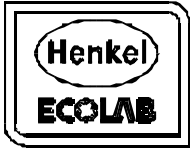
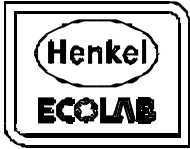


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## 1 Preface

We congratulate you on your new S 400 Series Combifoamer, which lives up to the latest demands within the low-pressure cleaning area.

It is important that your operational staff reads the directions for use prior to the installation and start of operation. Operation as laid down in these directions for use will ensure an optimum level of hygiene in your factory and a minimum level of maintenance and repair work.

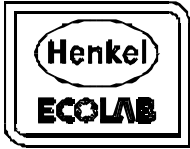
### 1.1 Special warnings

The special warnings **CAUTION**, **ATTENTION**, and **NOTE** used in this technical manual have the following meanings:

**CAUTION:** This term is used to highlight the fact that complete or even partial failure to properly adhere to operation instructions, working instructions, specified working sequences and similar can cause personal injuries or accidents.

**ATTENTION:** This term is used to highlight the fact that complete or even partial failure to properly adhere to operating instructions, working instructions, specified working sequences and similar can cause damage to the equipment.

**NOTE:** This term is used to draw attention to a particular feature.



## 2 Application

The S 400 Series Combifoamer unit is a stationary cleaning and pump station, where to a satellite of different types can be connected. When a satellite is connected, the S 400 Series Combifoamer works as a stationary main station or booster/pump station for the water.

The S 400 Series Combifoamer is equipped with an injector device enabling it to work as a complete cleaning station. The S 400 Series Combifoamer is designed for cleaning of walls and floors in factory rooms, of production machinery, of transport systems such as conveyors, transport trucks, transport boxes, containers, moulds etc. and can be used for internal and external cleaning of vehicles.

The cleaning station is made of corrosion resistant materials, mainly stainless steel, and is therefore especially suitable for application within the food industry. If you need information on further applications, please contact Your local Henkel Ecolab dealer.

### 2.1 Standard models:

Model	Description
S 410, S 417, S 420	Manually operated injector. Rinse- and foam function.
S 410 D, S 417 D, S 420 D	Manually operated and injector for spray sanitation. Rinse-, foam function and spray sanitation.
S 410 DF, S 417 DF S 420 DF	Manually operated and injector for spray- and foam sanitation. Rinse-, foam function and foam-, spray sanitation.
User Pack	With User Pack can system

### 2.2 Accessories

The basic unit consists of an S 400 Series Combifoamer unit inclusive of the accessories listed below.

The P3 User Pack cans and extended outlet pipes are non-standard accessories and should therefore be ordered and purchased separately.

1. Wall bracket
2. Nozzle holder
4. Foam nozzle for detergents with 200 l nozzle and nozzle protection
- 4a. Foam nozzle for sanitisers with 200 l nozzle and nozzle protection (4a replaces 4 in DF models)
5. 25/30 l tornado rinse nozzle with nozzle protection
- 5a. 40/30 l spray nozzle with nozzle protection (only in D models)

See layout drawing (figure 2.1) on the following page

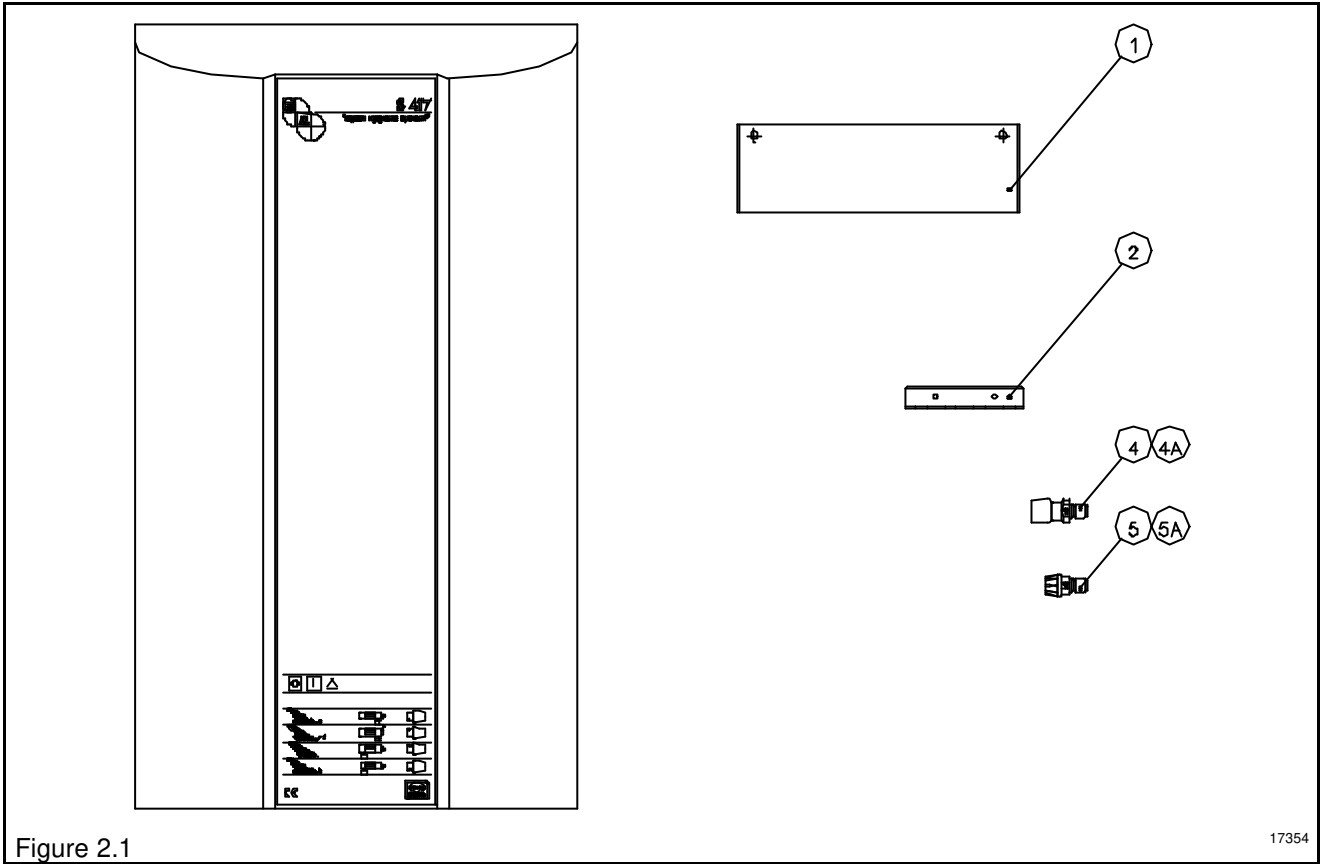
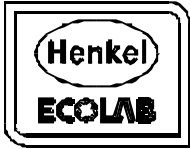


Figure 2.1

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### 2.3 P3 User Pack system or separate can system

The standard S 400 Series Combifoamer unit is delivered with P3-User Pack Cans. Alternatively, it can be delivered with coupling for separate product cans.

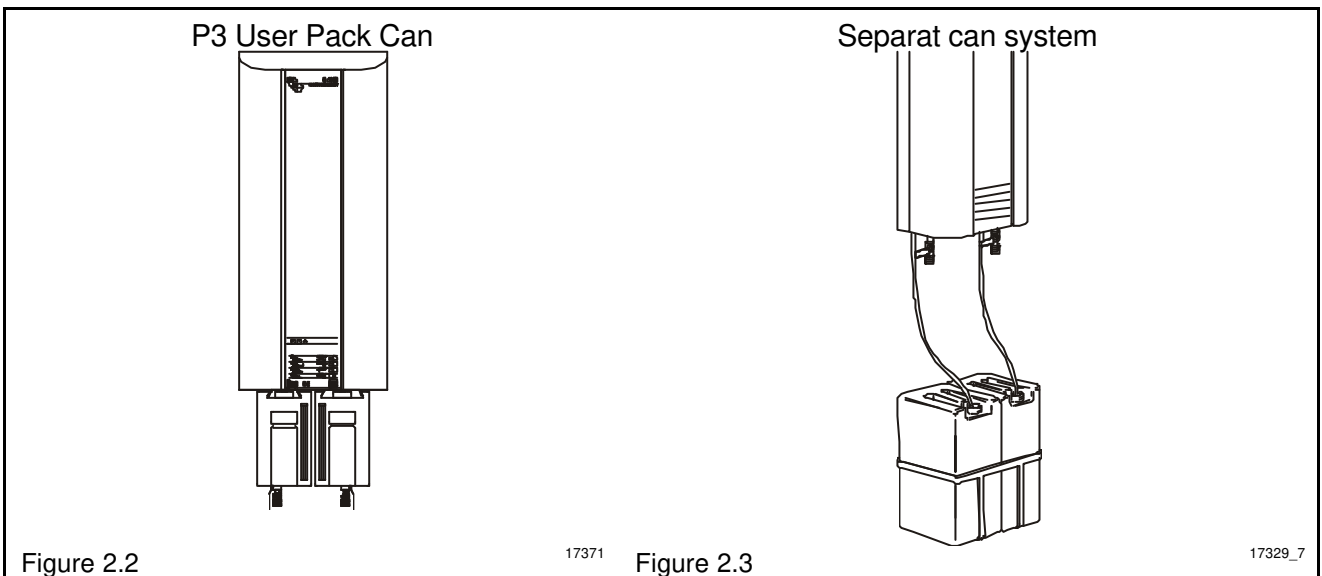


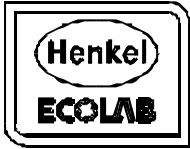
Figure 2.2

17371

Figure 2.3

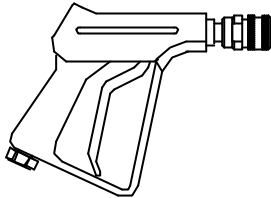
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This manual is referring to S 400 Series Combifoamer with P3 User Pack Cans, when describing how to use Main station. However, in cases where the operation is very different, the working procedure for both types will be described. Please refer to chapter 6 and 7.



## 2.4 Spray gun ( extra accessory )

Depending on the cleaning assignment, different types of spray guns are available. To chose the right one and for further information please contact your local Henkel Ecolab dealer.



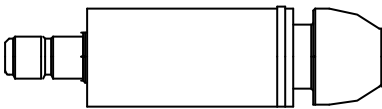
In this manual references to a standard spray gun will appear in connection with the description of how to use the S 400 Series Combifoamer.

The standard spray gun is equipped with a safety pal to ensure against inadvertent use.

Figure 2.4

07471

## 2.5 P3 Prospeed<sup>®</sup> nozzle ( extra accessory )



The P3 Prospeed<sup>®</sup> nozzle is developed specially for stations with automatic change over blocks, as an alternative to the ordinary nozzles.

Figure 2.5

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When buying the P3 Prospeed nozzle a special user manual is delivered. Please also see chapter 7.1.1.

For further information please contact your local Henkel Ecolab dealer.

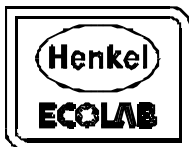
## 2.6 Flushing bottle ( extra accessory )



This is the bottle mentioned, when it is described how to flush the injector block, when using P3 User Pack cans.

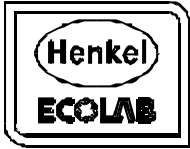
Figure 2.6

07470-1



### 3 Technical data

Model	S 410	S 417	S 420
Water connection:	1 /1/4" threaded connection		
Air connection:	1/4" internal ball valve		
<b>NOTE! The water supply must be at least 100 l/min. at a minimum pressure of 2 bar.</b>			
Pump pressure	12 Bar	17,3 Bar	21 Bar
Max. operational pressure with inlet pressure at 2 Bar	14 Bar	19,3 Bar	23 Bar
Min. pressure of water supply *	2 Bar	2 Bar	2 Bar
Max. pressure of water supply *	7 Bar	7 Bar	7 Bar
Min. pressure of air supply	5 Bar	5 Bar	5 Bar
Max. pressure of air supply	10 Bar	10 Bar	10 Bar
Max. temperature of water supply	70 °C	70 °C	70 °C
Max. motor consumption	2,2 kW	2,2 kW	2,2 kW
Nom. Current	See identification plate		
Setting of overload	See identification plate		
Control voltage	See identification plate		
Supply voltage	See identification plate		
Security of electrical wiring	10 A	10 A	10 A
Electrical cable	4 x 1,5 mm <sup>2</sup>	4 x 1,5 mm <sup>2</sup>	4 x 1,5 mm <sup>2</sup>
Rinsing nozzle	25/30	25/30	25/30
Foam nozzle	50/200	50/200	50/200
Spray nozzle	40/30	40/30	40/30
Max. hose length	20 M	20 M	20 M
Weight	110 kg	110 kg	110 kg
Dimension H x W x D	1050x600x310 mm	1050x600x310 mm	1050x600x310 mm



### 3.1 Identification plate

The identification plate contains the following information:

- 1 Producer
- 2 Serial number
- 3 Type
- 4 Date
- 5 Order number
- 6 Maximum pressure
- 7 Voltage
- 8 Frequency
- 9 Maximum water consumption l/min.
- 10 Consumption of AMP
- 11 Maximum temperature

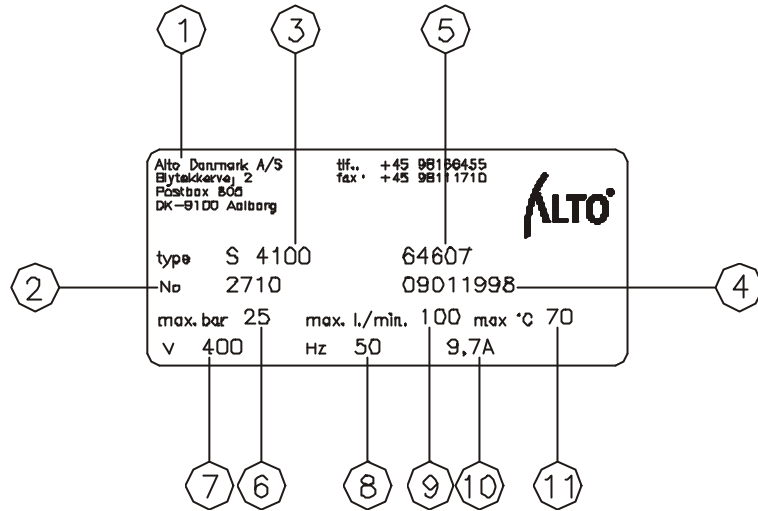
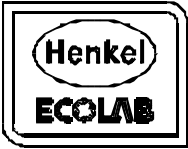


Figure 3.1

17194A





## 4 Directions for mounting the S 400 Series Combifoamer

Before mounting the S 400 Series Combifoamer this chapter should be read thoroughly to avoid misunderstandings which could lead to personal injuries and damages to the equipment and components.

### 4.1 Mounting drawing

(Dimensions in mm)

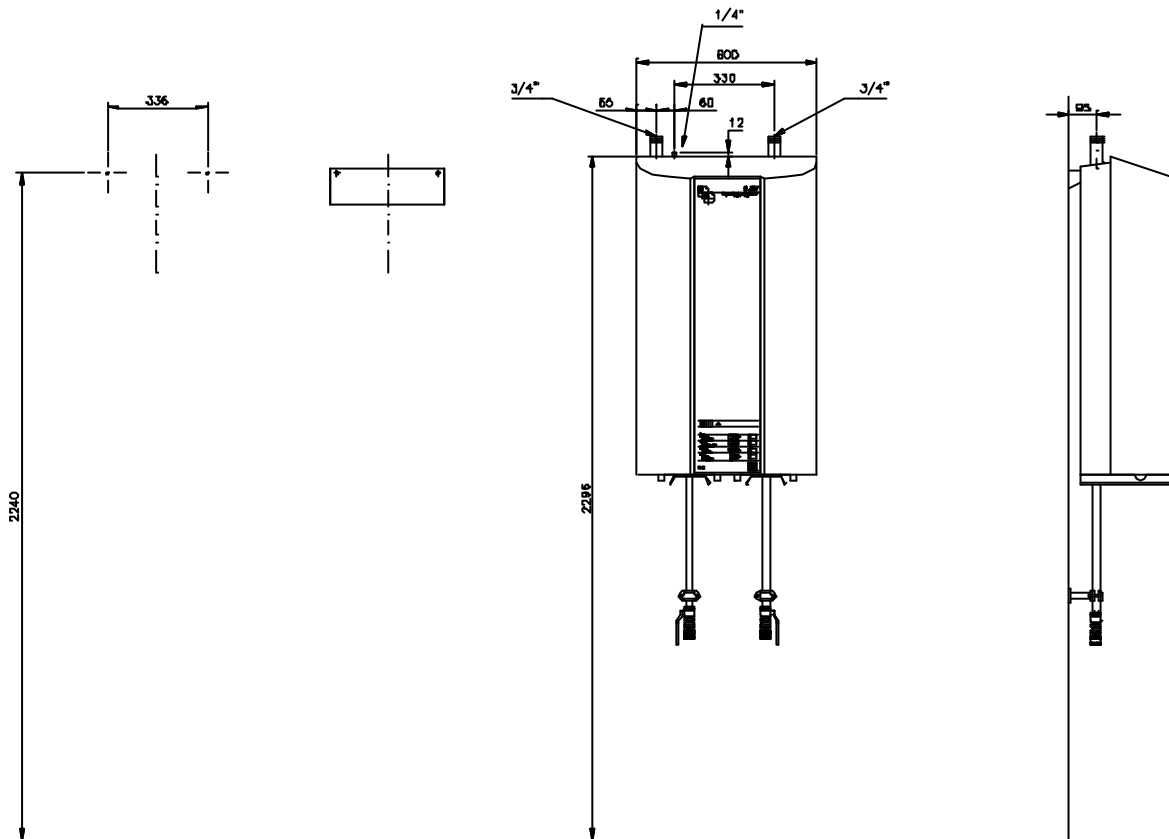
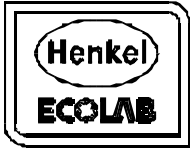


Figure. 4.1

17359

**IMPORTANT!** When the S 400 Series Combifoamer and piping are installed, it is very important to mount pipe-bearings in a way that keeps the piping from loading the pipes and blocks inside the station.



## 4.2 Mounting of the S 400 Series Combifoamer

- a) The S 400 Series Combifoamer should be mounted in frost-free rooms only.
- b) The station may be mounted on a plane wall or fitted to a separate frame, which can be installed in production areas and anchored to the floor.

By mounting on walls, please note the following:

- 1 The wall for mounting should either be a plane stable brick wall or a plane wall made of concrete.
  - 2 **The delivered bracket should either be secured to the wall by the enclosed screws and corresponding dowels.**
- c) Mounting holes for the wall bracket, the hose- and the can holder should be drilled according to the dimensional sketch in chapter 4.1.
  - d) The wall bracket should be mounted on the wall as described above and the station should be hung on to the bracket. Then the hose- and can holder should be mounted.
  - e) The equipment is delivered with 2 transport fittings, which are to be removed after mounting on the wall bracket.

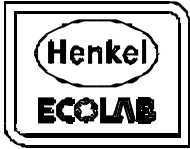
## 4.3 Pipes – standard

**A Figure 4.2** Beyond nationally determined legislation for pipe qualities the following demands for air supply pipes should be followed:

- Minimum air supply: 6 bar and min 200l/min.
- Minimum pipe thickness: 1/4"
- A 1/4" ball valve must be mounted on the air supply line to the station

**B Figure 4.2** Beyond nationally determined legislation for pipe quality the following demands for water supply pipes should be followed:

- Minimum 1 1/4" at a pressure on min. 3,5 bar
- Minimum 1 1/2" at a pressure on max. 3,5 bar
- Minimum 3/4" pipe from feeding pipe to satellite
- Maximum water pressure should be 4 bar and minimum 2 bar
- Maximum temperature should be 70° C



## 4.4 Mounting of pipes

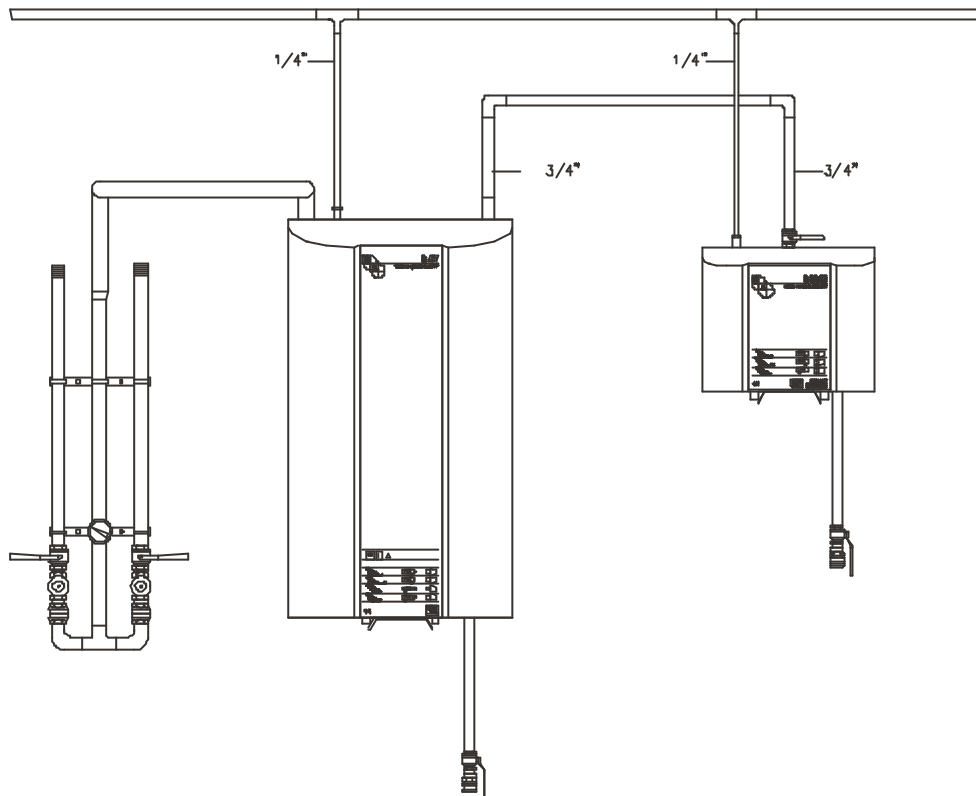


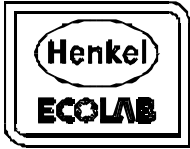
Figure 4.2

17357

## 4.5 Electric connection

**WARNING!** Electric connections should only be made by authorised engineers.

- c) Electric requirements are specified on the identification plate (figure 3.1). Electric connections must be made by a certified electrician.
- d) The pump connection must ensure correct direction of rotation. See arrow direction on pump.
- e) It is recommended to protect against earth leakage. (0,03 A).
- f) A service switch should be mounted between the electrical supply line and the pump.



#### 4.6 Water connection to the S 400 Series Combifoamer

**CAUTION!** The connection to the water supply must comply with local legislation and all safety precautions are to be observed.

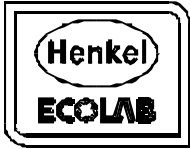
**ATTENTION!** When installing the piping, take care to avoid air traps.

- a) **Before the S 400 Series Combifoamer is connected to the water supply pipe, the supply line should be rinsed carefully in order to remove coarse impurities and metal shavings.**
- b) All connections to the S 400 Series Combifoamer should be equipped with unions for simple servicing and dismantling of the station.
- c) The connection for water should be made at the top of the station (A on figure 5.1 - 5.3).
- d) The diameter of the pipes should be the same in the entire piping system. This ensures the fastest flow possible and optimal working.
- e) The pipes used for the piping must be approved for the actual environment and for a minimum pressure of 25 bar. It is recommended to use pipe bearings with rubber casing.
- f) Internally the station is fitted with a filter in the supply line to the pump.
- g) The pressure loss in the inlet pipe must be held as low as possible by:
  - Avoid long supply pipes
  - Mount low pressure resistance ball valves
  - Avoid fittings with high pressure loss
- h) Water consumption at normal cleaning mode.

**NOTE!** If the changing valve has an optimal function, we recommend the mounting of a filter on the water inlet to avoid impurities.

#### 4.7 Connection between the S 400 Series Combifoamer and a satellite

- a) Remove the screw cap from outlet (D on figure 5.1 - 5.3).
- b) Install pipework with a minimum diameter of 3/4" (26,9 mm) from the outlet to the satellite station (See figure 4.2).



- c) Connection to the satellite should be made by means of a union for easy dismantling of the station.
- d) It is recommendable to use the same diameter throughout the entire main piping. This allows the flow switch to operate efficiently and ensures the best flow characteristics.
- e) The pipework used must be approved for ambient conditions and a minimum pressure rate of 25 bar. It is recommended to use pipe holders with rubber lining.
- f) For further information, please refer to the User Guide of the satellite / terminal.

#### 4.8 Air pressure connection

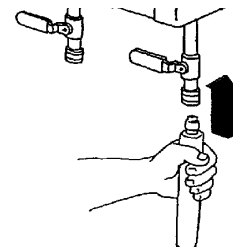
**ATTENTION!** Before connecting the S 400 Series Combifoamer, the air pressure line should be rinsed carefully in order to remove coarse impurities.

- a) The connection to the station is made with a union to ease dismantling. A ¼" closing valve is mounted on all satellites (B on figure 5.1 - 5.3).

#### 4.9 Connection of the P3-Topax standard hose

- a) The special P3 Topax hose with spray gun should be mounted in the outlet coupling of the station.
- b) Maximum hose length: 30 m

It is recommended only to use the special P3 Topax hoses, which are tested and resistant to all P3-Topax products and industrial conditions.

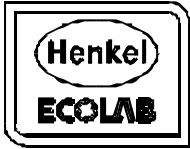


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#### 4.10 Bleeding the pump

Before starting the pump, it is very important to secure that it has been emptied for air, as air in the pumping system might result in damage to the gauges and stuffing boxes. To secure that there is no air in the pump, the water connection should be opened to fill the pipes and pump with water. Now loosen the air escape valve on top of the pump until water floats out, then the valve/bolt should be tightened again. The pump is now ready for use.

For further information please refer to the User Guide of the pump.



## 5 Functional principles of the S 400 Series Combifoamer

### 5.1 Layout drawings

S 410, S 417, S 420

S 410 D, S 417 D, S 420 D

S 410 DF, S 417 DF, S 420 DF

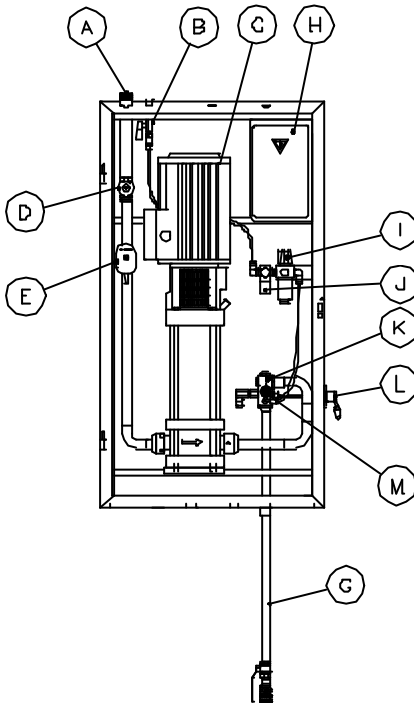


Figure 5.1

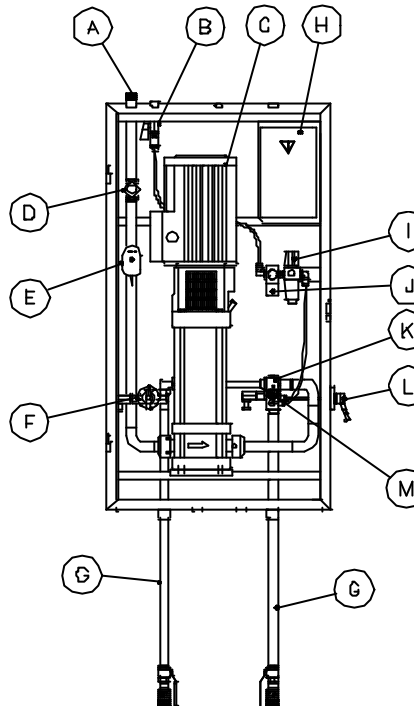


Figure 5.2

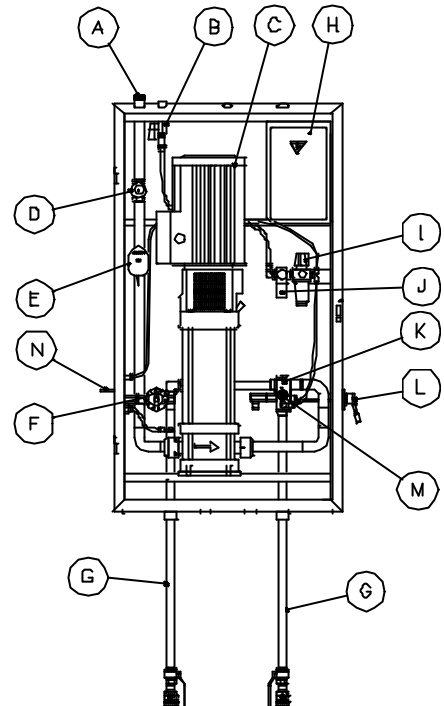


Figure 5.3

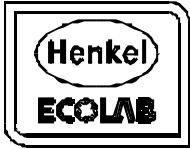
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17353\_2

- A Inlet pipe for water
- B Closing valve for air
- C Pump
- D Strainer
- E Flow-switch
- F Dosing valve for desinfection
- G Quick coupling with closing valve
- H Controller
- I Filter, pressure regulator and gauge for air
- J Solenoid valve for air

- K Injector block
- L Change over handle
- M Dosing valve for P3 Topax product
- N Tilting switch for sanitation



## 5.2 Flow chart

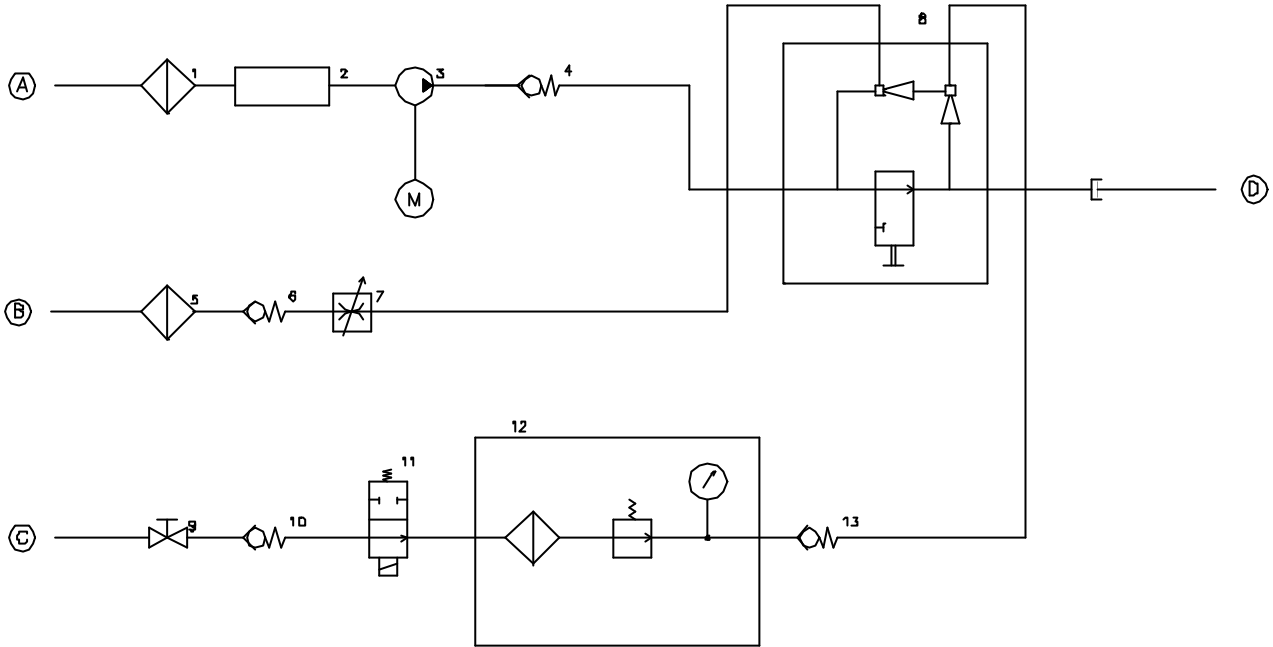


Figure 5.4

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- |    |                  |     |  |
|----|------------------|-----|--|
| A  | Water            | C   | Air.                                     |
| B  | Detergent.       | D   | Hose outlet                              |
| 1. | Filter           | 9.  | Closing valve for air                    |
| 2. | Flow-switch      | 10. | Non-return-valve                         |
| 3. | Pump             | 11. | Solenoid valve                           |
| 4. | Non-return-valve | 12. | Air filter, pressure regulator and gauge |
| 5. | Filter           | 13. | Non-return-valve                         |
| 6. | Non-return-valve |     |  |
| 7. | Dosing valve     |     |  |
| 8. | Injector block   |     |  |

### 5.3 Electrical diagram

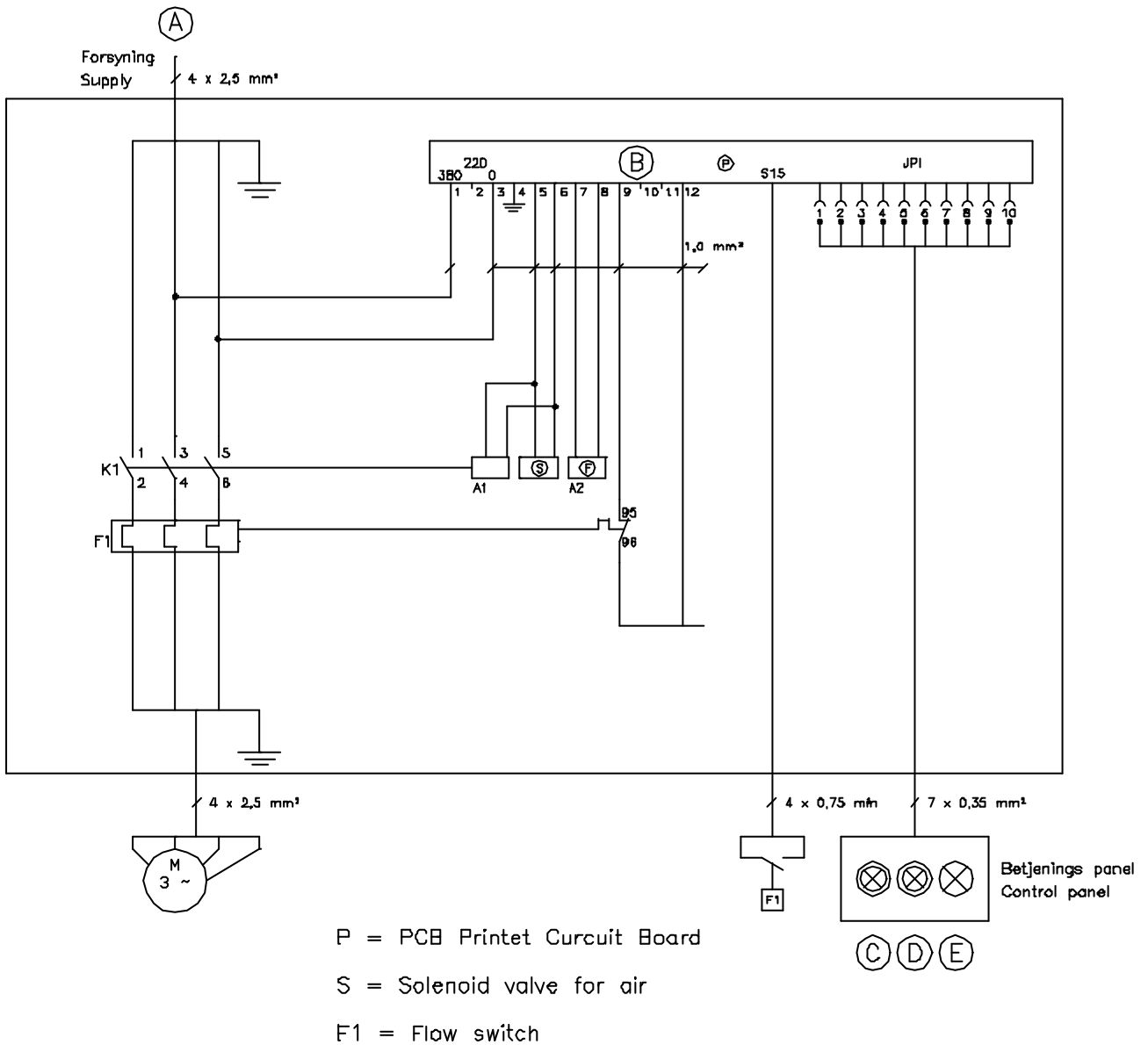


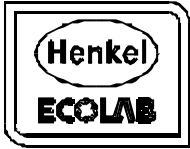
Figure 5.5

01268

#### 5.3.1 Control box.

- A. Connection: 3 x 400 V + PE, 50 Hz. Max. fuse: 16 A
- B. Printed circuit board
- C. ON
- D. OFF
- E. Error
- F. Optional (Temperature protection, dry running fuse).





## **5.4 Principle of the injector system**

The system consists of a manually controlled changeover block with a built-in injector, dosing valve, non-return valve for air and P3-Topax products.

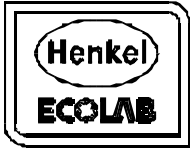
The principle is that a manually operated axle forces the water through the injector or the axle depending on how the axle is positioned.

### **5.4.1 Functional principle of rinsing**

During rinsing the axle is turned so that the water passes directly through the axle and out in the rinsing hose. In this position the injector for P3-Topax products will automatically be rinsed with clean water. When the low-pressure gun is open, the pump station automatically starts after approx. 5 seconds and thereby rinsing pressure is achieved.

### **5.4.2 Functional principle of foaming**

During foaming the axle is turned so that water cannot pass through the axle so that the water is led through the injector. Coincident with the axle being turned the supply of air and P3-Topax products is possible. When the low-pressure gun is open the pump satellite starts up automatically after approx. 5 seconds. The water will then be led through the injector, which sucks P3-Topax products into the mixing chamber where it is mixed with air and water to the required solution.



## 6 Connection of P3-Topax products

The connection of the P3-Topax products are done according to the descriptions in the following paragraphs.

### 6.1 Principle of the P3-User Pack

The P3-User Pack is pushed into the holder below the station. **The right side is for P3-Topax detergent and the left side is for P3-Topax sanitation.**

The P3-Topax product is led through the suction pipe placed on the inside of the P3 User Pack to the changeover block, where it is mixed in the mixing chamber. The P3-Topax product level can be seen through the level hose on P3 User Pack can.

After use or when changing to another P3-Topax product the suction device and the injector must be rinsed with clean water (See chapter 7.8).

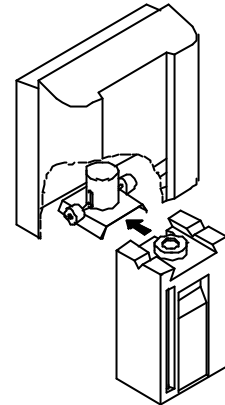


Figure 6.1

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### 6.2 Separate cans for P3-Topax products

Place the can with the P3-Topax product below the station e.g. in the matching can holder (extra accessory). Before the hose is let into the can make sure that there is no dirt in the suction filter placed at the end of the hose. The hose is then let into the can. The hose should be placed below product level in order to prohibit air intake when foaming and disinfecting.

After use the hose is taken up and the suction pipe and the injector should be rinsed with clean water (See chapter 7.8) before changing to another detergent and after cleaning.

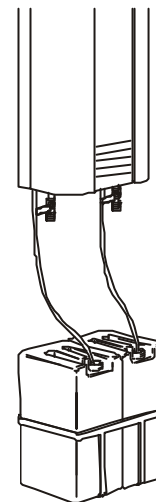
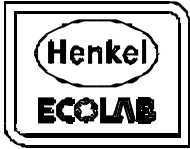


Figure 6.2

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### 6.3 Setting the dosing valve and air regulator

It is important that the dosing valves are adjusted correct to the product used for cleaning. The correct settings should be made before the cleaning starts. The adjusting is made in two different places on the machine, see the following descriptions.



### **6.3.1 Air regulator**

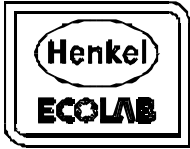
The setting is made by lifting and turning the switch on the manometer (E figure 5.1 - 5.3). The air pressure can be read on the manometer. It should be approx. 6 bar. Normally the setting should be made before the cleaning personal start using the station. The setting should be according to references on the P3-Topax product.

As an example; set the dosing to approx. 2% foam. Then adjust the air from 0 until the required foam quality is reached. E.g. Topax 66 should be dosed with 2% foam and 5 bar air.

### **6.3.2 Dosing valve**

Before setting the concentration, you should be aware that the figures on the dosing buttons are not in %. The setting of the dosing is done on the dosing screw (G-RIGHT for detergent and G-LEFT for sanitation figure 5.1 - 5.3).

In general the dosing setting should be higher when using a thick floating chemical and lower at a thin floating chemical.



## 7 Operation- and user guide lines

It is recommended that the user reads and studies this chapter regarding operation and use prior to operation of the S 400 Series Combifoamer.

The user is personally responsible for using the S 400 Series Combifoamer in the safest and the most efficient way possible. Therefore, it is very important that all users get a thorough instruction in how the S 400 Series Combifoamer station is used and not least in the safety instructions of the equipment, see chapter 7.3 and 7.4.

The enclosed yellow User Guide should always be placed close to the cleaning station to ensure correct use.

Operation as laid down in these directions for use will ensure:

- Optimal level of cleaning and hygiene at your facility.
- Minimum level of maintenance and repair work.

### 7.1 Control panel



**OFF**

**Illuminated:** Pump switched off.  
Pump cannot be activated.  
Push to stop the system.



**ON**

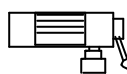
**Flashing:** Stand by.  
**Illuminated:** Pump is active.  
Push to activate the system.



**ERROR**

Indicates when a fuse has blown or motor overload protector is defective.

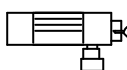
### 7.2 Nozzles



11072\_2

#### **Rinse (blue)**

The hose is connected to the right outlet. In most cases the colour of the nozzle will be blue. Change over handle turn down.



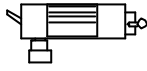
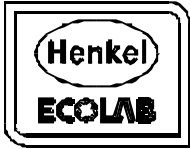
11072\_1

#### **Foam (white)**

The hose is connected to the right outlet for foaming. The foaming nozzle is white and characterised by a large nozzle opening. Change over handle turn up.

#### **NOTE!**

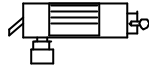
The switch on the rinsing- foam side must be placed in rinsing position to be able to use the sanitation side.



11072\_3

### Spray sanitation (yellow)

The hose is connected to the left outlet. The sanitation nozzle is yellow. Left tilting switch up.

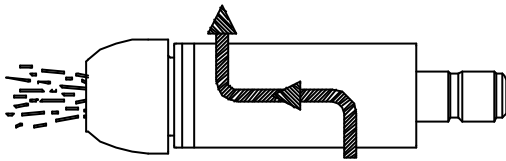


11072\_4

### Foam sanitation (white)

The hose is connected to the left outlet. The nozzle is white as the ordinary foaming nozzle. Left tilting switch down.

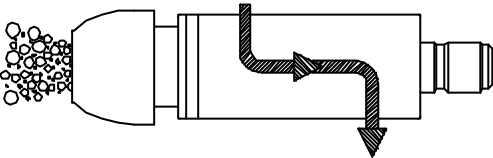
## 7.2.1 P3 Prospeed® nozzle ( extra accessory )



17221-1

### RINSING

For rinsing push the P3 Prospeed® nozzle forward and lock it by turning right.



17221-2

### FOAMING

When using the P3 Prospeed® nozzle for foaming push back the nozzle and lock it by turning left.

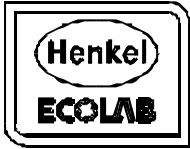
## 7.3 Safety precautions on S 400 Series Combifoamer and accessory

- a) Closing valve for water.
- b) Closing valve for air (B on figure 5.1 - 5.3).
- c) In the gun handle a safety pal is placed. Lock the pal before leaving the spray gun. The safety pal secures against inadvertent use.
- d) In the cabinet on the air pressure valve a manometer is placed for measuring of the air pressure. The air pressure can only be read when the air supply is opened.
- e) Only use rinsing nozzles consuming maximum 40 L water per minute at 20 bar.
- f) According to chapter 7.8 the station should always be rinsed with clean water after cleaning.



17218-2

**NOTE!** It is not allowed to change between rinsing and foaming when the low-pressure spray gun is open. When this is not observed a failure operation can appear in the changeover block.



## 7.4 Safety precautions

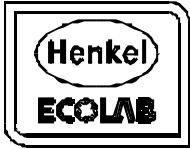
Your S 400 Series Combifoamer is manufactured according to the regulations in force regarding safety on the working place. To avoid damages on you, other persons, equipment etc. please be aware of the following safety instructions when using the station.

- 1 Never point the water jet or P3-Topax products towards humans, animals or electric installations.
- 2 Never try to clean footwear or clothing on you or other persons.
- 3 Always carry suitable clothing and footwear, as well as personal protection means during cleaning operation.
- 4 Only operate the spray gun with your hand. Never try to block or attach the trigger.
- 5 When using the station the rinsing hoses, nozzles and couplings are important for the safety. Therefore, only use the hoses, nozzles and couplings prescribed.
- 6 Never use the water from the cleaning station to other use than cleaning as detergent etc. could have been added.
- 7 Only adults, who have received a thorough instruction in the use of the station, should be allowed to operate the S 400 Series Combifoamer .
- 8 Always switch on the safety pal when the spray gun is not in operation.
- 9 Never dismount the rinsing hose before the station has been depressurised.
- 10 Service on the S 400 Series Combifoamer should only be done by authorised personnel.
- 11 Always rinse the S 400 Series Combifoamer and cans thoroughly with water when changing between different P3-Topax products.

## 7.5 Operating the S 400 Series Combifoamer

Before describing operation of the S 400 Series Combifoamer please be aware of the following things:

- a) Depending on which nozzle is used an automatic working pressure will appear when the low-pressure gun is open and the pump station is in operation.
- b) According to chapter 7.8 the station should always be rinsed with clean water after cleaning.
- c) It is not allowed to change between rinsing and foaming when the spray gun is open. When this is not observed a failure operation in the changeover block can appear.
- d) For changing between rinsing and foaming the changeover handle should be set in the required position.



## 7.6 Preparing rinsing operation

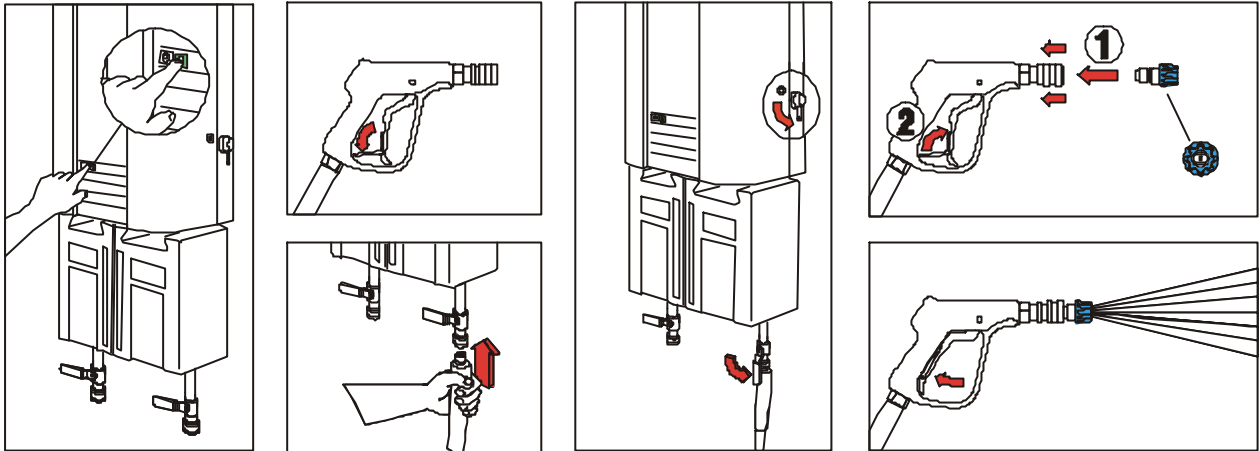
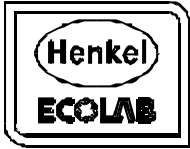


Figure 7.1

17365\_1a

- a) Turn on the S 400 Series Combifoamer on the green bottom on the front of the cabinet. This puts the station on stand-by.
- b) Secure that the spray gun/valve is closed and secured.
- c) Place the hose in the right quick coupling below the station (L-RIGHT on figure 5.1 - 5.3).
- d) Open the right ball valve below the station and above the quick coupling (L-RIGHT on figure 5.1 – 5.3) and the rinsing hose is filled with water. The S 400 Series Combifoamer is now ready for use.
- e) The changeover handle on the right side of the station should be switched down for rinsing position.
- f) Place the required blue rinsing nozzle in the quick coupling of the spray gun/valve.
- g) Open the spray gun/valve. After approx. 5 seconds the pump starts automatically by means of the build-in flow switch.

**ATTENTION!** Changing between rinsing and foaming is not allowed when the spray gun / valve is open. When this is not observed, a failure operation could appear in the changeover block.



## 7.7 Foaming

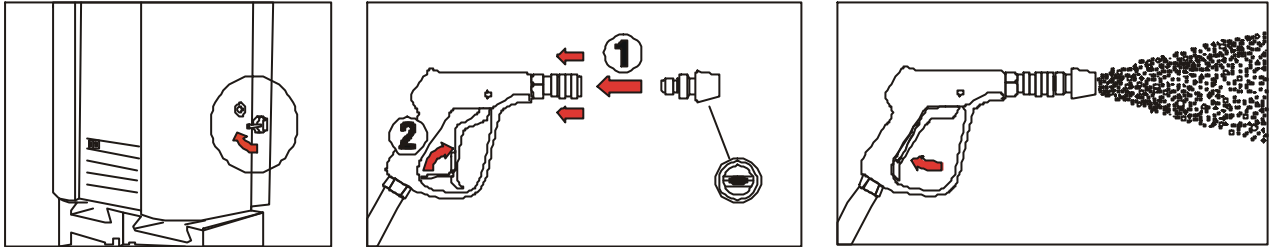


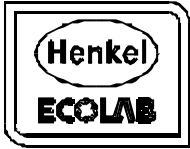
Figure 7.2

17365\_2a

- a) Place the required white foaming nozzle in the quick coupling of the spray gun/valve.
- b) The changeover handle on the right side of the station should be switched up for foaming.
- c) Open the spray gun/valve. After approx. 5 seconds the pump starts automatically by means of the build-in flow switch.

**ATTENTION!** Changing between rinsing and foaming is not allowed when the spray gun / valve is open. When this is not observed, a failure operation could appear in the changeover block.





## 7.8 Change of P3-Topax product / flushing in general

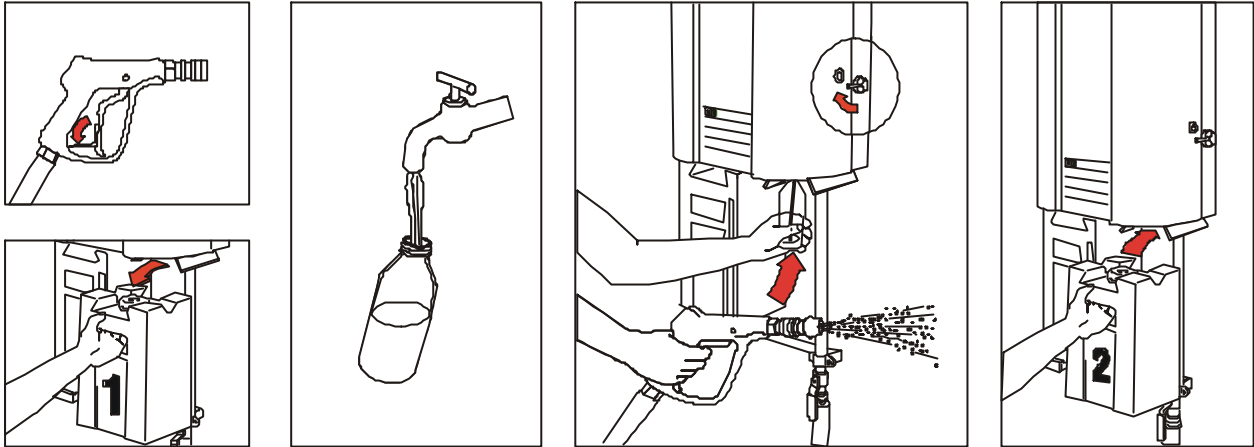


Figure 7.3

17365\_3a

- a) When changing between different detergents and sanitations, the station should be rinsed with clean water to avoid mixing in the changeover block or in the suction hose.
- b) The P3 User Pack Can should always be thoroughly rinsed with clean water when changing between different types of P3 Topax products.
- c) Place a foaming nozzle in the spray gun/valve for detergent flush.
- d) Place the changeover handle in foam position

### Flushing the sanitation side:

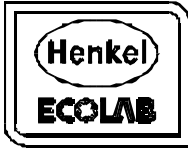
- e) Place a rinsing- or foaming nozzle in the spray gun/valve for sanitation flush depending on which type of S 400 Series Combifoamer is used, either D or DF.

### Flushing with the P3-User Pack cans:

- f) Remove the P3-User Pack Can from the holder on the station.
- g) The flushing bottle (extra accessory) which can be delivered with the station must be filled with clean water and held to the suction device below the station. Now the spray gun/valve must be opened until the bottle is empty or approx. 30 seconds.
- h) Place the new P3-User Pack containing the new detergent or sanitation. The station is now ready to clean using the new product.

### Flushing with separate product cans:

- f) Take the hose out of the can containing the P3-Topax product and place it in a can with clean water. Now open the spray gun/valve for approx. 30 seconds.
- g) Place the hose in the can with the new P3-Topax detergent or sanitation. The station is now ready to clean with the new product.



## 7.9 Changing between cleaning and sanitation side

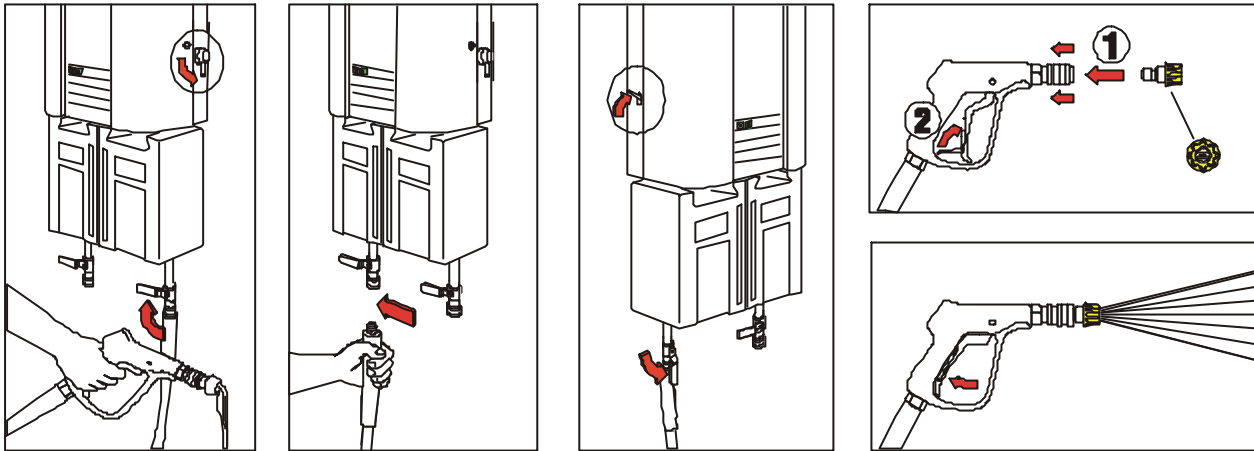
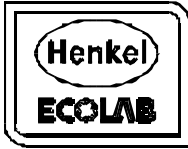


Figure 7.4

17365\_4a

**NOTE!** The switch on the rinse- foam side must be placed in rinsing position to be able to use the sanitation side.

- a) After cleaning, sanitation can be realised by moving the hose to the left side of the station.
- b) Before the hose is moved to the sanitation side or before dismantling the hose the pressure must be reduced. This is done by closing the ball valve just above the quick coupling and by placing the blue rinsing nozzle. Now open the spray gun/valve until the hose is without pressure.
- c) Release the hose from the quick coupling in the right side and place it in the left side. Now the left ball valve can be opened.
- d) Depending on if rinse- or foam sanitation is wanted, the tilting switch on the left side of the station should be tipped up for rinse function or down for foam function.
- e) Open the spray gun/valve. After approx. 5 seconds the S 400 Series Combifoamer builds up pressure by means of the build-in flow switch.
- f) According to chapter 7.8 the sanitation side should be rinsed after use.



## 7.10 Stop procedures

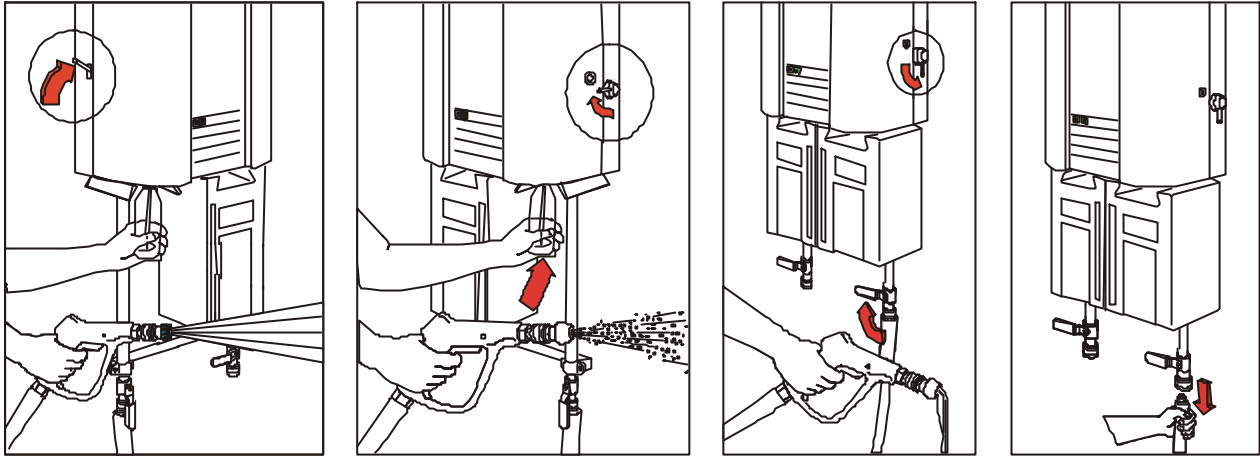


Figure 7.5

17365\_5a

By rinsing the injector block with clean water after use or at least once a week, you will get an optimal function and lifetime of the station.

If you do not rinse the injector block, it may result in a blockage of the injector- or non-return valves. This might result in a non-functional cleaning station.

These kinds of problems are not covered by guarantee.

- a) Mount a foam nozzle in the spray gun/valve and place the relevant tilting switch in foam position.

### Flushing with the P3-User Pack cans:

- b) Remove the P3-User Pack from the holder below the station.
- c) The flushing bottle (extra accessory) which can be delivered with the station is filled with clean water and held to the suction device below the station. Now open the spray gun/valve until the can is empty or approx. 30 seconds.

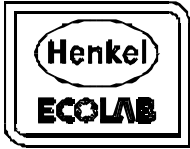
### Flushing with separate product cans:

- d) Take out the hose from the can with the P3-Topax product and place it in a can with clean water. Now open the spray gun/valve for approx. 30 seconds.

After flushing, the hose should be de-pressurised. This is done by the following procedure:

- a) Close the ball valve above the active quick coupling.
- b) Open the spray gun/valve for a second to de-pressurise the hose. Dismount the hose.

If a satellite or a terminal is connected, the S 400 Series Combifoamer should remain switched on. The S 400 Series Combifoamer automatically changes to "stand-by" after approx. 40 seconds when all spray guns/valves are closed.



## 8 Maintenance

The S 400 Series Combifoamer should be maintained according to the following instructions in order to prohibit operation stop and as a follow to this a deterioration of the hygiene in your factory.

### 8.1 Instruction

Depending on usage, at least once a year maintenance should be undertaken by an authorised service engineer in order to prevent defects and failure of operation.

Authorised engineers are persons, who due to their skills and experience have sufficient knowledge of S 400 Series Combifoamer and are confident with the state work safety regulations, accident preventing regulations, lines and generally acknowledged technical regulations such as DIN norms and VDE provisions.

For your safety this cleaning unit has been manufactured according to all relevant regulations valid within the EU and it has therefore been fitted with the CE-mark.

For further information, please refer to your local Henkel Ecolab dealer.

### 8.2 Important before the service

Before beginning any kind of service or repair work, the S 400 Series Combifoamer should always be depressurised for water and air according to the descriptions below. This is done to avoid sudden water splashes, which could lead to eye and face injuries.

#### **The station is depressurised by the following procedure:**

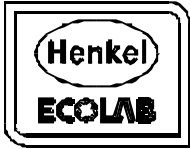
Close for the water and the ball valve for air inside the station (B figure 5.1 – 5.3). Mount a foam nozzle in the low-pressure spray gun/valve and open the low-pressure spray gun/valve for a few seconds. Now the water pressure is gone.

Dismount one of the air hoses to the pressure gauge from it's quick fitting. Now the air pressure is gone as well.

Now that the station has been depressurised for both water and air it is safe to begin the service.

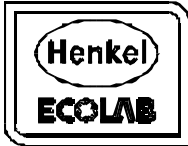
### 8.3 Checklist for service

- 1 Check the system for leaking air and water
- 2 Dismount the water filter and clean it.
- 3 Check correct function of the air pressure gauge.
- 4 Check hoses for wear and leaks.
- 5 Quick couplings should be greased with water proofed grease
- 6 If the quick coupling leaks, replace the O-rings.
- 7 Check the function of the Flow-switch.

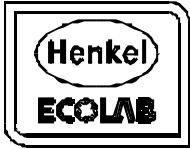


## 9 Trouble shooting

Symptoms	Possible causes	Remedy
The station does not start up	<p>Main station not activated</p> <p>Fuse blown</p> <p>Power supply fault</p> <p>Fuse in the wiring box of the station is blown</p> <p>Motor overload security in the wiring box of the station</p>	<p>Activate green push button on the front panel</p> <p>Check fuse and replace if necessary</p> <p>Power supply to be checked by an authorised electrician</p> <p>Check fuse and replace if necessary</p> <p>Before switching on again, check the cause of disconnection</p>
The pump does not build up pressure	<p>Change over handle not in rinsing position</p> <p>No water supply</p> <p>Rinsing nozzle not installed</p> <p>Failure at pump station or water supply</p>	<p>Place the change over handle in the correct position</p> <p>Open the ball valve on the inlet side of the main station</p> <p>Install rinsing nozzle (max. 40 l/min)</p> <p>See operation manual for pump station</p>
No pressure	<p>Inlet valve for pressure is not open</p> <p>Insufficient water supply</p> <p>Strainer on inlet blocked</p>	<p>Open inlet valve for pressure</p> <p>Provide sufficient water supply Min. 1 ¼" piping</p> <p>Clean or replace filter</p>
Insufficient foam creation	<p>Type of detergent not suitable</p> <p>Insufficient air supply to the equipment</p> <p>Air pressure in the injector is too high/low</p> <p>Injector nozzle blocked</p> <p>Wrong nozzle is installed</p>	<p>Change to suitable detergent</p> <p>Secure sufficient air supply, 200 l/min 6 bar</p> <p>Adjust the pressure on the pressure valve until the required foam quality is reached</p> <p>Clean injector nozzle</p> <p>Use Foaming nozzle 50/200</p>



Symptom	Possible cause	Remedy
No foam creation	<p>Foaming nozzle not installed</p> <p>Change over handle not in foam position</p> <p>To big water consumption</p> <p>No detergent</p> <p>Non-return valve for detergent is blocked</p> <p>Filter/suction hose for detergent is blocked</p> <p>Suction hose for detergent products is above product level in the can with detergent</p> <p>The concentration of detergent is to low</p> <p>Insufficient connection of P3 User Pack Can</p> <p>Outlet pressure below 16 bar</p>	<p>Place 50/200 foaming nozzle</p> <p>Place the change over handle in foam position</p> <p>Reduce the number of users</p> <p>Apply detergent</p> <p>Clean or change the non-return valve</p> <p>Change e.g. the can</p> <p>Lead the suction hose below product level</p> <p>Increase the concentration of detergent</p> <p>Push the can into place</p> <p>Secure the pressure or reduce the number of users</p>
No suction of disinfectant	<p>No water supply</p> <p>Filter/suction line for sanitation is blocked</p> <p>Suction hose is over product level in the can with disinfectant</p> <p>The dosing valve is blocked</p> <p>Injector nozzle blocked</p> <p>The non-return valve for sanitation is blocked</p>	<p>Open ball valve on the inlet side of the main station</p> <p>Clean or replace the filter/suction pipe</p> <p>Lead the suction hose below product level</p> <p>Clean or change the dosing valve</p> <p>Clean injector nozzle</p> <p>Clean or change the non-return valve</p>
The station does not build up air pressure	<p>Inlet valve for compressed air is not open</p>	<p>Open inlet valve for compressed air</p>



## 10 CE - declaration

### CE Declaration of Conformity

**ALTO Denmark A/S declares that the machine:**

No.:

Name:

Type:

S 400 Series Combifoamer

**- is manufactured in conformity with the following standards:**

EN 292-1                    Basic terminology, methodology

EN 292-2                    Technical principles and specification

EN 60204-1                Safety of Machinery.

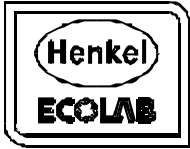
Aalborg 1999-06-15

Signature:

Anton Sørensen

A handwritten signature in black ink, appearing to read "Anton Sørensen".

V.P. Technical Operation



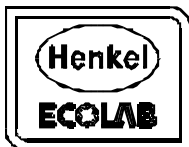
## 11 Warranty

Our guarantee is given for a period of 12 months from delivery on all parts which have provable become unfit for use due to material, construction or manufacturing defects as well as inadequate work. The guarantee compensation will occur in the shape of either reimbursement, replacement or repair of the defective or damaged part at our works. Installation and freight costs are always on the purchaser's account. Any defective parts are to be placed at our disposal. Claims that may otherwise be raised for any legal reason will not be acknowledged. No liability will be accepted for damage occurred indirectly. The purchaser has no right to let any third party repair possible defects on our account.

All hoses, rubber parts or synthetic materials, natural wear and tear as well as damage caused by careless and inappropriate handling, including transport damage are not covered by the guarantee. Further, the guarantee does not apply if the system has been subjected to frost. The obligation of guarantee compensation also ceases if changes or repairs are made by non-authorized persons. Claims under the guarantee will only be acknowledged when they are placed immediately after the defect has been noticed. The guarantee ceases in case of change of ownership.

The dealer cannot be held responsible for personal injury, damage to equipment, working deficits, including production loss, loss of profits, loss of stock or the like which may occur by imperfect and delayed delivery of the sold product, regardless of the reason, including manufacturing and material defects. Please see our standard terms of sale and delivery.





## 12 Service addresses

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