



Instruction Manual

Alfa Laval GJ Tote Blast Station



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Original manual

The information herein is correct at the time of issue but may be subject to change without prior notice

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1 EC Declaration of Conformity

The Designated Company

Alfa Laval Kolding A/S

Company Name

Albuen 31, DK-6000 Kolding, Denmark

Address

+45 79 32 22 00

Phone No.

hereby declare that

XXXXXX

Designation

Alfa Laval GJ Tote Blast Station

Type

From serial numbers from T-0100 to T-XXXX

is in conformity with the following directive with amendments:

Machinery Directive 2006/42/EC

- DS/EN ISO 12100:2011

The Pressure Directive 97/23/EC

- According to its own volume and the rated pressure range, the product is regarded an Article 3, paragraph 3 Equipment

The person authorised to compile the technical file is the signer of this document

Global Product Quality Manager
Pumps, Valves, Fittings and Tank Equipment

Title

Lars Kruse Andersen

Name

Kolding

Place

2016-12-12

Date



Signature



*Unsafe practices and other important information are emphasised in this manual.
Warnings are emphasised by means of special signs.
Always read the manual before using the Alfa Laval GJ Tote Blast Station!*

2.1 Important information

WARNING

Indicates that special procedures must be followed to avoid serious personal injury.

CAUTION

Indicates that special procedures must be followed to avoid damage to the tank cleaning machine.

NOTE

Indicates important information to simplify or clarify procedures.

2.2 Warning signs

General warning:



3 Introduction

3.1 Description

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.

The ToteBlast Station comes with a vertical multistage centrifugal pump with motor, control panel, a ¾"x50' 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.

3.2 Intended use

It is to be verified by the end-user:

- XXXXXXXXXXXXXXXXXXXXXXXX.
- XXXXXXXXXXXXXXXXXXXXXXXX.

3.3 Patents and trademarks

This instruction manual is published by Alfa Laval without any warranty. Improvements and changes to this instruction manual may at any time be made by Alfa Laval without prior notice. Such changes will, however, be incorporated in new editions of this instruction manual.

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3.4 Marking

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

4.1 Unpacking/delivery

The Alfa Laval Tote Blast Station will arrive on a skid with separate boxes for the pump, hose, and control panel.

All of the components in the system include:

- Multistage centrifugal pump
- Control panel
- $\frac{3}{4}$ " $\times$ 50' hose
- Two 1-1/4" ANSI flanges
- Two 1-1/4" gaskets
- 1-1/4" $\times$ $\frac{3}{4}$ " reducer coupling
- Eight flange bolts
- Eight flange nuts
- $\frac{3}{4}$ " 90 degree elbow
- 2" Tote insertion fabrication



Open the boxes and remove all of the components with the exception of the pump. The pump will be positioned lying down in the crate and must be raised in an upright position. To raise upright, use some type of mechanical hoist (fork lift, crane, etc.) and the J-hooks placed on the motor of the pump to gently raise it upright and remove from the box. In some cases eye bolts may be needed to move the pump. The mechanical hoist must also be used to position the pump into place for mounting. Remove the packaging from all of the components and make sure the correct number of each component is included.

If components are missing or excess components were shipped please contact Alfa Laval.

4.2 Tools and materials

Installation of the ToteBlast System requires a basic set of hand tools but Alfa Laval also recommends the following tools and materials for the mounting of the pump:

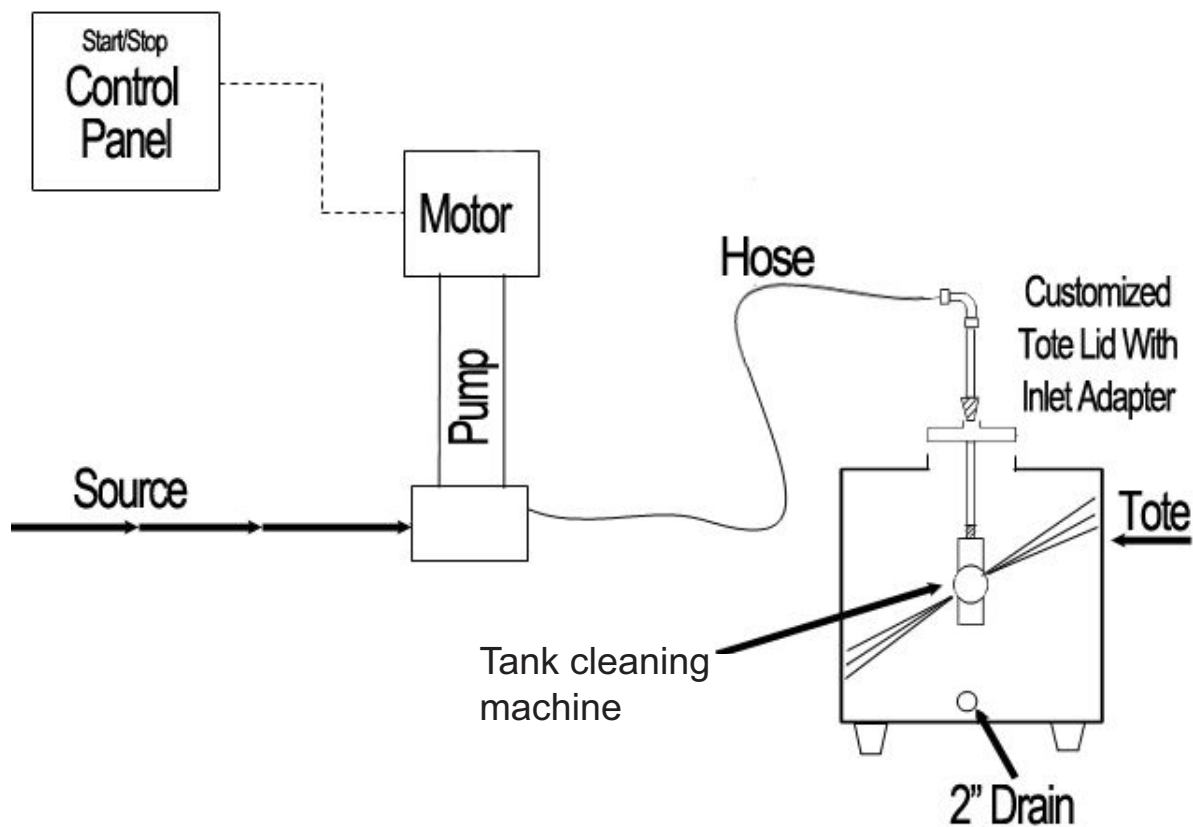
- Concrete hammer Drill with $\frac{1}{2}$ " bit
- Four vibration-resistant wedge stud anchors (McMaster Carr part # 94475A263) or equivalent

For all electrical work including the mounting, positions, and wiring of all system components, Alfa Laval recommends hiring a professional electrician and installing everything according to industry standards.

4 Installation

4.3 System layout

Plumbing and installation diagram of the ToteBlast System



NOTE

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 recommends hiring a professional electrician to install everything according to industry standards.

4.4 Pump and control panel mounting

Alfa Laval recommends that when mounting the pump and control panel, to use the supervision and direction of a professional electrician to ensure proper installation and safety precautions are taken.

For installation of the pump, Alfa Laval recommends the following tools and materials:

- Concrete hammer drill with appropriate drill bits
- McMaster-Carr vibration-resistant wedge concrete stud anchors (Part number 94475A263) or other equivalent anchor bolts
- Some type of mechanical hoist

For mounting of the pump follow the recommended steps below:

Step 1

Place the pump into desired position and mark the mounting holes onto the floor. Be sure to take into account the direction of the flow of the pump so that the suction hose and discharge hose can be properly routed.

Step 2

Move the pump out of the way to allow proper space for drilling.

Step 3

Drill holes where bolt hole locations have been marked onto floor, making sure to drill to the proper depth required for the selected mounting anchors (2 in. if using the recommended McMaster-Carr Anchors).

Step 4

Install the anchor bolts into the drilled holes and then lower the pump back into position onto the bolts and install the anchor nuts and washers making sure to tighten the anchor nuts in a star pattern.

NOTE

Over tightening anchor nuts may crack the base of the pump

For mounting of the control panel, Alfa Laval recommends that it be done by a professional electrician according to industry standards.

4 Installation

4.5 pump set-up

The pump for the Tote Blast Station will have a source hose that is supplied by the customer and a Alfa Laval supplied discharge hose to deliver the fluid to the Alfa Laval. Both hoses will attach to the pump via a 1-1/4" flange.

NOTE:

Be sure to remove the plastics caps on the flanges of the pump.



The Tote Blast Station comes with one 3/4" diameter by 50' long hose to run from the pump outlet to the Alfa Laval. This hose will come preassembled from Alfa Laval with a pump flange and reducer bushing on one end. To install to the pump, first remove the end caps from the pump's discharge flange which can be determined by the flow arrow located towards the bottom of the pump. Then, with the flange gasket in-between the two flanges, install the four flange bolts and nuts (**NOTE: DO NOT TIGHTEN**). All four flange bolts must be snug first to ensure that the gasket is not cocked or slipping on one side. Once the bolts are snug and the gasket is in the proper position, tighten the flange bolts using an alternating star pattern. If the gasket is not installed properly the gasket may tear and the system will leak fluid. If the system leaks, a replacement flange gasket will be needed.

Repeat the same process for the suction flange of the pump after first installing the source hose to the flange provided by Alfa Laval. Again be sure that the gasket is properly installed to prevent leakage. Snug all flange bolts and tighten in a star pattern (same process as discharge side of pump).

4.6 Pump priming

The pump will also need to be primed before operation. Priming is important to remove all of the air from the system so that the pump does not get damaged.

To prime the pump, first locate the priming plug on either side of the pump, directly under the motor. The pump must be flooded in order to operate correctly. To do this, the operator can either let fluid fill the pump from the source and let the pump fill until overflowing out of the priming hole and then re-install the priming plug. If flooded suction is unavailable, the pump will have to be completely filled via the priming plug opening.

NOTE

It is important that the priming process is done correctly in order to force all air out of the pump.

4.7 Electrical set-up

Alfa Laval recommends that all electrical work be done by a professional electrician using the proper industry standards. The electrical diagram for the control panel can be found in the appendix as well as diagrams for the control panel timer. The control panel is designed for either 3 phase 230 volt or 460 volt power. Again, refer to the Appendix for details on wiring.

The pump can also be wired for 3 phase power. Refer to the pump manual for wiring of the pump in either 3 phase 230 V or 460 V power.

Also ensure that when the pump is connected to the control panel that the motor rotates in the proper direction. The direction of the motor rotation is shown on the fan casing of the motor. If the wires are reversed on the pump, it will rotate backwards and will not work properly. If this occurs have the electrician switch the black and white wires to the opposite pins to reverse the direction of the pump.

5 Operation

5.1 Operation

To operate the Tote Blast Station, first ensure that the Alfa Laval GJ tank cleaning machine is inside the tote and secured. Never start the system without the Alfa Laval GJ tank cleaning machine secured inside the tote. Make sure that the water supply will be large enough for the full cycle so that the pump does not run dry. Set the timer on the control panel (see appendix for timer instructions) to the desired cleaning time and press the green button on the control panel to start. If there is an emergency, the operator can stop the cycle by pressing the red stop button on the control panel. When the timing cycle is complete the system will automatically shut off.

NOTE

If the tote does not gravity drain through the 2" drain and the tote begins to fill with washing fluid, please contact Alfa Laval immediately to re-size the Alfa Laval GJ tank cleaning machine to 19gpm or less

*It is important to observe the technical data during installation, operation and maintenance.
Inform personnel about the technical data.*

7.1 Technical data

TECHNICAL DATA

Pump

Type	Grundfos CRI vertical multistage
Model	See table page 14
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	See table
Mains voltage	240/480 dual voltage
On/off	Local mains disconnect
Insulation class	NEMA
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 (max. temperature)
Ambient temperature range, wetted parts	-10°C to 45°C

Process connection

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

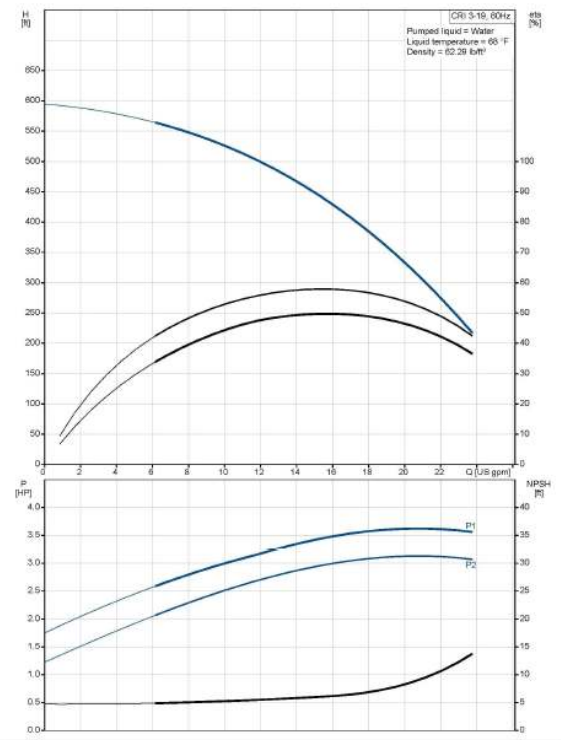
12 gpm system	111 kg (245 lbs)
19 gpm system	113 kg (250 lbs)

7 Technical data

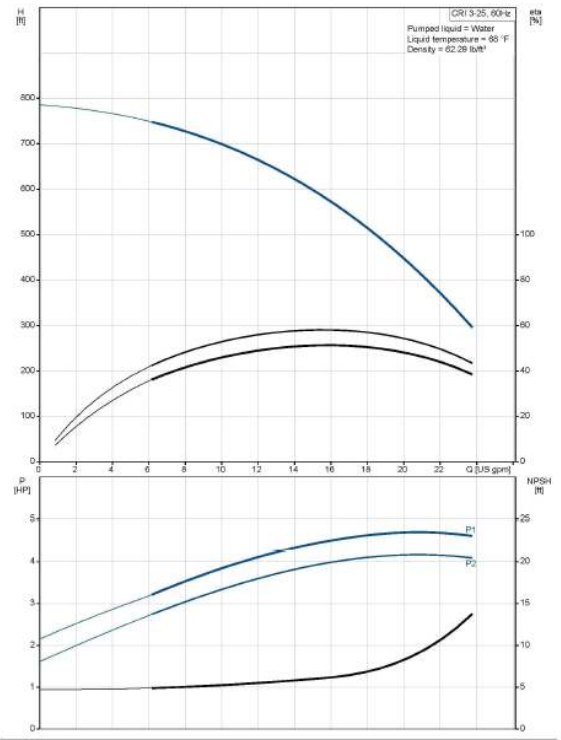
It is important to observe the technical data during installation, operation and maintenance.
Inform personnel about the technical data.

7.2 Pump curves at 60 Hz

97742688 CRI 3-19 60 Hz



96083594 CRI 3-25 60 Hz



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

*It is important to observe the technical data during installation, operation and maintenance.
Inform personnel about the technical data.*

8.1 Recommendations and general safety precautions

Below are other recommendations and reminders from Alfa Laval about the Tote Blast Station:

- Have a professional electrician service all electrical components
 - Be mindful of filtration of the cleaning fluid or water. Large particles or debris in the water can damage the pump and/or the Alfa Laval GJ tank cleaning machine
 - If the tote does not gravity drain through the 2" drain and the tote begins to fill with washing fluid, please contact Alfa Laval immediately to re-size the Alfa Laval to 19gpm or less
 - Using 460 volts to the control panel will cause damage to the control panel. If 460 volts is required please contact Alfa Laval immediately
 - Make sure before use that the pump has been properly primed. If the pump is run dry damage can be caused. See section F for priming instructions
 - The flange gaskets must be properly installed to ensure no leakage
 - All safety precautions are taken before starting and while operating the Tote Blast Station
-

8.2 Service and Repair

Upon every return of a product, no matter if for modifications or repair, it is necessary to contact your local Alfa Laval office to guarantee a quick execution of your request.

You will receive instructions regarding the return procedure from your local Alfa Laval office. Be sure to follow the instructions closely.

8.3 How to Order Spare Parts

On the Cross Sectional Drawings as well as on all instruction drawings, the individual parts have a pos. No., which is the same on all drawings. From the pos. No. the part is easily identified in the Reference Lists of Parts..

Individual parts should always be ordered from the Reference Lists of Parts, page. Ref. No. and description should be clearly stated.

Please also quote the type of machine and serial No. This will help us to help you. The type and serial Nos. are stamped on the Body of the tank cleaning machine.

8.4 How to contact Alfa Laval Kolding A/S

For further information please feel free to contact:

Alfa Laval Kolding A/S

31, Albuen - DK 6000 Kolding - Denmark

Registration number: 30938011

Tel switchboard: +45 79 32 22 00 - Fax switchboard: +45 79 32 25 80

www.toftejorg.com, www.alfalaval.dk - info.dk@alfalaval.com

Contact details for all countries are continually updated on our websites

How to contact Alfa Laval

Contact details for all countries are continually updated on our website.

Please visit www.alfalaval.com to access the information directly.

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