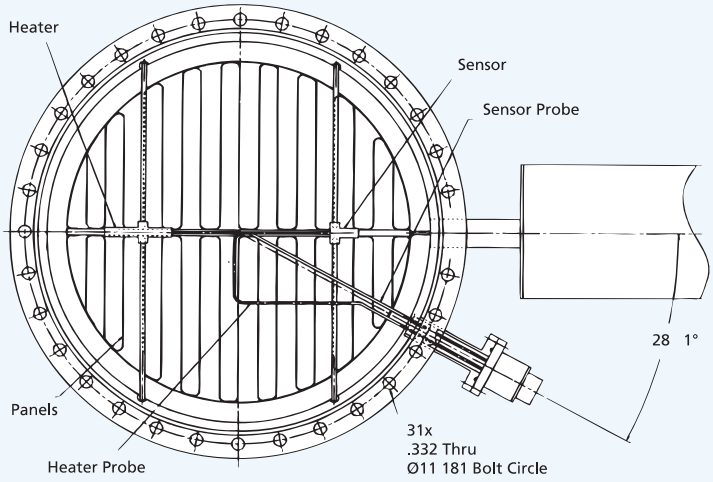
Brooks Automation's world renowned, superior manufacturing standards are evident in the attention to detail given to the AquaTrap® design. For example, the refrigerator is nickel plated to provide maximum corrosion resistance. The entire system is designed for problem free operation.



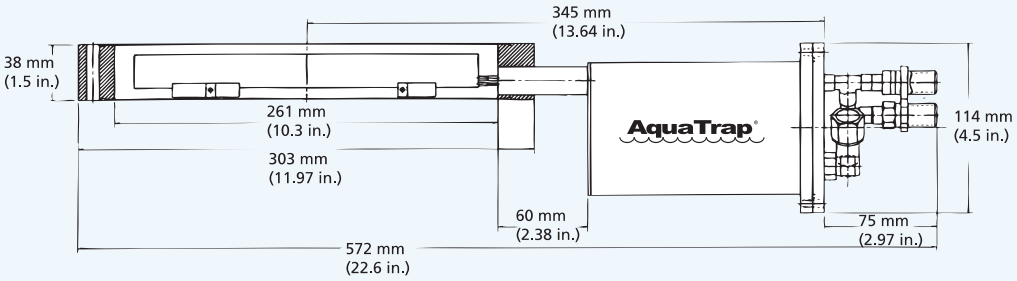
Nominal I.D.:
250 mm (10 inches)
Nominal O.D.:
12 inches
Flanges:
250 mm ISO, 12" CF
Flange Thickness:
38 mm (1.5 inches)
Weight of Refrigerator:
14.8 kg (33 lbs.)
Water Pumping Speed:
5070 liters/second
Conductance for Nitrogen:
3200 liters/second
Cold-to-Cold:
90 minutes

Polycold® AquaTrap® AT-250

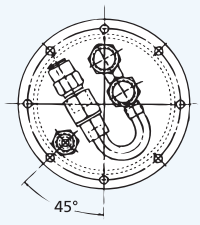
Standard Component Configurations



BOTTOM VIEW



SIDE VIEW



END VIEW

Water Pump:
Equipped with both a heater and a diode

Compressor:
Power Requirements:
- 550 W nominal, 100/120/220/240 Volts
- 60/50Hz single phase

Weight = 31.8 kg (70 lbs.)

Dimensions:
- 44.5 cm (17.5") width
- 35.6 cm (14.0") height
- 27.9 cm (11.0") depth

Gas Lines:
Standard 10 ft. flexible lines

Alternate line and cable lengths also available

Controller AT-RC
Designed for 110/220V, single phase, 50/60 Hz

Purge Solenoid 1/4" NPT user connection

10 Ft. trap controller cables

25 Ft. compressor control cable nominal
(see AT-RC Regen Controller brochure for details)

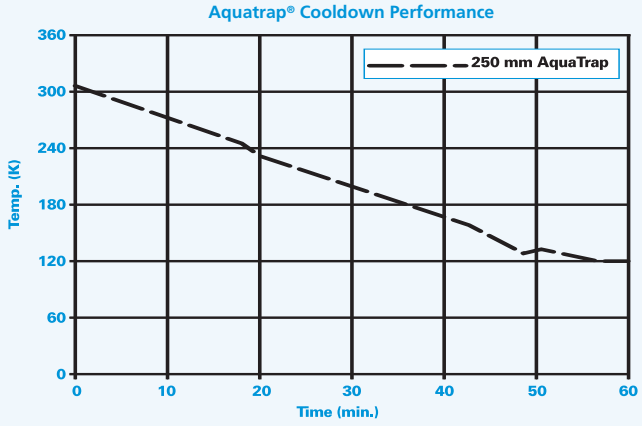
Custom Interface Flanges:
CF, OD (in) : 2.75, 3.375, 4.50, 4.625, 6.00, 6.75, 8.00

ISO/NW, OD (mm): 63, 80, 100, 160, 200, 250

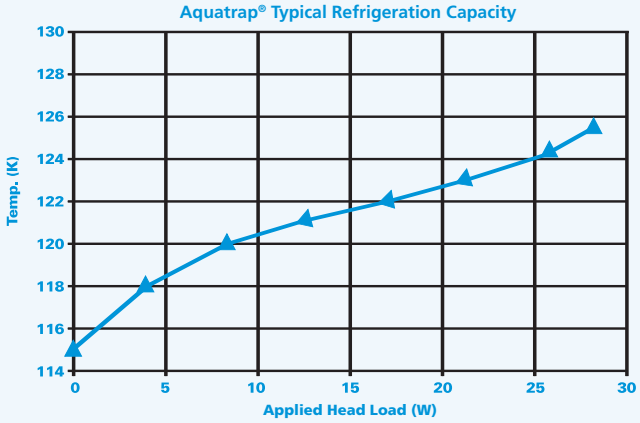
ISO/NW blank, OD (mm): 40, 50

Interface Flange to Cold Tip Distance (gg):
Customer specified 10-99mm

Aquatrap® Cooldown Performance



Aquatrap® Typical Refrigeration Capacity



Note: Derate by 17% for 50 Hz operation

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

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