Celebrating over 20 years of innovation

TORNADO Technologies Inc. has been working with customers for over 20 years, innovating new products that provide simple and effective solutions.

Design & Engineering Team

At the core of Tornado is our expert design team. Tornado’s guiding philosophy? “Make things simple.” Rather than add bells, whistles and features that can eventually break down, our engineers innovate simple, practical solutions to real customer problems. Reliable equipment designed for everyday ease of use — this is Tornado’s competitive advantage.

Our products work the first time, and the thousandth time.

Pressure Vessel Facilities

- A-stamp, U-stamp, NB-stamp
  - ASME Sec. 8, Div. 1
- Welded Steel Piping
  - ASME B31.1 & B31.3
- ABSA-Approved QC Program
  - Cert # AQP-1345 for vessels and piping
- Dual Wall Steel Tanks
  - To EUB G55

Experience Worldwide

Born in Alberta, Canada.
Respected around the World!

Alberta, Canada 16 inch sweet Separator
Baltic Sea, Poland Incinerator for LPG storage facility

For more information, please visit us at www.tornadotech.com
Flame and Detonation Arrestors

It all starts with SAFETY!

Any ignition source, such as a flare or incinerator, creates an explosive opportunity for flame fronts to propagate back through lines, destroying facilities and causing injuries. An arrestor is a passive safety device designed to disperse any flame front, release its energy, and cool it to below the ignition point of that vapor.

Detonation Arrestors

Tornado detonation arrestors allow gas and vapors to pass through, but stop dead any sonic velocity explosion or accompanying shock wave. Unlike any in the industry, Tornado’s revolutionary design guarantees the highest reliability in accordance with the strictest regulatory ratings.

The secret is in our unique patented flame-quenching cell.

An Industry First... Cleanability!

Tornado’s entire detonation arrestor flame cell is removable, allowing it to be cleaned and factory reconditioned multiple times. A routine maintenance program means no expensive replacement elements are required, translating into thousands of dollars in cost-savings.

Original pressure drops are instantly restored.

Best in the World?

Without question!

Tornado detonation arrestors (DA) carry the highest stamps of regulatory approval in the industry. Designed to withstand up to two hour continuous burns, the US Coast Guard (USCG) and Canadian Standards Association (CSA) have approved Tornado DA’s to meet and exceed every classification rating. Tornado manufacturers up to 24-inch DA’s – the largest approved in the world – and are the only DA accepted for branch-line applications. No other product in the world meets the same level of performance standard.

More to learn...

- What pressure drop does a DA put on a 14-inch line?
- What vapor types are FA’s good for?
- Should arrestors be installed horizontally, or on an angle?

For the answers to these and other important questions, please visit us at www.tornadotech.com
Thermal Oxidizers

Thermal oxidizers (TOx’s) are a cost-effective alternative to full-blown incinerators. Choosing one over the other depends on both economic factors (capital and long-term operating costs) and safety concerns.

Tornado’s TEC series TOx’s are primarily designed for applications with less than 5% H2S. They achieve a high destruction efficiency without full temperature or process controls, thus saving clients money.

Benefits of Incinerators over Flaring

- 99.99% combustion efficiency
- Destruction of BTEX’s
- Can handle heavier gases
- Eliminate odor concerns
- No flame visibility
- Reduced fuel costs vs. flaring
- No radiation at ground level
- Low space requirements
- Low operator attention
- Peace of mind

More to learn...

- At what degree should I slope my dehydrator still-off gas line?
- Can the TEC burners be used for a 17% sour application?
- What is the maximum turndown range for a thermal oxidizer?

Burner Management Systems

- Superior temperature and process controls
- Recording features
- CGA/CSA Compliant Gas Trains (if required)
- CSA Compliant Control Panels, Area Classification (per requirements)
- Standard Panel is relay logic based; Digital PLC logic as required by process demands

Dramatic reduction in environmental impact

TEC-4CS Denver, Colorado

TEC burners can handle a wide range of process conditions and turndowns.
Pilot and Ignition Systems

Pilots
Tornado pilots are wind-proof, fuel-efficient, and resistant to the most corrosive conditions. A unique venturi system introduces regulated air into a high-pressure stoichiometric air-fuel mixture—ensuring an extremely stable, dependable pilot flame.

• Lowest fuel consumption
• Short intense blue flame
• Wind tunnel tested to 200mph
• Suitable for H₂S

Ignitors
The ultimate in fail-safe reliability! Even with variable flow rates and H₂S environments, our custom designed systems ensure positive ignition.

Different models include:
Tornado Pilot Monitor and Auto-Relight (TPMR)
• Continuous pilot
• Enclosed thermocouple sits within ceramic nozzle
• No direct flame exposure
• Active auto-relight system
• Auto-shutdown with alarm activation

Tornado Electronic Ignitor System (TEIS)
• Intermittent spark ignition
• Onsite or solar power options
• U.V. or Infrared Monitoring optional
• Patented Arch and V-Design
• Self-aligning, self-cleaning gap

Fluid Knockouts
All combustion systems require a fluid knockout. Tornado can provide any variety of code or non-code vessels to suit our customer’s unique field requirements.

Assisted Flares
Tornado has developed a broad range of air, steam and gas assisted flares specifically designed to meet a large spectrum of gas compositions and varied operating conditions. Waste gases burn cleanly and without visible black smoke to meet the most stringent regulations. All designs are driven by flare performance and operating costs. Assisted tips can even be retrofitted onto existing flares cost effectively.
**Process/Production**

Need to maximize return for oil and gas production? Tornado manufactures a wide range of products designed for both sweet and sour field sites. Drawing on our operational background we build cost-effective, high quality equipment that is easy to use/install, and demonstrates long-term reliability. 20 years of design and manufacturing experience goes into every package we build.

**Oil**

**The Original PPPP**

**Positive Pressure Production Package**

Perfect for sour crude, single well sites! The simple design of Tornado’s PPPPs makes them ideal for producing single-well or non-unitized sites during drilling programs. Each unit is quick to install, simple to operate, and equipped with emergency safety shutdowns for high level and high pressure. Operating on propane, they require no on-site power. Companies realize immediate production of their sour fluids at an economical price.

**Storage**

Liquids are dumped to the tank and uniformly heated. Positive pressure (15 psi) forces vapors to flare.

**Flare**

Packaged flare piping easily assembled on-site.

**Gas**

**Tornado Hydrovacs** - The best dedicated hydro excavation unit available.

**Line Heaters** - up to 10 MMBTU/hr

**Separation**

Preheated fluid allows better gas and oil separation without dumping, waxing and freezing concerns.

**Separation Packages**

Dehydrators Package can include Still-off Gas Incinerator

**Water Treaters and Free Water Knockouts**

**Sweet or Sour**

Horizontal, Vertical or Cyclone

**Flare Packaged piping easily assembled on-site.**

**Storage**

Liquids are dumped to the tank and uniformly heated. Positive pressure (15 psi) forces vapors to flare.

**Gas**

**Gas Separation**

Preheated fluid allows better gas and oil separation without dumping, waxing and freezing concerns.

**New in production, Tornado has engineered a smarter vacuum truck - built for ultimate ease-of-use.**

For more information on our truck division, please visit www.tornadotech.com

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**Truck-Mounted Equipment**

Tornado is proud to introduce its line of truck-mounted equipment, including hydrovacs and industrial vacuum trucks. Traditional technology has been completely re-engineered from the ground up to deliver superior productivity, reliability and operator ease-of-use.