



Alfa Laval GJ ToteBlast Station

Tank cleaning pump systems

Introduction

Stationary system allows IBCs/totes to be cleaned in 2-7 minutes.

Application

Perform intermediate bulk container (IBC) cleaning in house, in less than half the time, with the ToteBlast Station. This complete all-in-one system utilizes patented rotary impingement technology designed to blast residue from the IBC/tote interior, in a precise, global indexing pattern. This high impact cleaning technology ensures the entire tote interior is thoroughly cleaned in the most efficient manner, utilizing the least amount of resources, including: time, energy, cleaning chemicals, and water. The system comes equipped with everything needed to set up an IBC/tote cleaning station. The simplicity in design and affordability, coupled with the most durable and effective technology, makes this the ideal IBC/ tote cleaning system for any application, industrial or sanitary.

Benefits

- 50% faster cleaning versus manual cleaning
- High impact cleaning in a repeatable 360° pattern
- Cleans IBC/tote in 4–7 minutes depending on residue

Standard Design

The ToteBlast Station comes with a vertical multistage centrifugal pump with motor, control panel, a ¾" x 50' hose and all the necessary fittings and hardware required for permanent installation. The system also comes with a threaded inlet adapter that can be threaded into any IBC/tote lid with a 2" NPT opening.

Dimensions

Crate dimensions	
Height:	55" x 48" x 34" (1400 mm x 1200 mm x 865 mm)



Technical Data

Pump	
Type:	Grundfos CRI vertical multistage
Model:	See Table 1 in section Pump Curves
Mechanical seal:	Single shaft seal, C/SiC, Viton
Motor:	Standard NEMA 180TC framed with totally enclosed fan cooled. 2 poles = 3600 rpm at 60 Hz, IP 55, insulation class F. Energy efficiency IE2
Control panel	
Type:	On/Off/Reset with internal timer
Power rating:	Three phase
Mains voltage:	240/480 dual voltage
On/off:	Local mains disconnect
Insulation class:	NEMA 4X
Timers:	Internal adjustable. 1 min - 1+ hours

Physical Data

Materials

Product wetted steel parts:	AISI 304, AISI 304L
Other non-wetted steel parts:	Cast iron
Finish:	Semi bright
Product wetted seals:	EPDM rubber

Operating pressure and temperature

Max. inlet/outlet pressure:	14 bar (200 PSI)
Temperature range wetted parts:	-10 °C to 95 °C (14 °F to 203 °F) (max. temperature)
Ambient temperature range, wetted parts:	-10 °C to 45 °C (14 °F to 113 °F)

Process connection

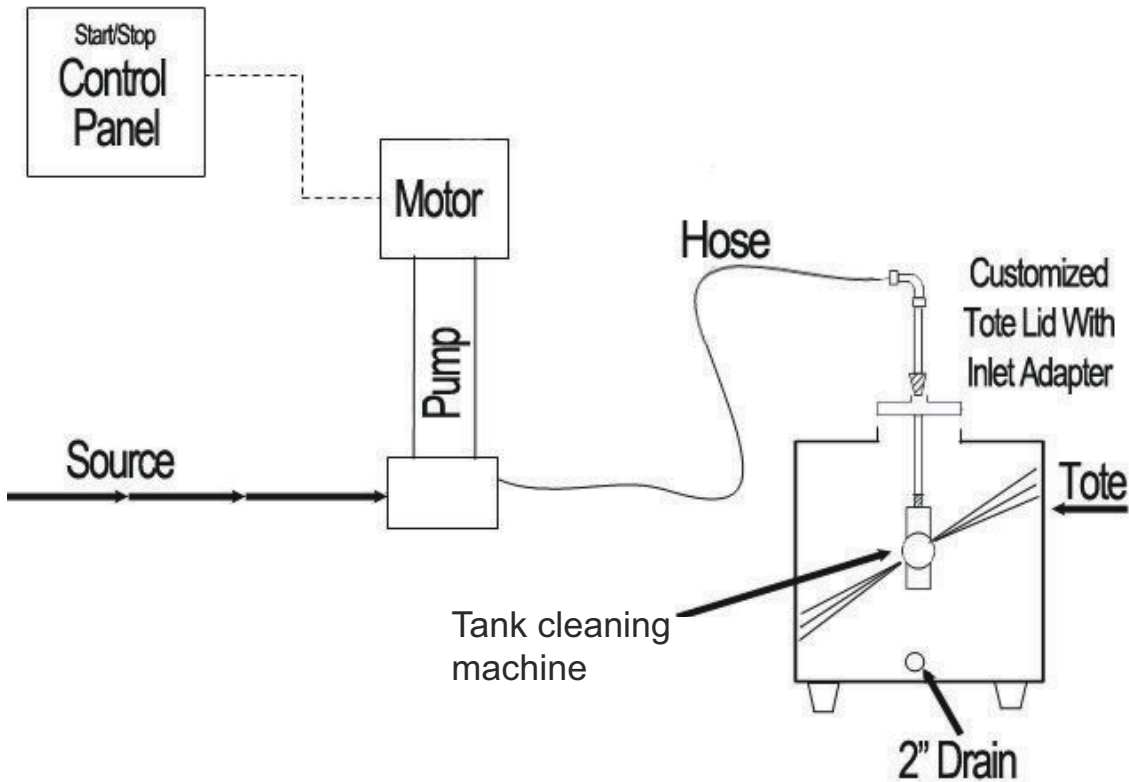
Inlet and outlet:	1 1/4 inch ANSI flange/DIN11851 (2nd series) unions
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Weight

12 gpm system:	111 kg (245 lbs)
19 gpm system:	113 kg (250 lbs)

System Layout

Plumbing and Installation Diagram of the ToteBlast System

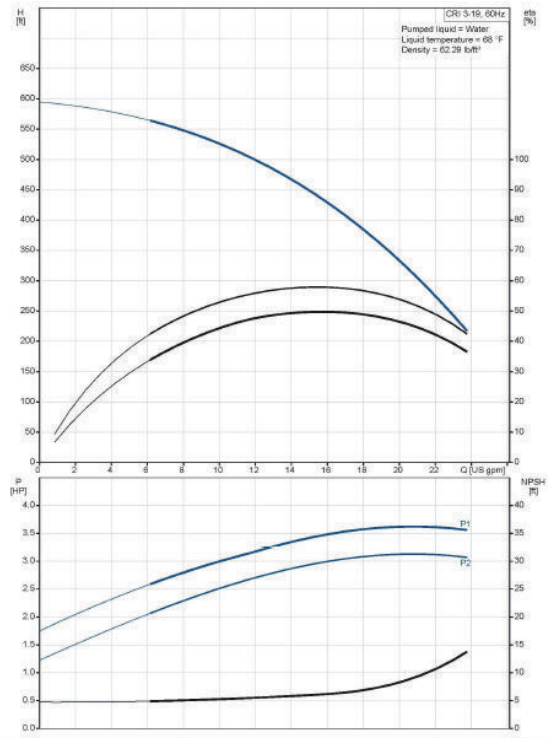


Use four (4) vibration-resistant wedge stud anchors or equivalent to mount the vertical multistage pump. For all electrical work including mounting, positioning and wiring of all system components, Alfa Laval recommend hiring a professional electrician to install everything according to industry standards.

Pump Curves

Pump curves at 60 Hz

97742688 CRI 3-19 60 Hz



96083594 CRI 3-25 60 Hz

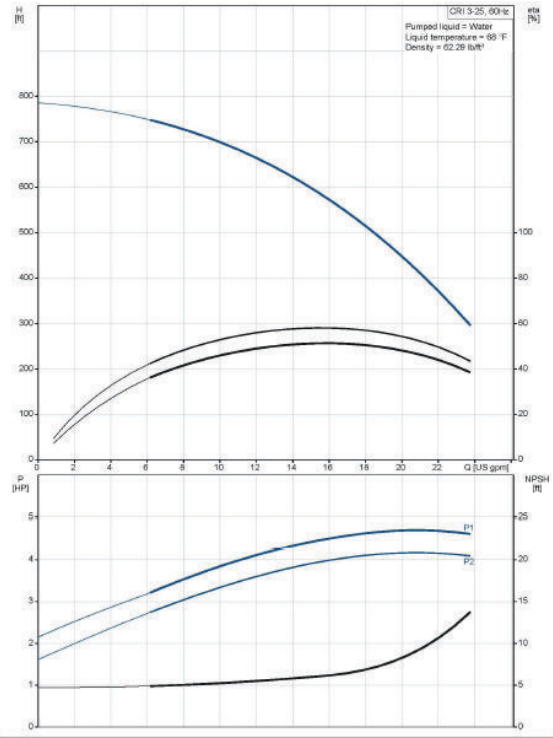


Table 1

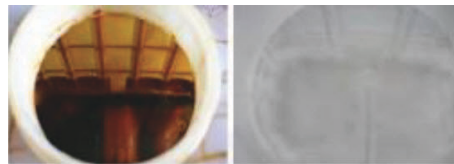
Flow rate	Pump model	Power rating
12 gpm	CRI 3-19	3 HP / 2.2 KW
19 gpm	CRI 3-25	5 HP / 3.7 KW

Case Story

A chemical company in Georgia used Intermediate Bulk Containers, also known as IBC's or totes, for shipping their final products. After the products were delivered, the totes were then cleaned before they could be reused. The company also received many of their raw materials from suppliers in totes. These totes, again, had to be thoroughly cleaned in order to be used to ship the finished product. For years, the facility was frustrated by the costs of sending dirty totes to their reconditioning supplier for cleaning, and the time it took to clean them by hand if they chose to clean them in-house. They also had to make sure that re-used totes were 100 percent clean, to avoid the dangers of cross contamination between product shipments. Often, the in-house manual cleaning was less than perfect.

The company decided to try a rotary impingement cleaning device specifically designed for tote cleaning, to see if it could reclaim the costs and improve turnaround times. In order to accomplish this and achieve the desired ROI, the device had to reduce the time spent cleaning in-house and increase the level of cleaning effectiveness.

The manual process included several labourers operating a pressure washer at difficult angles and took 16 to 20 minutes per tote. Cleaning times got longer as the day went on. The automated impingement system, or Tote- Blast station completed the clean in 6-8 minutes with minimal operator involvement or physical effort – a 40-60% improvement in cleaning time depending on the amount and type of residue. Not only did the device accomplish these goals, but it operated so well that the plant bought a second device that paid for itself in six weeks. The company was able to bring the entire tote cleaning process in-house, completely eliminating the costs of sending them to the tote supplier for cleaning.



Before and after a 90-second cleaning cycle using the Alfa Laval GJ ToteBlast Station

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