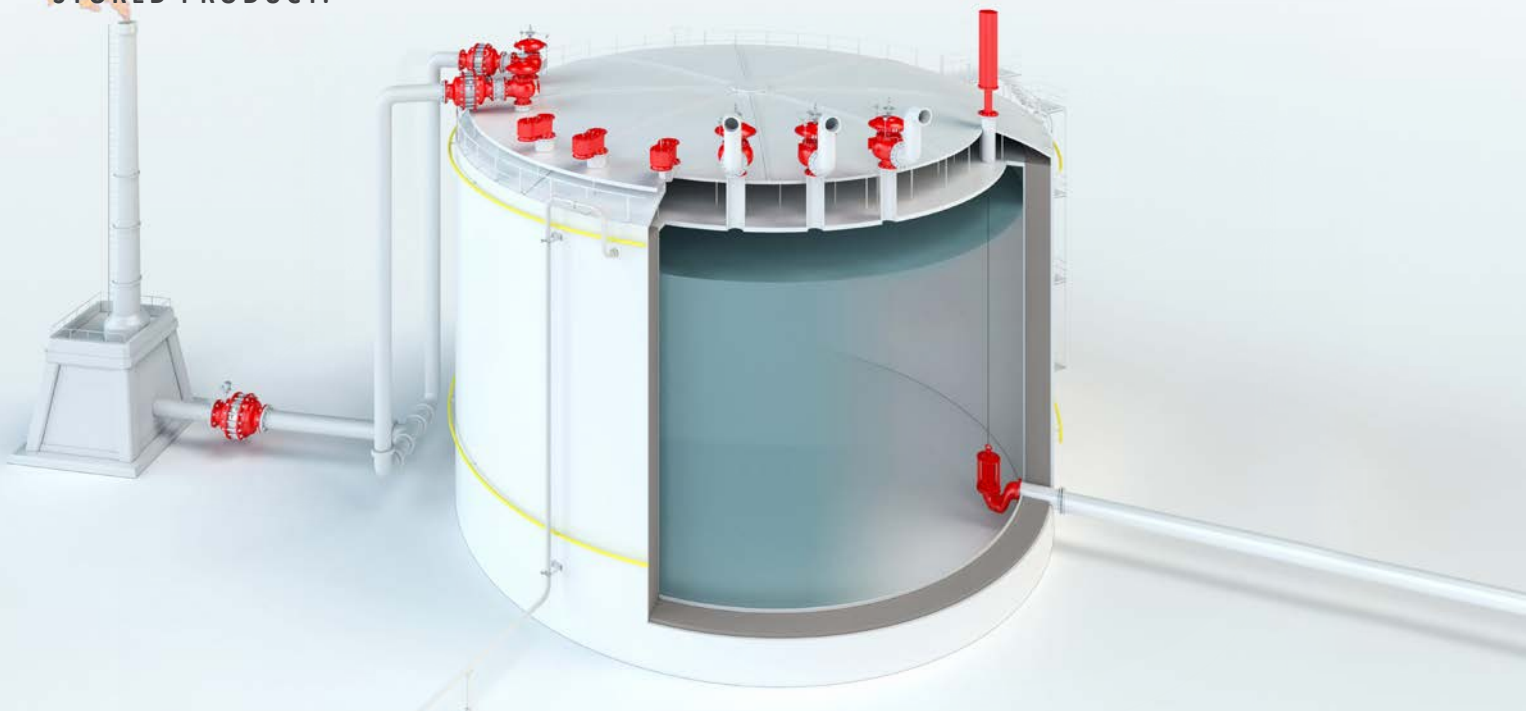


# PROTEGO® In-Tank Valves ITV-S

IN THE EVENT OF A DISCHARGE LINE FAILURE, PROTEGO® IN-TANK VALVES WILL SAFELY SHUT OFF YOUR CRYOGENIC STORAGE TANK AND PREVENT UNRESTRICTED SPILLAGE OF THE STORED PRODUCT.



Installation of actuators on the tank roof



ITV-S valves in the tank

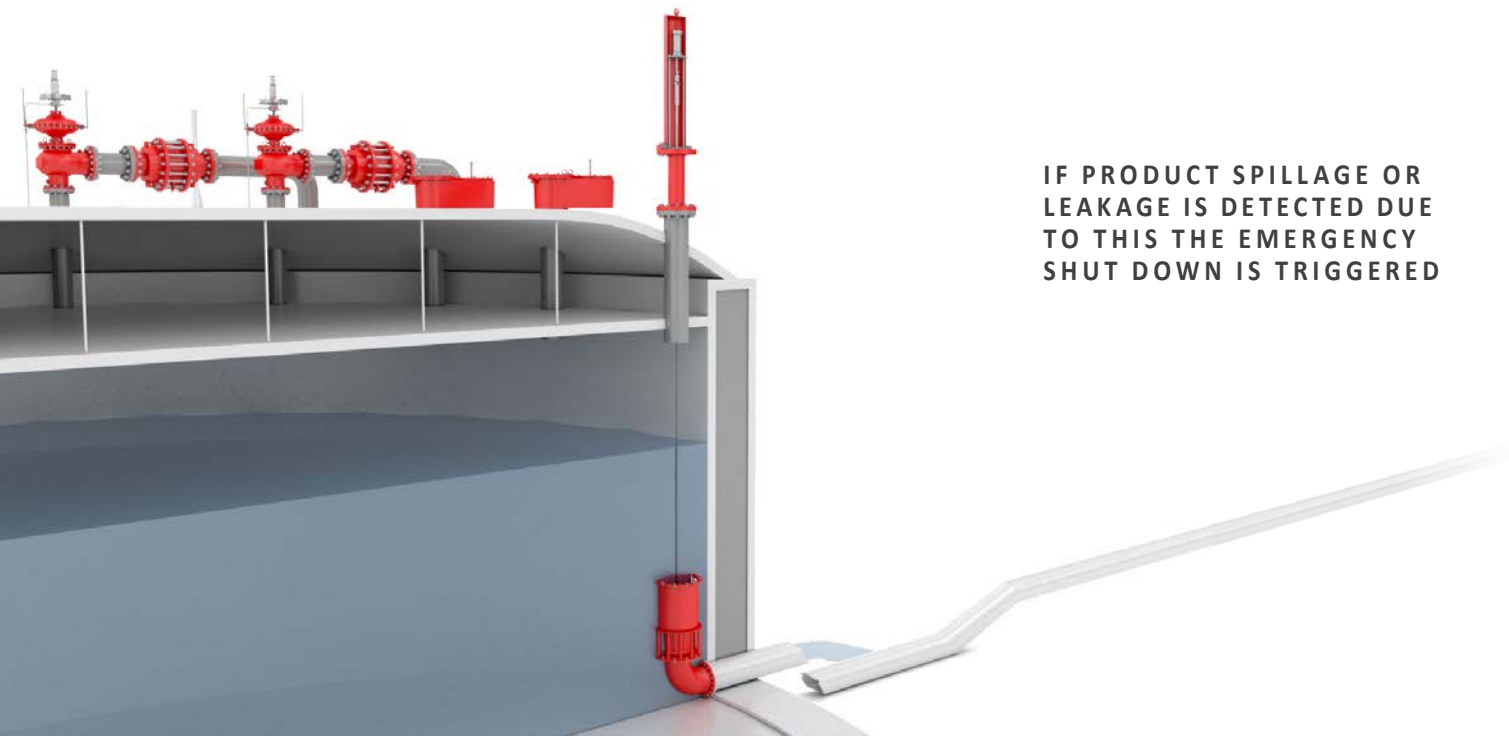


Tanks at customer site

## TECHNICAL BACKGROUND

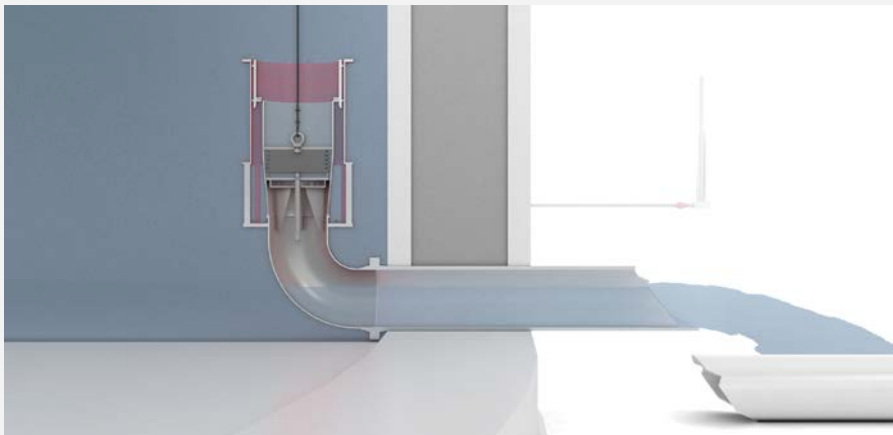
Since the amendment in the standard API 625 – Tank Systems for Refrigerated Liquefied Gas Storage – and DIN EN 14620 the use of so-called "In-Tank Valves" for the protection of discharge lines through the tank bottom or tank wall is possible. The task of these "In-Tank Valves" is to automatically shut off the

discharge line in the event of a power failure or leakage. For this purpose, it is necessary that the shut-off elements of the In-Tank Valves are installed inside the tank, i.e. in front of any possible pipeline damage.



IF PRODUCT SPILLAGE OR LEAKAGE IS DETECTED DUE TO THIS THE EMERGENCY SHUT DOWN IS TRIGGERED

## TWO WAYS OF INSTALLATION



*The In-Tank Valve closes and shuts off the damaged pipeline*



*Flange connection to the tank wall.*



*Flange connection to the tank bottom.*

## ADVANTAGES OF PROTEGO® IN-TANK VALVES:

The design of PROTEGO® In-Tank Valves ITV-S complies with the requirements of API 625 and DIN EN 14620 for fail-safe operation. In addition, the following features characterize PROTEGO® ITV-S:

- Designed for maintenance-free operation for at least 30 years in the product.
- Low weight of the In-Tank Valve lower part, meaning low load on the tank nozzle
- Low lifting forces required, meaning low force input into the tank roof.
- Smooth closing action of the In-Tank Valve, optimized by CFD modeling.
- Implementation of fast closing and opening times.
- 100% leak test according to factory standard.
- Actuator meets requirements of ATEX directive and SIL certification.
- In-Tank Valve absorbs pressure surges from the line.

## PROTEGO® HEAD OFFICE

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