

## Gas Handling

An efficient way to maximize gas yield from storage cylinders

### Application

The temperature of gas within a gas cylinder plays an important role in the efficiency of gas removal. As gas is expelled, the pressure drops within the cylinder. This pressure drop causes the temperature inside the cylinder to decrease, which makes it increasingly difficult for the gas to vaporize and be expelled. Often cylinders appear empty and get discarded or refilled prematurely when the cylinder does not have enough pressure to evacuate 100% of its contents. The result is wasted gas, extended production times, and increased production costs.

If the cylinder temperature gets cold enough due to rapid expulsion of gas, freezing conditions can occur. If the cylinder freezes over, gas cannot be expelled and the cylinder must be warmed before production can resume. Because freezing occurs due to gas being rapidly expelled, this occurs in warm and cold environments. In cold environments, cylinders are more likely to experience reduced temperatures and cylinder warmers become increasingly important.

### Solution

BriskHeat's gas cylinder warmers are ideal for maximizing gas yielded from a storage cylinder by ensuring contents remain at an elevated temperature for optimal efficiency. To maximize efficiency, the temperature of a gas cylinder is typically maintained just over 100°F (38°C). It is recommended that cylinder warmers are installed and operating during production.

The easy to install plug-and-play BriskHeat cylinder warmers fits snugly around the cylinder to maintain a warm temperature of the contents. This ensures that the gas can be efficiently discharged. Built-in insulation minimizes heat-loss to increase thermal efficiency. A self-regulating technology heating element ensures that the cylinder will not overheat and maintains an optimal operating temperature. BriskHeat gas cylinder warmers reduce operating costs by increasing gas efficiency and reducing downtime.

Ordinary and Hazardous area rated models are available.

### Additional Uses

- Variations of these units can be used for freeze protection on other small tanks and cylinders such as propane tanks.
- HVAC contractors and technicians use surface heaters to maximize gas yield from refrigerant recovery cylinders.

### Gases Known to Benefit from This Process

- SF<sub>6</sub>
- Nitrogen
- BCl<sub>3</sub>
- HF
- Propane
- Oxygen
- WF<sub>6</sub>

For examples of customers, see Customer Reference section (page A) in the *Application Book*.



#### Products

- Gas Cylinder Warmer
- Insulating Cover
- Insulating Pad

#### Industries

- Adhesives
- Aerospace
- Chemical
- Composites
- Concrete/Asphalt
- Food & Beverage
- Specialty Gases
- General Manufacturing
- Mining
- Heavy Industry
- Laboratory/R & D
- Oil & Gas
- Petrochemical
- Plastics
- Pulp & Paper

#### Types of Users

- Facilities Maintenance
- Process Engineers
- Production Managers