



Water Utilities Infrastructure

Tractel® Safety Applications
and Product Guide

essential safety for vital infrastructure workers



In every town and city around the world, complex infrastructure systems supply clean water to populations, as well as processing and disposing of various forms of wastewater after it's used. To keep it all flowing without interruption, large treatment plants, storage vessels, pumping substations, and countless miles/kilometers of pipes and tunnels must be built, maintained, and inspected.

Utility workers routinely enter vats, tanks, access shafts, and tunnels to do this important work, and each of these environments exposes workers to potential hazards. Personal risk is a daily part of the job for these municipal workers, so having the right safety equipment and knowing how to properly use it is extremely important.

water utilities safety

The workers who keep water utility infrastructure operating and the municipalities who employ them must be thoroughly familiar with the details of the safest work practices, as well as the equipment they must have.

This guide will focus on the most important water utility safety applications and provide examples of high-quality equipment specially engineered to provide the highest standards of performance and worker safety.



Some of the most important safety issues

Confined Space Entry & Rescue

Many of the areas in which water utility workers perform tasks qualify as confined spaces. This means that they are in spaces not designed for continuous human occupancy, but which must sometimes be entered by workers. Entry and exit from confined spaces are restricted by one or more factors, making them especially dangerous and requiring special equipment for work and rescue operations.

Workers entering enclosed tanks, large vats or pools, and manhole shafts must strictly follow all local and national regulations that pertain to their safety in such spaces. These usually require that each worker wear a safety harness and remain attached via a lifeline to an anchor point outside the confined space. These anchor points may be in the form of a permanent or semi-permanent mast or boom-style device, a horizontal lifeline system within or above the enclosed space, or a portable tripod set up over a manhole or shaft.

Lifting & Handling

Moving workers, tools, and supplies in and out of both confined spaces and regular work areas is a frequent part of water utility work. To complete jobs and minimize risk of injury, a range of manual and electrically powered lifting equipment is used.

Manual chain hoists can lift and lower heavy loads from a fixed anchor point. Pull-style manual wire rope hoists are more versatile, able to pull horizontally, vertically, or around bends with the use of pulleys and blocks. Powered hoists may be attached to a stationary anchor or mounted on a trolley system, and they are typically able to move heavier loads more quickly than a manual hoist. The specific conditions of a worksite will determine which lifting and handling equipment are ideal, and experts in safety and product features should always be consulted.

Fall Prevention/Access Control

Within confined spaces and throughout water utility facilities, areas where workers can encounter fall hazards and other dangers are common. Controlling access and movement on walking-working surfaces and throughout the workplace is important.

To prevent workers from accidentally entering stairways, access shafts, vats, and other hazardous areas, railings and gates are common equipment in water utility facilities. Self-closing gates of aluminum or steel which meet regulatory requirements are an excellent way to improve water utility worker safety, preventing falls and other potential accidents.

In the following pages you'll find additional information and tips pertaining to these important water utility safety applications, as well as detailed information about equipment engineered to serve workers in the water infrastructure.

rescue harness - FUY119 series

Water utility workers perform inspection, repair, or maintenance work in cramped spaces for extended periods, and they are often required to wear a harness the whole time. Designed for safety, versatility, and comfort, the Tractel rescue harness allows for quick, easy donning and removal, as well as maximum freedom of movement in any position. Its D-Rings allow for easy attachment and detachment from lanyards, ladder safety systems, and the harnesses of other workers during a rescue operation.

FEATURES

- High tenacity polyester webbing and lock-stitching
- Y-style design for quicker donning and keeping shoulder straps in place
- Independent leg/seat support and six-point adjustment

BENEFITS

- Maximum day-long comfort for extended wear and frequent use
- Highly customizable, adjustable fit without compromising quick donning and removal
- Waist, Sternal, Back, and Side D-Rings for easy, safe attachment from any direction
- Easy and clear indicators of wear and position make inspection easy
- Safe, strong, and reliable for fall arrest and positioning



confined space safety basics

A confined space is defined by safety regulations as an area which has barriers or complications to entry and exit, is not intended for occupancy, and which workers must sometimes enter. Vats, tanks, manholes, shafts, sewers, and other common water utility work sites are confined spaces. These areas have several important requirements for safely working within them, and you must always fully comply with all such regulations, laws, and guidelines.

Among the most important principles of confined space safety are:

1. Always create a detailed safety plan for every confined space job, including all tasks, equipment, and responsibilities. This plan must be shared and reviewed by everyone involved in the job.
2. Fully inspect the confined space before any work begins, and thoroughly monitor conditions inside the space during the job.
3. All equipment and personnel needed for a potential rescue must be on-site and ready to deploy throughout the job, and all workers within the confined space should be wearing a rescue harness and lifelines at all times.
4. Consult confined space safety experts To ensure that your plans and equipment fully comply with all regulations to keep your utility workers safe.



anchorage solutions

For fall protection, material handling, and rescue operations, the work that water utility workers perform in confined spaces requires one or more strong anchor points, each capable of supporting multiple workers and their gear. Access to each confined space may vary greatly, so selecting the right anchoring equipment is vital both in utility buildings and in the field.

davitrac

The Davitrac™ is a complete solution for safe vertical rope access in a confined space situation. Lightweight, easy to use, and versatile, it can be set up in minutes with no tools and equipped with accessories to serve a wide range of functions.



FEATURES

- Up to two users up to 330 lb. (150 kg) each—one worker in the confined space and one worker operating the Davitrac™—depending on the fall arrest system used. Each user must be secured on separated PPE anchor points
- A single user up to 330 lb. (150 kg) and a maximum material lifting capacity of 1,100 lb. (500 kg), depending on the systems used.
- Material lifting maximum capacity 1,100 lb. (500 kg), depending on the lifting tools used

BENEFITS

- Easy to handle, transport, and install permanently or semi-permanently
- Compatibility with the Tractel® product range allows a large number of possible configurations, including attachment of additional rope or chain hoists, descent control systems, and other accessories.

davimast™ with two 360° anchor points for horizontal lifeline

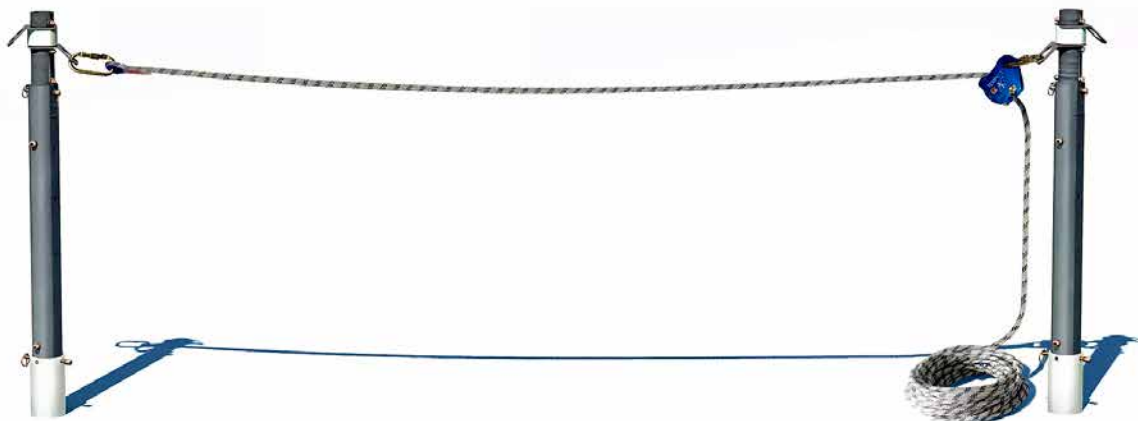
For work in spaces like large vats or other confined spaces, water utility workers must sometimes be supported by a horizontal lifeline system. A pair of Davimast mast-style anchors can be equipped with double 360° rotating PPE anchor brackets to create lifeline support for multiple workers

FEATURES

- Up to two users of 310 lb. (140 kg) each—one worker in the confined space and one worker operating the Davimast™—depending on the fall arrest system used. Each user must be secured on separated PPE anchor points.
- A single user up to 310 lb. (140 kg) and a maximum material lifting capacity of 500 lb. (225 kg), depending on the systems used.
- Material lifting maximum capacity 500 lb. (225 kg), depending on the lifting tools used

BENEFITS

- Easy to handle, transport, and install permanently or semi-permanently
- Compatibility with the Tractel® product range allows a large number of possible configurations, including attachment of additional rope or chain hoists, descent control systems, and other accessories.



tracpode tripod

To establish strong anchorage over a manhole, shaft, or similar vertical confined space, a tripod can be an excellent equipment choice. Tracpode is a powerful tripod designed for use as a temporary anchor point.

FEATURES

- Tested to stop the simultaneous fall of one operators weighing 310 lbs./140 kg
- Material lifting capability of 550 lbs./250 kg
- Can be positioned over openings up to 6 ft./1.85 m wide

BENEFITS

- Folds to fit in small vehicles
- Lightweight for easy carrying
- Can attach multiple hoists and other equipment at once

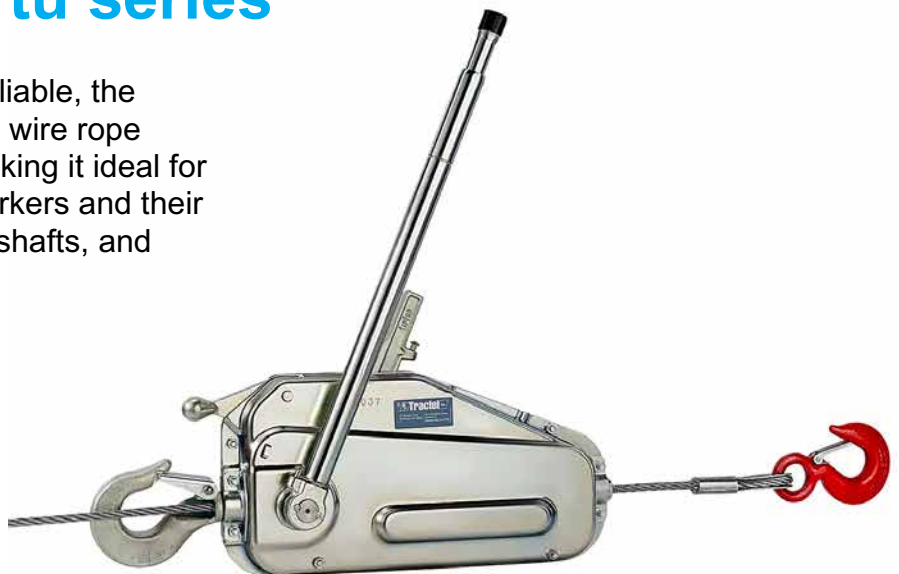


lifting solutions

To move tools, heavy equipment, and people in and out of workspaces, water utility workers rely on a range of lifting and handling equipment, particularly portable hoists. When planning and managing a job, select equipment that can easily handle the potential weight of workers and equipment, as well as operating under the conditions of the job site. Extreme moisture, lack of reliable electrical power, and confined space requirements should all be considered. Detailed below are some of the most useful and reliable lifting equipment for water utility work.

griphoist®/tirfor® tu series

Powerful, portable, versatile, and reliable, the Griphoist/Tirfor TU series of manual wire rope hoists is certified for man-riding, making it ideal for raising and lowering water utility workers and their equipment in and out of manholes, shafts, and other confined spaces.



FEATURES

- “U” jaw shape to provide superior grip pressure, increased mechanical yield, and improved hoist strength
- For man riding Capacities of 1,500, 3,000 and 6,000 lbs. available
- Replaceable shear pins prevent damage in case of overload
- Easy, quick, reversible operation using an adjustable, telescoping handle

BENEFITS

- Superior strength and durability
- Approved by UL as man-riding equipment
- Portability, easy positioning
- Steady, continuous pull without the need to change anchor points

tralift®

With a unique, compact, light design, the Tralift line of manual chain hoists allow water utility workers to tackle their biggest vertical lifting needs in the most extreme conditions.

FEATURES

- WLL from 550 lbs./250 kg to 44,000 lbs./20t
- Anti-corrosion treated lifting and handling line
- Swivel hook with overload indication and robust cast steel safety catches

BENEFITS

- Compact and lightweight for portability and positioning
- Made for less wear and longer life
- Easy to operate and maintain



minifor® TR Series

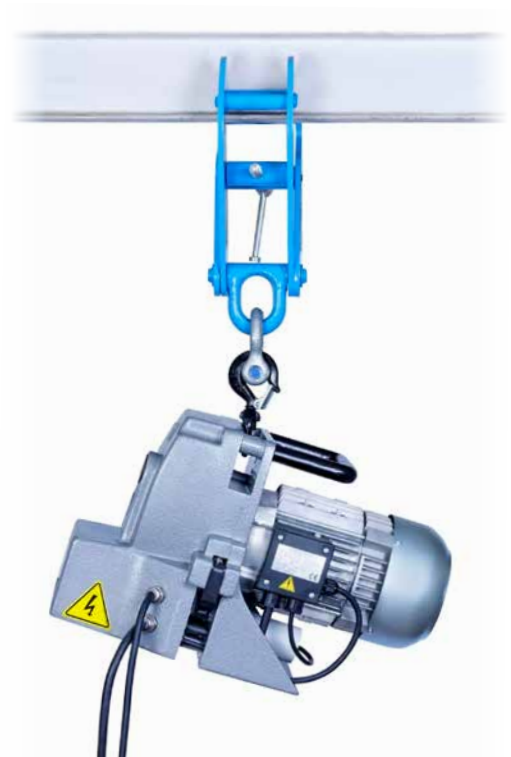
These electric wire rope hoists are very compact and lightweight, suitable for lifting or pulling loads in any direction.

FEATURES

- Operated by a control pendant (8 ft./2.5 m cable, Up/Down/Emergency Stop)
- Power supply cable length 3 ft./ 1 m, with CEE Form connector
- Available in range of power and weight capacities
- Optional remote control

BENEFITS

- Handles unlimited wire rope length and therefore unlimited lifting height
- Compact and portable, with built-in handle
- Working load can be increased by using optional sheaving kit



access control and fall prevention

Within water control facilities workers are exposed to many risks. Falls are a frequent source of worker injury. So is accidental entry into areas where dangerous machinery, biohazards, or risk of drowning and engulfment are present. Controlling the movement of workers around and through the facility requires specialized safety equipment, and self-closing safety gates are often an ideal access control solution. Fabenco®, a division of Tractel®, is a global leader in providing safety gates that meet the specific needs of the water utility sector, including resistance to corrosion.



fabenco® self-closing safety gates

FEATURES

- Vertical Coverage of 12 inches/ 30 cm (A SERIES) or 22 inches/ 55 cm (XL SERIES)
- Available in Carbon Steel (-71 models) and Aluminum (-82 models)
- Stainless Steel Spring
- Positive Stop



BENEFITS

- Closes automatically with each use
- Provides access control and passive fall protection
- Easy to Install, mounted left or right
- Fits any handrail type



safety and support for water utility infrastructure

Water and the systems that handle its supply and treatment are essential to the survival and safety of every community. Tractel® provides safety and support for these utilities and their workers through advanced solutions and innovative, specially engineered technologies. Tractel® offers a complete product range designed for water utilities, including confined space safety equipment, material handling hoists, active and passive fall protection products, and evacuation and rescue devices.

In addition, Tractel® provides comprehensive training and unparalleled global support for putting our products to the safest, most effective use under demanding conditions and government regulations, worldwide.

Choose the industry leader. Choose Tractel®

For details on Tractel® solutions and products,
visit tractel.com or contact your Tractel® specialist.



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