Unattended Self-Service Motor Fuel Dispensing Facilities

What is an Unstaffed Facility?

"Unstaffed facilities" are those facilities that do not have an operator present on site at all times.

What was the concern?

- No operator available to respond
- If there is leak, a large volume of product can be lost
- Both an environmental and safety concern

What Does the Rule (135.5(1)”e”)State?

- Any UST facility that uses pressurized piping and dispenses product in the absence of a Class A, B or C operator shall comply with the following requirements:
- Employ ALLDs that do one or more of the following:
  - Shut down the STP
  - Triggering an alarm (audible and/or visual)
  - Restrict (slow) flow of product

- At facilities implementing 135.5(1)”e”(1)”2” or “3,” (alarm or restricted flow) the facility’s operator shall be notified or shall conduct a visit through one of the following methods:
  - Notification of Class B by electronic communication
  - Signage that is immediately visible to customer indicating symptoms of a problem (slow flow, audible or visual alarm), directing them to 24/7 contact
  - Daily visit to the site (observe restricted flow, dispense into a proper container or personal vehicle, and log to demonstrate compliance)

Taking a Long Time to fill your vehicle?

There could be a problem with the underground piping
Stop dispensing fuel, return the nozzle
Call the number below

1-800-xxx-xxxx
Facility ID: 74209

In case of a fire or emergency only:
Use the Emergency Red Stop Button Located on the premises
Report the emergency by calling 911

Rule Becomes Effective November 20, 2013

All UST facilities must comply by July 1, 2014 (deadline)

The Governor's Environmental Excellence Award
June 27, 2013
Iowa DNR - Wallace Building Auditorium

Photo -From Left to Right: DNR Director Chuck Gipp, Iowa Lt. Governor Kim Reynolds, Tom Gehrke & Mike Connor with QT, Iowa Governor Terry Branstad

What are the Environmental Excellence Awards?

- Iowa's premiere environmental honors to businesses and organizations for their outstanding contributions to the environment
- Qualities recognized
  - Leadership and innovation in the protection of Iowa's natural resources
  - Decisions based on environmental ethics and commitment to communities

UST Section Nominated QT

- Overall Environmental Excellence Award
- Special Recognition in Water Quality
- Special Recognition in Air Quality

What Brought QT to DNR's Attention?

- Compliance
  - QT's high standards exceed compliance requirements
- Openness
  - QT meets regularly with DNR and has shared its innovations, lessons learned, what works, what doesn't, with DNR for years
- Innovation
  - QT sets the bar as far as technical standards. In most cases, they exceed standards
- Standards and Practices
  - Southwest Research Institute

Information about QuikTrip

- Company founded in 1958
- Based in Tulsa
- Operate 672 convenience stores in 11 states including 25 locations in Iowa

Compliance

- QT is a proactive, environmentally responsible company
  - All TCI/Environ pipe immediately replaced when integrity problems were found
  - Wholesale replacement of ATGs when circuit board problems discovered
  - Redundant leak detection for UST systems
    - ATG; Statistical Inventory Reconciliation; Monitoring of Secondary Containment

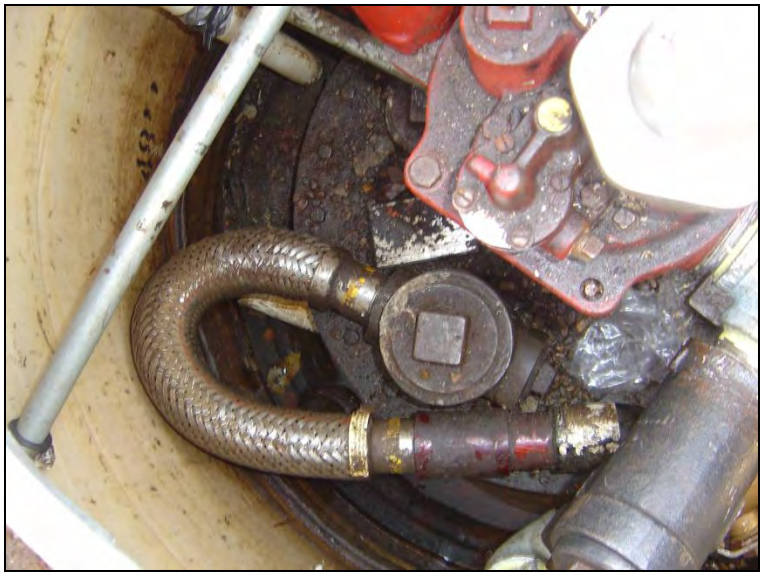
Innovation: Applying Experience to Design

- Innovation for QT = safer, more efficient UST systems
- Long-term sustainable strategies
- Square Sumps
- Straight pipe runs between sumps
- Flex Connectors straight without a bend
- Anchoring

Square Collars and Sumps

Why Square Sumps?

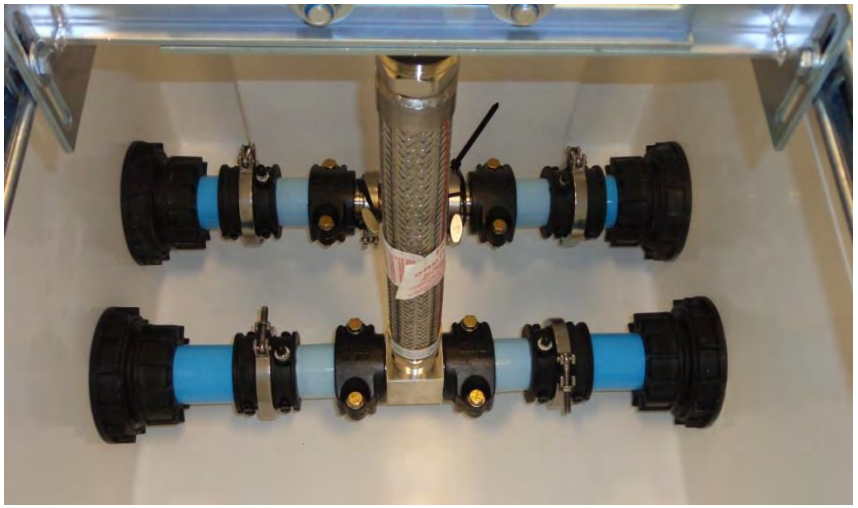
- Easy repairs
- Reduce exposed fittings
- No joints outside of containment or between sumps
- Better seal of boots
- Straight runs under pavement
- Flat fiberglass seals—no degradation from rubber seals
- Solve alignment problems
- More effective at keeping out water ingress



Square Sump Installations

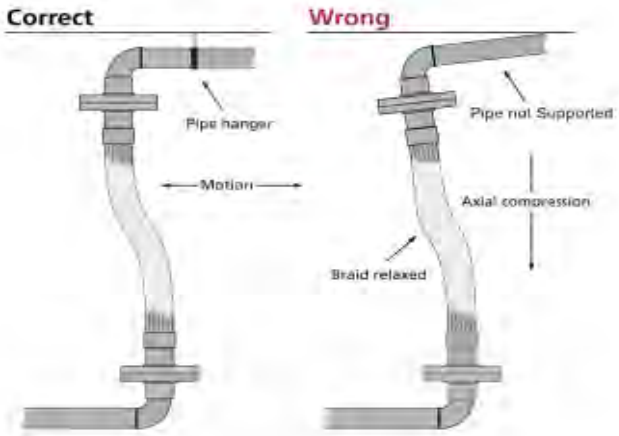
Flex Connectors

- Flex connectors are meant to be used as a method to buffer hydraulic shock in a pressurized fuel line, not to correct an alignment issue, or to avoid cutting and threading pipe.
- QT requires that all flex connectors are straight, vertically and horizontally.
- We do not allow the use of a horizontal flex connector longer than 12”.
- Flex connectors with a swivel joint on one end are the best way to avoid a twist in a connector during installation.



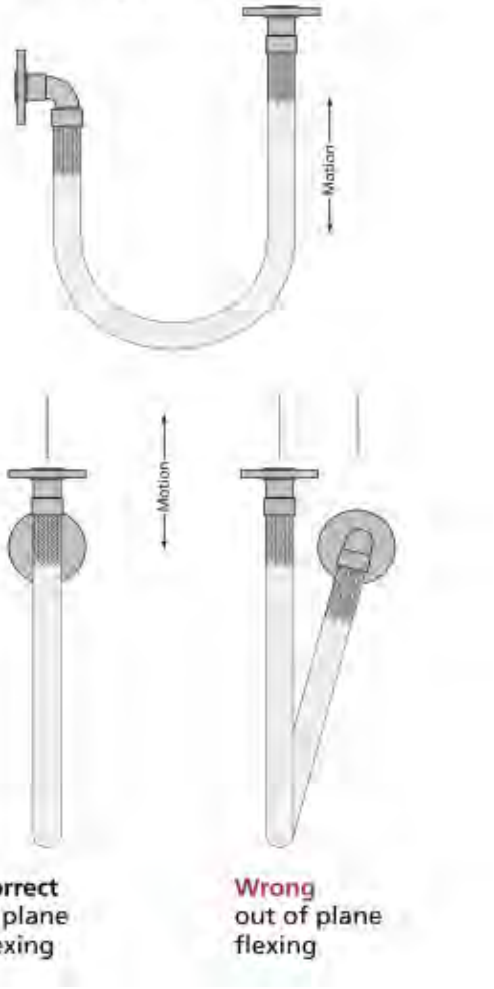
Franklin Fueling Systems—Flex Connector Do's and Don'ts of Installation

Do Not Compress or Extend Axially
Corrugated metal hose installed in-line with the longitudinal axis of the piping should not have any axial movement.



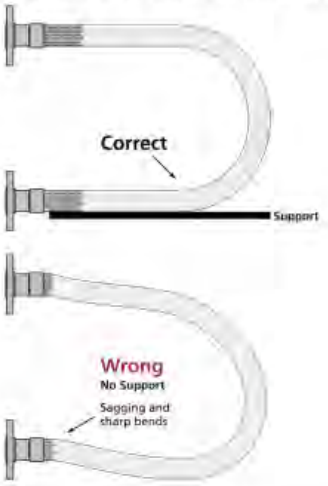
Avoid Sharp Bends
Use elbows to avoid sharp bends near the end of the metal hose assembly.

Do Not Allow Movement In Multiple Planes.
Flexing a metal hose in two separate planes of movement will torque the hose assembly. Always install the metal hose assembly so that flexing occurs in one plane only, the plane in which bending occurs.

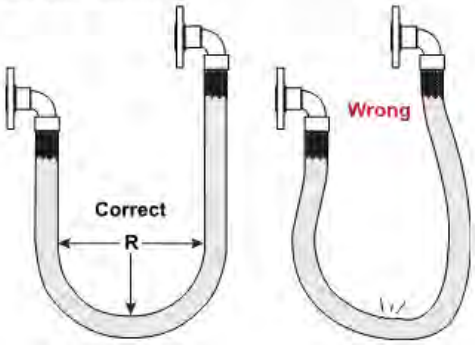


More Do's and Don'ts of Flex Connector Installation

Provide Support.
When installing the assembly in a horizontal loop, provide support for the arms to prevent the hose from sagging.

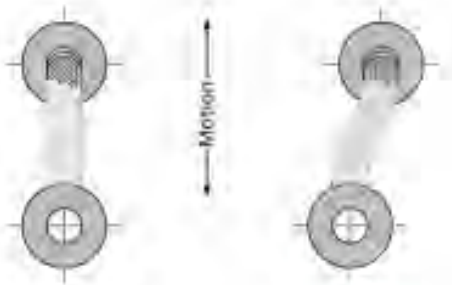


Maintain Minimum Center-line Bend Radius.
The hose assemblies must not be forced to a bend radius less than specified.



Do Not Torque During Installation.
Metal hose assemblies should not be used to compensate for bolt hole misalignment. Floating flanges will help to minimize twisting of the metal hose.

Pipe unions will help to reduce twisting during connection to the piping. Use two wrenches to help to keep the hose from twisting when tightening the pipe union.



Correct in plane flexing

Wrong out of plane flexing

Anchoring


PRE-ENGINEERED
Steel Tank Institute
STI P3
PROVEN PROTECTION

Straight Pipe Runs

Double Wall Spill Buckets

Redundant Leak Detection

New Construction: Enhanced Leak Detection (ELD)

Enhanced Leak Detection

- Look for problems before the system is covered
- LDT looks for leaks as small as 0.005 gph, finding them and repairing them before they become larger leaks
- LDT finds 7-9 leaks at new construction sites
- Installers are trained in just a couple jobs to where 0-3 leaks are found

Warren Rogers Associates

- Real time SIR
- Real time alerts on possible leaks
- Trend reporting
- Pinpoint variances down to the exact meter
- Identifies when a fuel meter needs calibration (cost savings)

Standards and Practices

- QT's outlook is that their existing systems might remain viable for 10 to 15 years
- Conduct research through Southwest Research Institute to determine the best materials to use


11/17/2013


11/17/2013


11/17/2013


11/17/2013


614
UNV.
DNR
11/17/2013


11/17/2013