



# **WATERLINE**

TANK TECHNOLOGIES



Patent Pending



# **THE TWISTER**

Multi-Use Manway

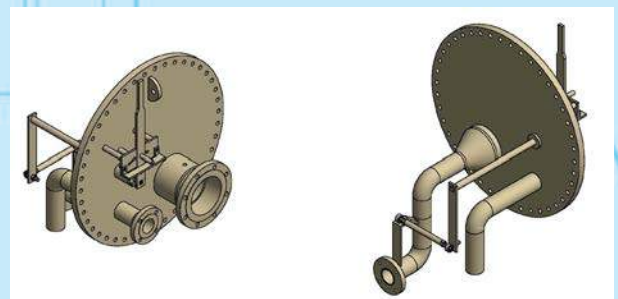
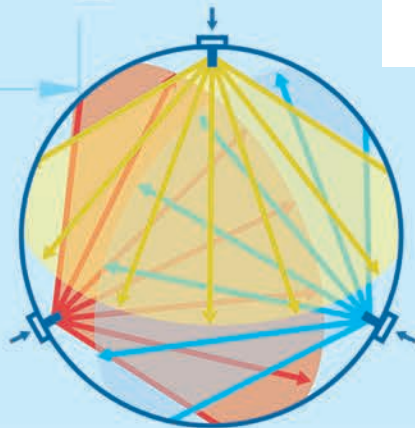
# The Twister® Manually Adjustable

## ENGINEERED FOR ANY MANWAY TO API 650 STANDARDS

### Versatile Tool for Online or Offline Tank Cleaning and Maintenance

Crude oil, heavy fuel oils, catalyst fines, residuum and other black oils, as well as wastewater and stormwater tanks, are notorious for developing solids, sludge, or BS&W on the floor of the storage tank, where the sludge hardens and cannot be removed by normal pumping. The tank has to be then taken offline and cleaned, which is hazardous, expensive, time-consuming, and requires sludge disposal. Tank cleaning often involves personnel entry and potential exposure.

The Twister helps minimize the downtime needed for offline cleaning and/or tank entry. When permanently installed on the tank, Twisters also provides a method for online tank cleaning, so that the tank only needs to be opened for mandated inspection intervals. The Twister works by taking suction from the tank with a properly-sized recirculation pump, and pumping the product back into the tank through the manually adjustable Twister nozzle. The Twister's nozzle creates a powerful jet of the tank contents that is directed across the bottom of the tank, which dissolves and resuspends accumulated sludge. The 120° sweep of the Twister allows the tank to be thoroughly mixed. Multiple Twisters are usually installed on a given tank, depending on tank size, product contents, and customer intentions. Twisters replace the existing manway cover, and require no electrical or other power source other than the recirculation pump. The system allows use of product from the tank itself, or fluid from an outside source, such as cutter stock or water, to clean the tank. Please contact us to discuss your specific application.



# Multi-Purpose Manway



TOP VIEW

# MULTI-PURPOSE TOOL

Submerged Jet Mixer to Refluidize Tank Bottoms,  
Reclaim Lost Product and Regain Storage Capacity

Replace Side Entry  
Propeller Mixers for  
Effective Tank Mixing

Inject Cutter Stock or  
Chemicals, or Take  
Suction

No Manned Entry Required  
to Extend Tank Openings  
Until Mandated Inspection  
Intervals

Directional Nozzle  
for Powerful Cleaning  
to Remove Solids and  
LEL Levels from Tank  
When Opening for  
Inspection or Repair

Sample the Tank  
Without Opening  
to Atmosphere

Water or Solvent Wash  
for Detail Cleaning

FRONT VIEW

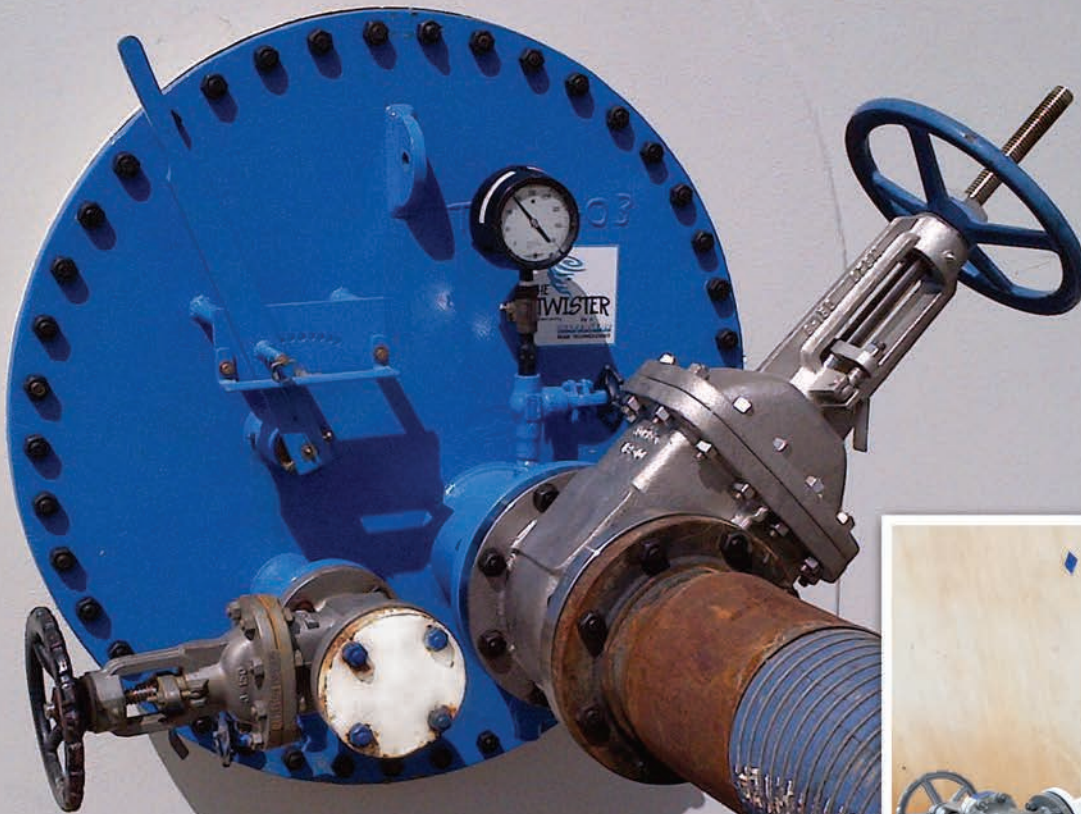
View animation of the Twister in operation at [www.waterlinellc.com](http://www.waterlinellc.com)



# WATERLINE

TANK TECHNOLOGIES

HOME OF  
THE  
TWISTER



## About Waterline Tank Technologies, LLC

Waterline Tank Technologies builds on the history of innovation established by its sister companies Triton Industries (portable high performance vacuum systems) and Brahman Systems (cable and hose protection for industrial traffic). Waterline was formed specifically to provide the tank cleaning and maintenance market with the unique multi-purpose manway known as “The Twister”.