



## Gunclean Toftejorg i65 D

### Dual-nozzle tank cleaning machine

Alfa Laval's Gunclean Toftejorg i65 D is a high-efficiency tank cleaning machine with a dual nozzle. Developed to meet the toughest tank cleaning requirements, it is the first dual-nozzle tank cleaning machine on the market to feature a hysteresis clutch with built-in speed adjustment.

This innovative clutch construction not only eliminates a shaft penetration between the turbine and gearbox, but also prevents slippage and false starts. In combination with optimized design and new, wear-resistant materials, it makes the Gunclean Toftejorg i65 D a simple and reliable choice for cost-effective operation.

#### **Application**

The Gunclean Toftejorg i65 D is designed for use in fixed installations aboard chemical carriers and product carriers, as well as in offshore applications. Its reliable operation and wear-resistant design make it suitable for use in all types of tank cleaning applications.



## Features and benefits

### *Hysteresis clutch.*

The patented clutch of the Gunclean Toftejorg i65 D, which comprises a hysteresis plate on one side and supermagnets on the other, eliminates a shaft penetration between the turbine and gearbox. Unlike a standard magnetic clutch, in which two opposing magnets must be synchronized, it will not slip during water hammering – thus eliminating false starts. The clutch works as a soft starter, making sure that the tank cleaning machine always begins to operate.

### *Topside speed adjustment.*

Speed can be adjusted above deck without changing the drive media flow, simply by increasing or decreasing the distance between the magnets and the hysteresis plate.

### *No speed adjustment shaft.*

The patented hysteresis clutch does away with speed adjustment at the turbine. This removes the need for a shaft penetration on the turbine side, taking away a potential source of seal leakage and cross-contamination.

### *Optimized turbine.*

The turbine of the Gunclean Toftejorg i65 D is specially designed for better power transmission, which contributes to increased machine lifetime.

### *High-tech ceramics.*

Balls of high-tech, wear-resistant ceramics have been used in the turbine construction. These reduce friction in the gear system and reduce the consumption of spare parts.

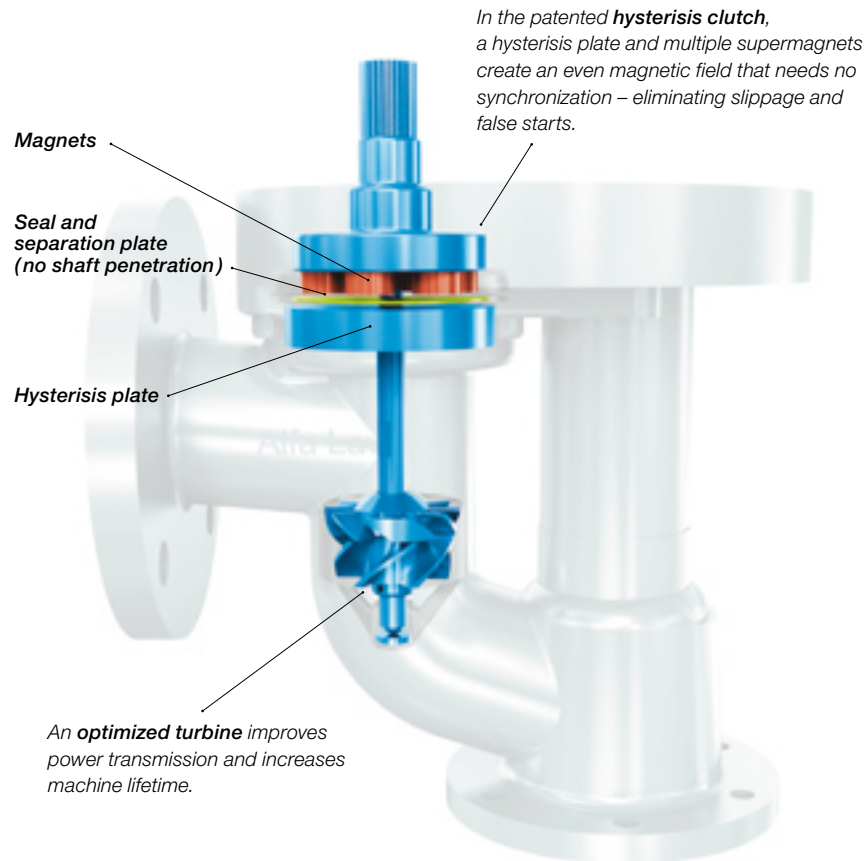
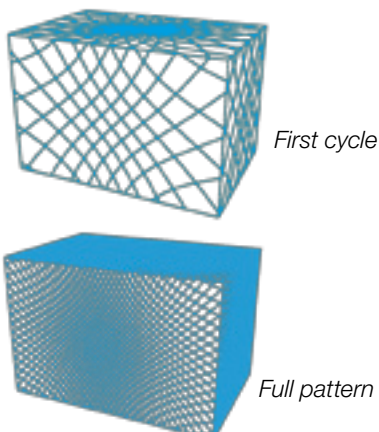
### *Isolated gearbox.*

The oil-free gearbox is located above deck and can be removed without exposing the tank atmosphere. This allows for easy service.

### *Robust construction.*

The gearbox has a stronger construction than previous tank cleaning machines and involves fewer wear parts.

## Cleaning pattern



## Operation

A flow of cleaning media is used to drive a turbine connected to the Gunclean Toftejorg i65 D gear unit. Rotation speed can be adjusted during operation, thus making it possible to optimize the cleaning cycle.

During the first cycle, the nozzles lay out a coarse pattern over the tank surface. During the following cycles, the density of the pattern is gradually increased, reaching a full criss-cross cleaning pattern after four cycles.

## Options

- Deck and inlet flange with customized dimensions.
- 2" ball valve with strainer and CAM lock coupling (male) with dust cap.
- Sensor connection for all cargo control systems.

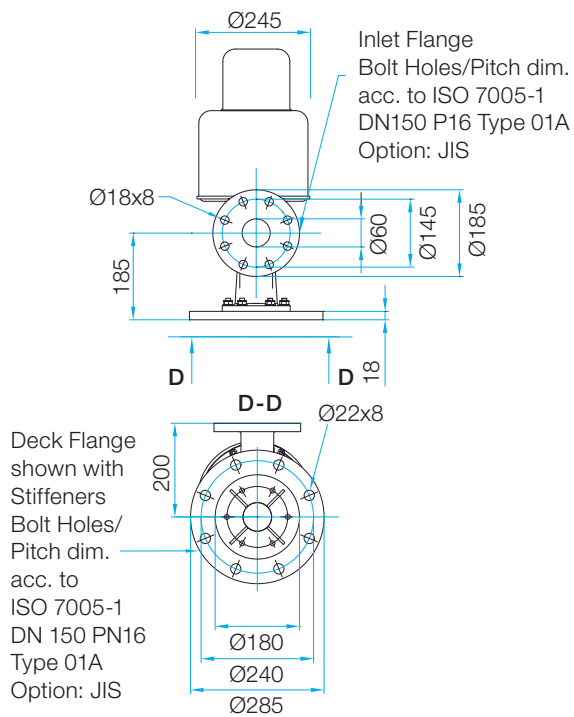
## Regulations

The Gunclean Toftejorg i65 D is fully compliant with IMO regulations and the requirements of the classification societies.

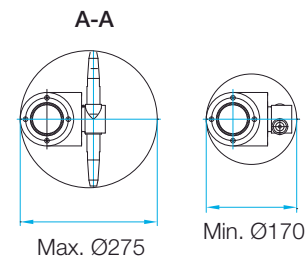
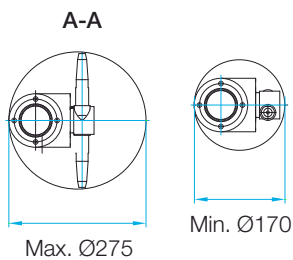
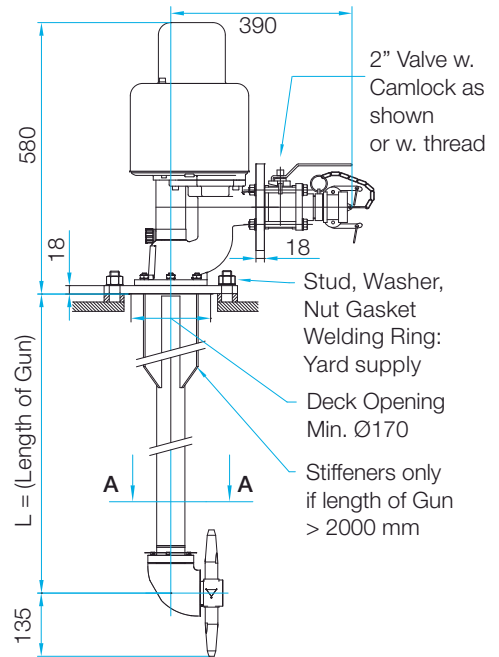
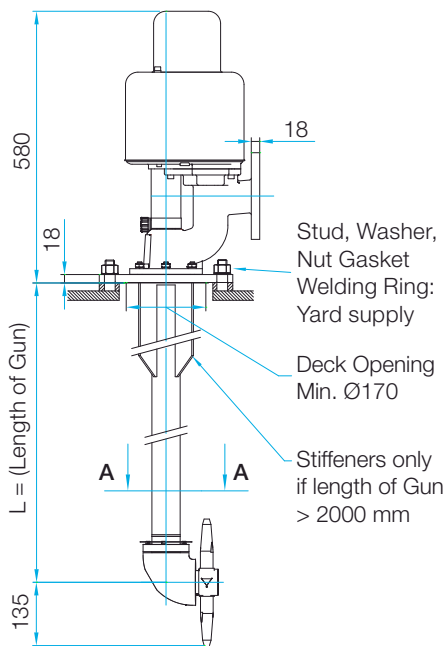
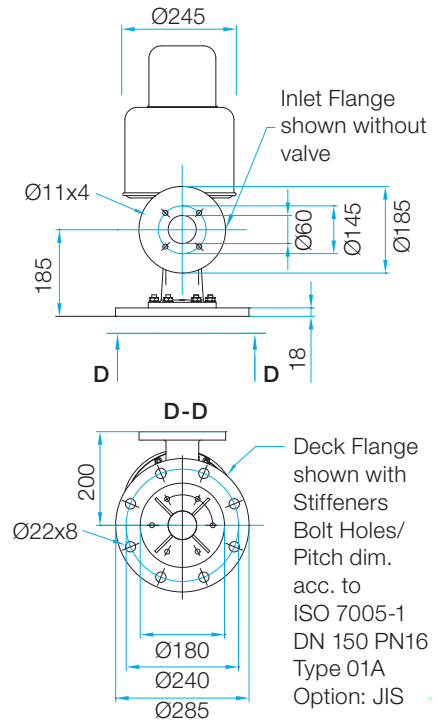
## Specifications

Materials, main parts	AISI 316 as standard
Sealings	Oil, product and chemical resistant
Lubricant	Grease
Working pressure	5–12 bar
Max. working temperature	0–95°C (32–203°F)
Capacity	5–65 m <sup>3</sup> /h
Effective design jet length	Up to 33 m
Sealings	
Inert gas	0–0.7 bar (0–10 psi)
Cleaning fluid	0–12 bar (0–174 psi)

**Gunclean Toftejorg i65 D with inlet flange**



**Gunclean Toftejorg i65 D with inlet ball valve**



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Alfa Laval reserves the right to change specifications without prior notification.

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**How to contact Alfa Laval**

Contact details for all countries are continually updated on our web site. Please visit [www.alfalaval.com/marine](http://www.alfalaval.com/marine) to access the information direct.