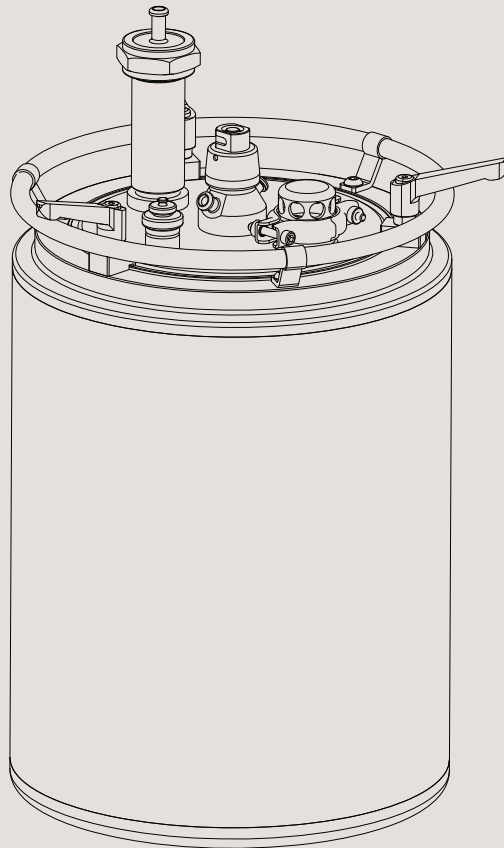




# Instruction Manual

## Alfa Laval SB Carlsberg Flask



ESE02966-EN2

2016-06

Original manual



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

<b>1. EC Declaration of Conformity</b> .....	<b>4</b>
<b>2. Safety</b> .....	<b>5</b>
2.1. Important information .....	5
2.2. Warning signs .....	5
2.3. Safety precautions .....	6
<b>3. Installation</b> .....	<b>7</b>
3.1. Unpacking/delivery .....	7
3.2. General installation .....	7
3.3. Valve assembly .....	8
3.4. Recycling information .....	9
<b>4. Operation</b> .....	<b>10</b>
4.1. Operation .....	10
4.2. Sterilisation .....	11
4.3. Aeration .....	11
4.4. Inoculation .....	11
4.5. Transfer .....	11
4.6. Recommended cleaning .....	12
<b>5. Maintenance</b> .....	<b>13</b>
5.1. General maintenance .....	13
<b>6. Technical Data</b> .....	<b>14</b>
6.1. Technical data .....	14
<b>7. Parts List and Service Kits</b> .....	<b>16</b>

# 1 EC Declaration of Conformity

Revision of Declaration of Conformity: 2015-06-02

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 declares that

Valve

Designation

SB Carlsberg Flask

Type

is in conformity with the following directives with amendments:

- Pressure Equipment Directive 2014/68/EU of the European Community, Category I
- Pressure Equipment Directive 2014/68/EU of the European Community, Fluida Group II

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

2016-06-15

Date

Signature



*Unsafe practices and other important information are emphasised in this manual.  
Warnings are emphasised by means of special symbols.*

---

### 2.1 Important information

---

**Always read the manual before using the valve!**

#### **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 valve.

#### **NOTE**

Indicates important information to simplify or clarify procedures.

---

### 2.2 Warning signs

---

General warning:



Caustic agents:



## 2 Safety

---

*All warnings in the manual are summarised on this page.*

*Pay special attention to the instructions below to avoid serious personal injury and damage to the valve.*

---

### 2.3 Safety precautions

---

#### Installation:

**Always** read the technical data thoroughly (see chapter 6 Technical Data)

**Never** dismantle the Carlsberg Flask when under pressure.

**Never** dismantle the Carlsberg Flask when it is hot.



---

#### Operation:

**Never** dismantle the Carlsberg Flask when under pressure.

**Never** dismantle the Carlsberg Flask when it is hot.

**Never** operate the Carlsberg Flask without bursting disc.

**Never** sterilise the Carlsberg Flask without bursting disc.

**Always** read the technical data thoroughly (see chapter 6 Technical Data)



---

#### Maintenance:

**Always** read the technical data thoroughly (see chapter 6 Technical Data)

**Never** service the Carlsberg Flask when it is hot.

**Never** service the Carlsberg Flask when under pressure.



---

#### Transportation:

**Always** drain liquid out of Carlsberg Flask before transportation.

**Always** ensure sufficient fixing of the Carlsberg Flask during transportation.

---

The instruction manual is part of delivery. Study the instructions carefully.  
The items refer to the Parts List and Service Kits section.

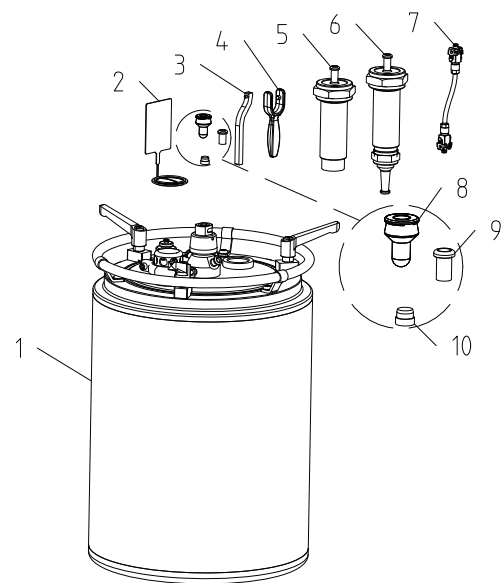
### 3.1 Unpacking/delivery

#### Step 1

##### CAUTION

Alfa Laval cannot be held responsible for incorrect unpacking.

1.	Carlsberg Flask	1 PC
2.	Bursting disc	1 PC
3.	Assembly key	1 PC
4.	Quick opening key	1 PC
5.	Filter house I	1 PC
6.	Filter house II	1 PC
7.	3m Silicone house w. 2 clip-on	2 PCs
8.	Membrane Q	1 PC
9.	Weld in clip-on	1 PC
10.	Rubber plug NR	1 PC
	Hydrophobic cotton	2 PCs



Parts will be found inside the Carlsberg Flask.

#### Step 2

Remove any packing materials from the Carlsberg Flask.  
Inspect the valve/valve parts for visible transport damage.  
Avoid damaging the valve/valve parts.

### 3.2 General installation

#### Step 1



**Always** read the technical data thoroughly.  
See chapter 6 Technical Data

##### CAUTION

Alfa Laval cannot be held responsible for incorrect installation.

## 3 Installation

---

### 3.3 Valve assembly

---

#### Step 1

Fill the filter house with hydrophobic cotton.

---

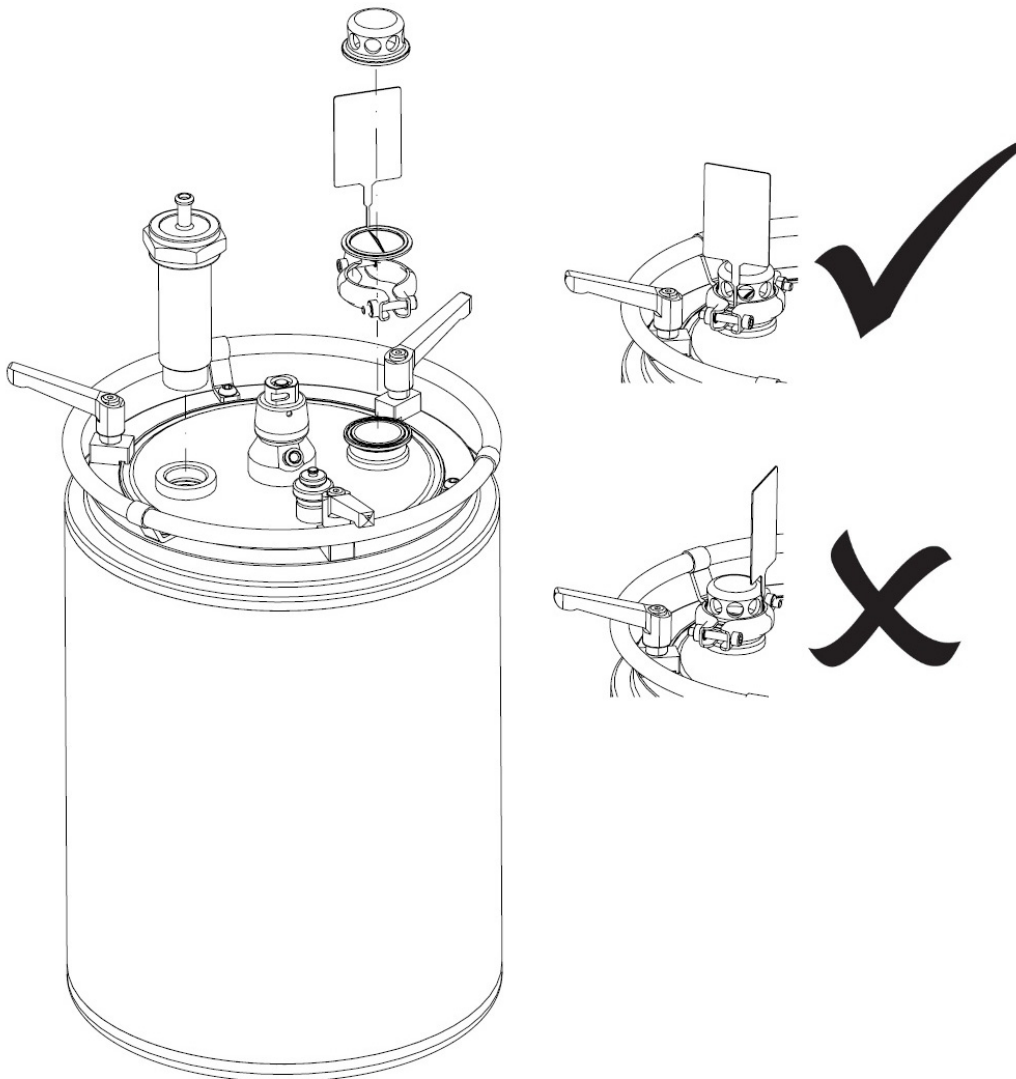
#### Step 2

Connect the filter house to the threaded connection.  
Make sure connection is tight.

---

#### Step 3

Connect bursting disc and protection cap to clamp connection.  
Make sure bursting disc is positioned as in illustration to avoid the clamp damaging the bursting disc.





### 3.4 Recycling information

---

#### Unpacking

- Packing material consists of wood, plastics, cardboard boxes and, in some cases, metal straps.
- Wood and cardboard boxes can be reused, recycled or used for energy recovery.
- Plastics should be recycled or burnt at an authorised waste incineration plant.
- Metal straps should be sent for material recycling.

#### Maintenance

- All metal parts should be sent for material recycling.
- Worn out or defective electronic parts should be sent to a licensed handler for material recycling.

#### Scrapping

- At the end of use, the equipment should be recycled according to relevant local regulations. As well as the equipment itself, any hazardous residues from the process liquid must be considered and dealt with in a proper manner. When in doubt, or in the absence of local regulations, please contact your local Alfa Laval sales company.
-

## 4 Operation

### 4.1 Operation

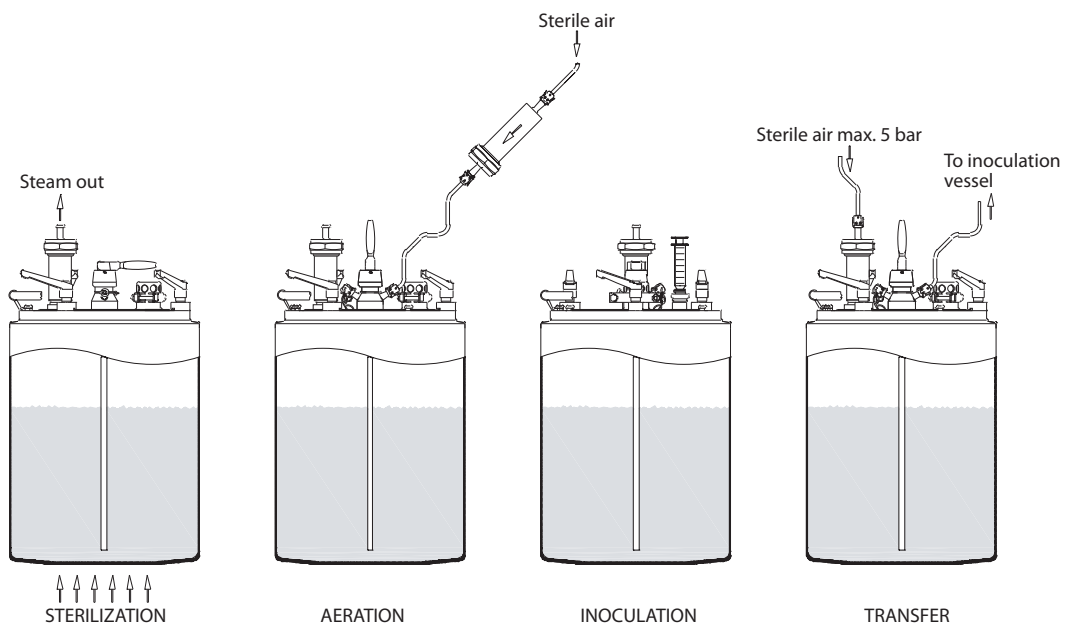


The Carlsberg Flask is equipped with a bursting disc for safety purposes.

**Never** operate Carlsberg Flask without bursting disc.

Alfa Laval cannot be held responsible for incorrect operation.

Operation range			
Net volume	Total volume	Recommended transfer pressure	Allowable pressure PS
25 l ( 6.6 gal)	33 l (8.7 gal)	2-3 bar (29-44 psi)	6 bar (87 psi)



### 4.2 Sterilisation

---

The flask is filled with wort to the net capacity corresponding to approximately 80% of the total volume. Sterilisation takes place in an autoclave, on a gas burner or an electric hotplate. After sterilisation, the flask is placed in a refrigerator or a cold room in order to cool down the wort to the desired working temperature.

The filter house can remain mounted on the flask during sterilisation; however, if the filter house has been sterilised separately, it is important to remount it in the end phase of wort sterilisation while steam is still evaporating from the flask so that the filter connection is also sterilised.

---

### 4.3 Aeration

---

Aeration of the cold wort is carried out through the membrane sample valve connected to the aeration lance. It is important to use sterile air for safety reasons; it is recommended to mount a filter in front of the membrane sample valve.

Air supply and flow should be moderate in order not to create too much foam. Foam must not enter the filter house as it will destroy the filter and may lead to blockage.

Practical tests with open lid will be the easiest way to determine the right conditions for air supply as well as duration of aeration (less than 10 minutes). Yeast culture from such tests should not be used.

---

### 4.4 Inoculation

---

When the wort is well aerated, yeast culture can be introduced aseptically through the membrane fitting by means of a syringe with a content of 150-200 ml.

Alternatively, dry yeast culture can be transferred to the flask via the empty filter house. In case a bigger quantity of yeast is needed, the lid can be dismounted and the culture poured into the flask – this procedure requires sterile surroundings and maximum precautions.

---

### 4.5 Transfer

---

During transfer of pure yeast culture from the Carlsberg Flask to the yeast propagation plant, it is important that all hose tails are fastened firmly and safely with hose clips.

The transfer of pure yeast culture into the propagation plant should take place under aseptic conditions. This procedure requires sterile air supply to the filter house and the yeast culture can be pressed from the flask into the inoculator when the membrane sample valve on the lid of the Carlsberg Flask has been connected to a sample device on the receiving vessel (the inoculator).

Connecting hose, membrane sample valve and all connections must be thoroughly sterilised by alcohol or steam before this transfer takes place. Between operations, the valve may be sealed with alcohol which should be blown out with sterile air prior to use.

When the connection has been established and the inoculation is to take place, we recommend that the sterile air supply is opened first, thereafter the membrane sample valve on top of the flask, and finally the sample device on the inoculator is opened.

When the culture has been transferred (bubbling noise in the inoculator), we recommend continuing with air supply for another 1-2 minutes in order to ensure that all the culture is transferred.

Finally, the sample device on the receiving vessel and the membrane sample valve on the Carlsberg Flask can be closed, air supply is stopped.

## 4 Operation

---

### 4.6 Recommended cleaning

---



**Always** handle lye and acid with great care.

Caustic hazard!



**Always** use  
rubber gloves!



**Always** use  
protective goggles!

After use, the Carlsberg Flask should be taken apart and cleaned manually with normal detergents.

---

### 5.1 General maintenance

---

#### Step 1



**Always** read the technical data thoroughly.  
See chapter 6 Technical Data

---

#### Step 2



**Never** service the Carlsberg Flask when it is hot.

**Burning hazard!**



#### Step 3



**Never** service the Carlsberg Flask when under pressure.  
**Below are some guidelines for maintenance intervals.**

O-ring and seals replacement every 2-5 years.

---

## 6 Technical Data

---

### 6.1 Technical data

---

#### Valve data

Net volume	Total volume	Recommended transfer pressure	Allowable pressure PS	Weight
25 l ( 6.6 gal)	33 l (8.7 gal)	2-3 bar (29-44 psi)	6 bar (87 psi)	26 kg

Materials	
Product wetted steel parts	EN 1.4404 (AISI 316L) with 3.1 cert.
Product wetted steel surfaces	Surface roughness Ra<0.2 µm
Product wetted seals	EPDM
Product wetted O-ring	Silicone
Temperature	
Max. operating temperature	20°C

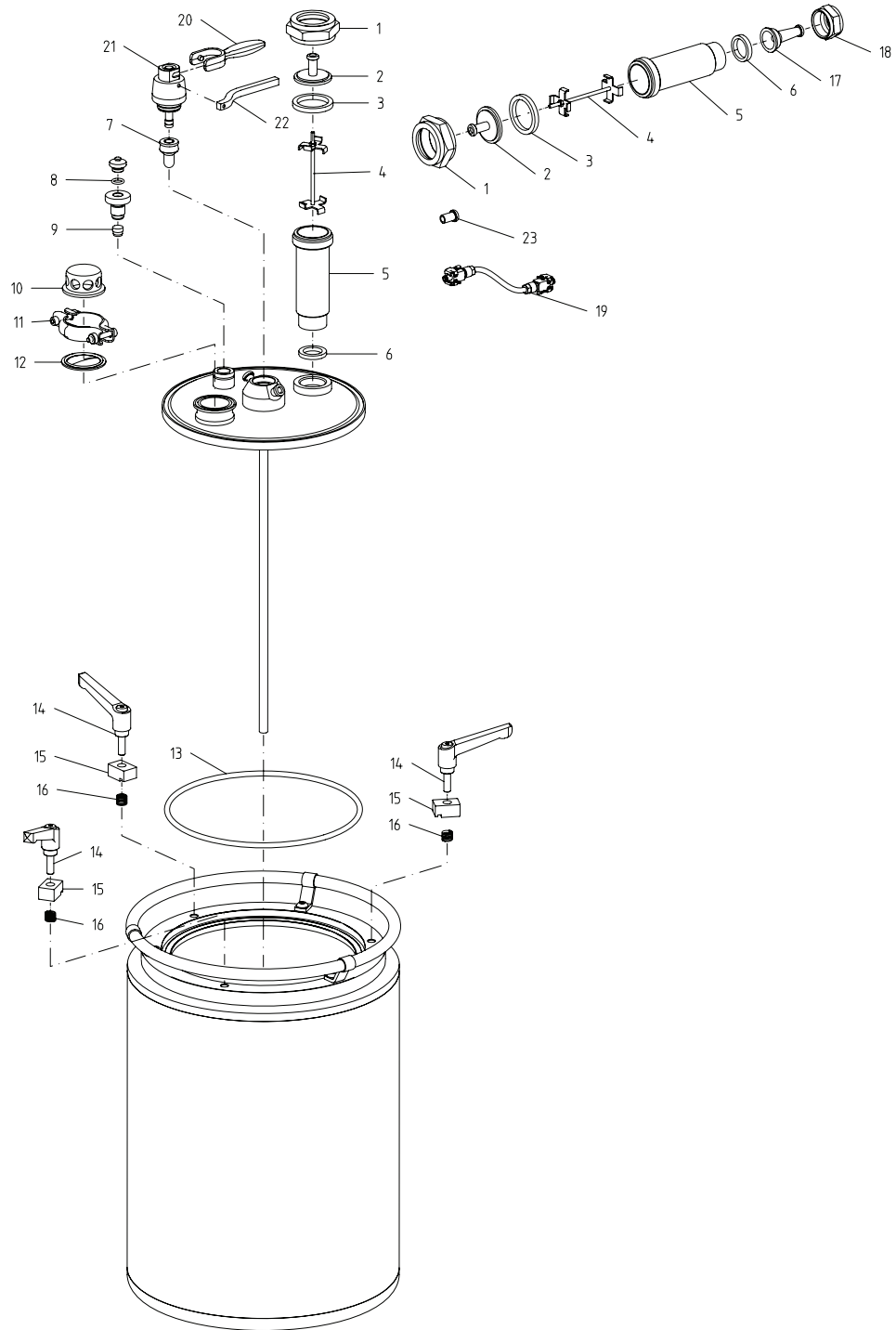
---



## 7 Parts List and Service Kits

---

---





### Parts list

Pos.		Qty	Denomination
1	□♦	1	Filter nut large
2	□♦	1	Filter top large
3	□♦○	2	Seal, EPDM
4	□♦	1	Filter holder
5	□♦	1	Filter house
6	♦○	2	Seal, EPDM
7		1	Membrane Q, 20 pcs
8	○	1	O-ring, NBR
9		1	Rubber plug NR, 100 pcs
10		1	Protection cap
11		1	Clamp
12		1	Bursting disc
13	○	1	O-ring, Q
14	▲	3	Handle
15	▲	3	Block
16	▲	3	Spring
17	♦	1	Filter top small
18	♦	1	Filter nut small
19		2	3 m silicone hose w. 2 clip-on
20		1	Quick opening key
21		1	MSV actuator manual 6 bar
22		1	Assembly key
23		1	Weld in clip-on

### Service kits

#### Assembly and service kits for Carlsberg flask

□	Filter house I .....	9615123601
♦	Filter house II .....	9615123602
▲	Handle set incl. 1x (pos. 14;15;16) .....	9615125970
○	Service kit .....	9611924316

Parts marked with □♦○▲ are included in the Assembly and service kits.

**How to contact Alfa Laval**

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

Please visit [www.alfalaval.com](http://www.alfalaval.com) to access the information directly.

© Alfa Laval Corporate AB

This document and its contents is owned by Alfa Laval Corporate AB and protected by laws governing intellectual property and thereto related rights. It is the responsibility of the user of this document to comply with all applicable intellectual property laws. Without limiting any rights related to this document, no part of this document may be copied, reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the expressed permission of Alfa Laval Corporate AB. Alfa Laval Corporate AB will enforce its rights related to this document to the fullest extent of the law, including the seeking of criminal prosecution.