

# Operating instructions



**UNO BOOSTER EXTENDED  
DUO BOOSTER 7**



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# EN 1 Safety Precautions and Warnings

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## Symbols used to mark instructions



Before using the high-pressure washer, be sure to also read the enclosed operating instructions and keep them within reach at all times.



This symbol is used to mark safety instructions that must be observed to prevent damage to the machine and its performance.



Safety instructions in these operating instructions which must be observed to prevent risks to persons are marked with this danger symbol.



This indicates tips and instructions to simplify work and to ensure safe operation.



### For your own safety

The high-pressure washer may only be used by persons instructed in its use and who have been expressly authorised to do so.

Although extremely easy to operate, children should not be allowed to use the washer.

### Warning

Inhalation of aerosols can be hazardous to health. Where applicable use a device in order to avoid or reduce aerosols production, e.g., a shield covering the nozzle. For protection against aerosols use a respiratory mark of class FFP 2 or higher.

### General

When using the high pressure washer all existing national regulations must be observed. Beyond the instruction manual and the current national legal regulations for prevention of accidents, also the approved rules for safe working must be observed.

Any method of use endangering the safety of persons or

equipment is forbidden.

### Before use

Before starting up your high pressure washer check that it is in a regular condition. Electric plugs and couplings must be watertight.

Check the electric cables at regular intervals for damage and wear. Only use the high pressure washer if the electric cable is all right (**damaged electric cables can cause electric shock!**)

### Important instructions

Connection to public mains according to the applicable regulations in your country. **IMPORTANT:** Only use water without impurities!

Before each use of your high pressure washer check the most important visual parts.

High pressure jets can be dangerous if misused. Never direct the water jet towards people, pets, electric wiring, or the machine itself.

Spray handle and lance are

affected by a thrust during operation - therefore always hold the spray lance firmly with both hands.

Never try to clean clothes or footwear on yourself or other persons.

Operator and anyone in immediate vicinity of the site of cleaning should take action to protect himself from being struck by debris dislodged during operation.

Check that cleaning will not result in dangerous substances (e.g. asbestos, oil) being washed off the object to be cleaned and harming the environment.

Do not clean sensitive surfaces made of rubber, fabrics or the like with the zero nozzle. With the flat jet nozzle keep a distance of at least 15 cm to the surface to be cleaned.

Do not use the machine if the electric cable or the high pressure hose are damaged.

Do not cover the machine

during operation or use it in a room without adequate ventilation !

If the overload protection device of the motor trips (motor stops), release the trigger of the spray handle. Lock the spray handle with locking device and turn the start/stop switch to position „0“. Let the machine cool off for at least 3 minutes!



The machine must be placed in a room where it is not exposed to frost.

### Operation

Avoid damage to the electric cables such as running over by a car, squeezing, pull, knots etc. and keep them away from sharp or hot objects.

Avoid damage to the high pressure hose such as running over by a car, squeezing, pull, knots/kinks etc. and keep it away from oil and sharp or hot objects, as such may cause the hose to burst.

The cleaner can be used in zones classified as ZONE 2.

**Important!** Never use the machine in an environment where there could be a danger of explosion (according to EN-50014).

**Important!** When the system has been in operation and thereafter stopped, there will still be a working pressure in the pipeline and high pressure hoses. Therefore you should pay special attention to the following:

- Never dismount the high pressure hose from the machine during operation. Disconnect the machine, close the shut-off cock and relieve the high pressure hose of pressure prior to dismounting.
- Never dismount the high pressure hose from the outlet

point before it has been securely closed and the high pressure hose has been relieved of pressure.

- Prior to any service interference in the machine it should be disconnected and the system relieved of pressure by activating the trigger of the spray handle.

### Repair and Maintenance

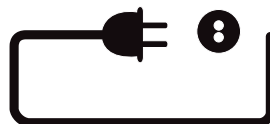
Only carry through the maintenance operations described in the operating instructions. Only use original Nilfisk-ALTO spare parts.

Do NOT make any technical modifications to the high pressure washer.

**Warning!** High pressure hoses, nozzles and couplings are important for the safety when operating the machine. Only use the high pressure hoses, nozzles and couplings prescribed by Nilfisk-ALTO!

For major repairs, please contact your nearest Nilfisk-ALTO service organisation.

### Mains power connection



Check the nominal voltage of the high pressure washer before connecting it to the electricity supply. Check that the voltage stated on the model tag corresponds to your mains voltage.

A circuit breaker must be placed in the immediate vicinity of the machine.

We recommend you to connect the machine to a power source with a Residual Current Device (RCD) which will disconnect the power supply if the leakage current exceeds 30 mA for 20 milli seconds.

Only connect to an approved socket with earth connection.

Only connect the machine to an electrical installation made by a qualified electrician.

The insulation of the electric cable should be quite faultless and without any cracks.

If you are in doubt about the the mains power connection, please contact a qualified electrician.

Note: If using another cable it must be earthed and connected through the plug to the earth cable of your supply network in accordance with prescribed safety regulations.

Always use a cable similar to the one mounted on the machine.

Check cables before usage. Do not use damaged cables.

Only let a qualified electrician replace the electric cable.

### Safety Devices

#### Safety Valve

The pressure side of the high pressure pump is fitted with a safety valve. This valve leads the water back to the suction side of the pump when the spray handle is closed or if a nozzle is blocked.

The safety valve is adjusted and sealed by the producer.

**THIS ADJUSTMENT MUST NOT BE CHANGED !**

#### Motor protection

The motor features an overcurrent protection and built-in thermal switches for protection of motor against overloading. In the event of increased power consumption (maloperation), the current for the motor will automatically be cut out.



# EN 2 Description

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## 2.1 Application

This high pressure washer has been developed for professional use within:

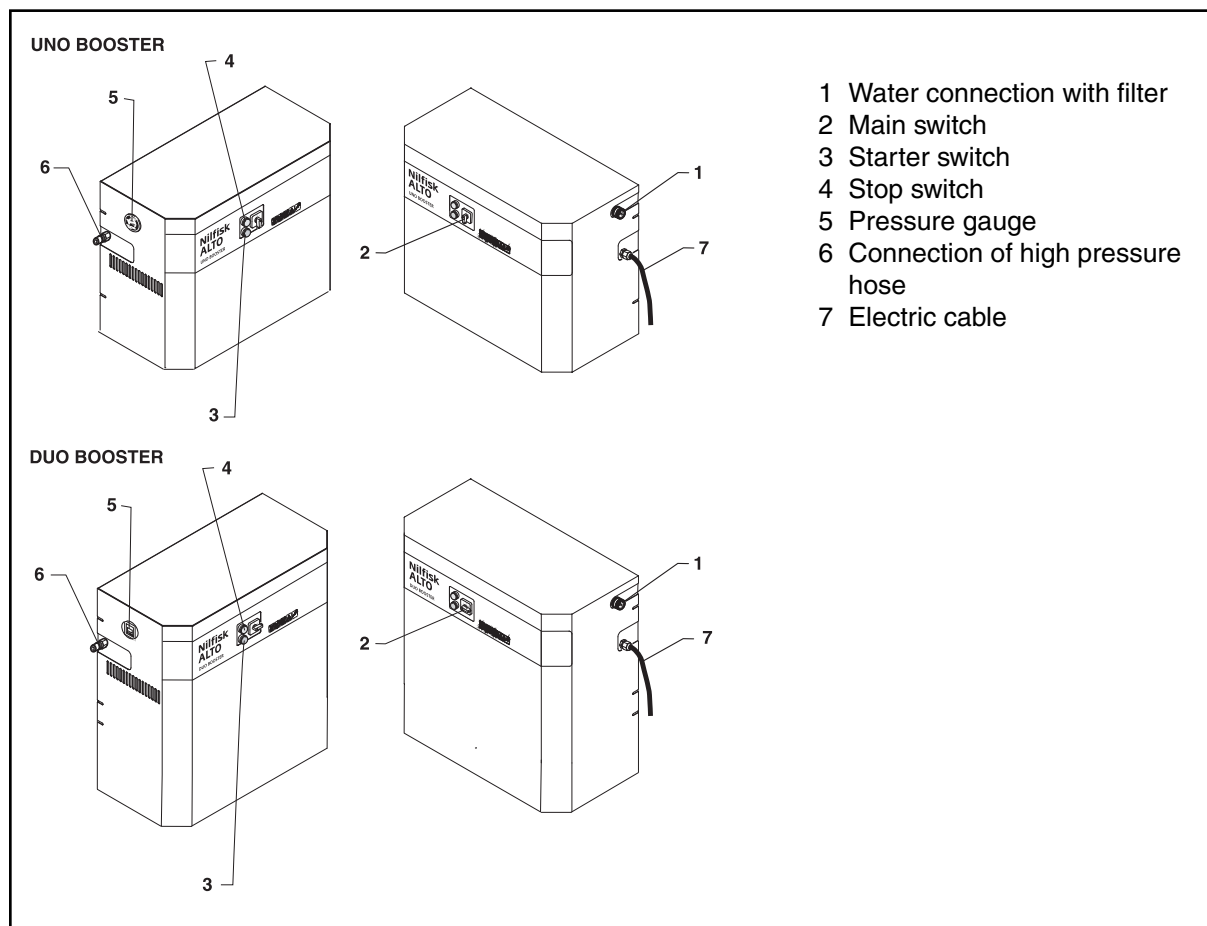
- agriculture
- light industry
- transport
- building and construction
- service

Only use the high pressure washer for purposes described in this manual.

The safety precautions must be observed to prevent damage to the machine, the surface to be cleaned or severe personal injuries.

Section 4 describes how to use the high pressure washer.

## 2.2 Operation elements



# 3 Installation

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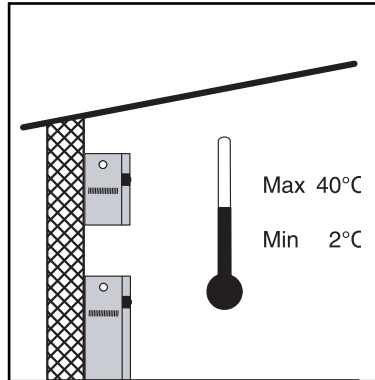
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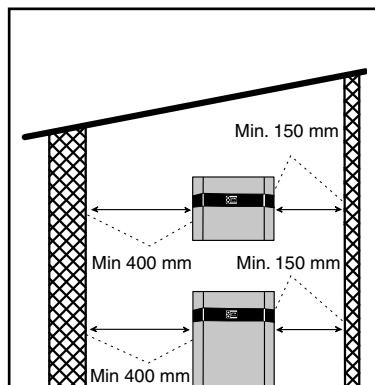
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## 3.1 Temperature conditions

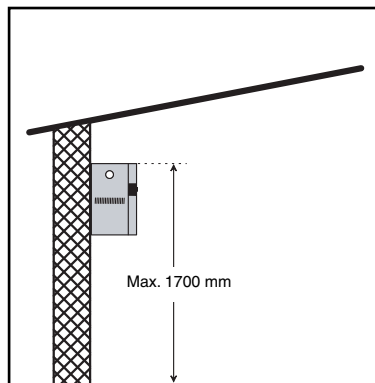


The machine should be installed in a frost-free room. This applies to pump as well as pipelines incl. of outlet points. Concerning outdoor outlet points, it should be possible to close and empty that part of the line which is exposed to frost. The maximum ambient temperature for the machine is 40°C.

## 3.2 Condition of distance



In consideration of the cooling system of the machine and the accessibility of service, there must be free wall space on both sides of the machine. To the right 150 mm at a minimum and to the left 400 mm at a minimum.



### UNO BOOSTER:

The recommended installation height for the machine is max. 1700 mm measured from the upper edge of the machine.

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### 3.3 Wall mounting

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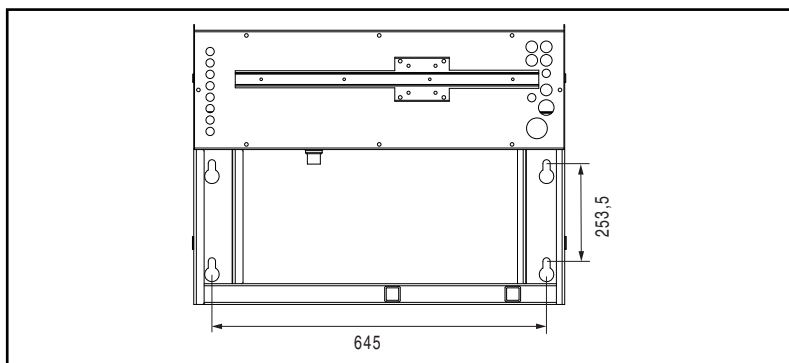
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#### UNO BOOSTER:

Only mount the machine on a solid wall construction suited for the mounting of a machine. I.e. a concrete or brick wall.

Do not mount the machine on a wall where it will cause disturbances in neighbouring rooms (canteens, offices etc.).

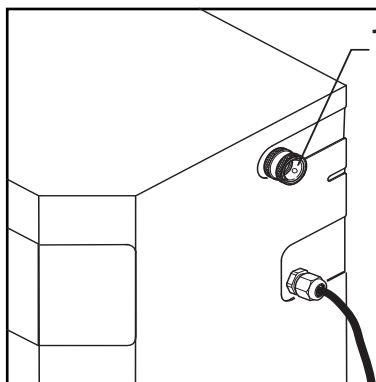
#### DUO BOOSTER:

Place the machine on a plane floor.

Machine feet have been mounted under the machine. These must be adjusted so that the machine stands stable.

The water connection is made through a flexible hose connected to the quick coupling on the water inlet (1) of the machine.

### 3.4 Water connection



The connection can be made to a water supply network or an internal water supply. A shut-off cock should be mounted on the water supply network in the immediate vicinity of the machine.

Max. water pressure: 10 bar

Max. water inlet temp.: 70°C

The machine features a water tank, and no further protection against return water into the

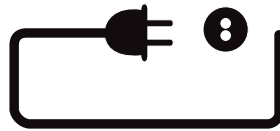
supply network is required. The machine complies with EN 1717.

If there is a risk of running sands or other impurities in the inlet water, a sand filter (50 micron) should be mounted beyond the internal filter of the machine (for further connection data see section **8 Technical data**).

If mounting the by-pass hose, the water inlet temperature can be raised to 80°C. **ONLY** do this if there is a separate water supply (contact your Nilfisk-ALTO distributor).

Clean the water inlet filter (1) once a month.

**3.5 Mains power connection**



Connect the machine to an approved socket.

Check voltage, fuse, and cables according to section **1 Safety precautions and warnings**.

Connection data conc. power consumption can be taken from the model tag of the machine.



**3.6 High pressure connection**

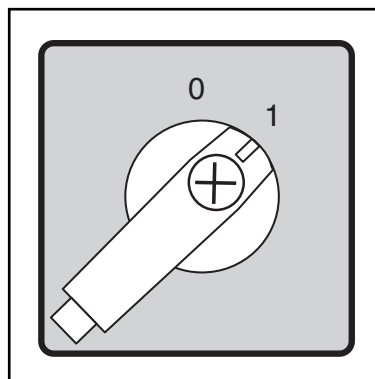


**IMPORTANT:** When connecting to a pipeline always use a flexible hose connection from the outlet of the machine (pos. 6) - order no. 6300843. Contact your Nilfisk-ALTO distributor for further information.

The outlet of the machine can be connected to a pipeline with fixed outlet points, or standard high pressure hoses can be connected directly to the outlet of the machine.

It is recommended to let a service technician authorized by Nilfisk-ALTO prepare the pipeline.

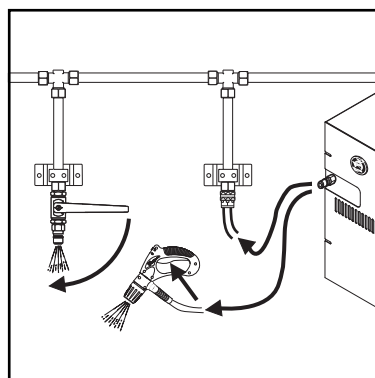
**3.7 Venting**



Turn main switch to position - 1 -. Open the outlet point.

Let the water run until all air has escaped from the pump (even water flow).

In the case of a recently installed system, or if the pipeline and the pump have been emptied in any other way, the system should be vented by starting the pump and then let the water run at each outlet point of the pipeline at turns.



When connecting the high pressure hose directly to the machine, the system should be vented by starting the pump and activating the trigger of the spray handle without having attached the spray lance.

# EN 4 Operation

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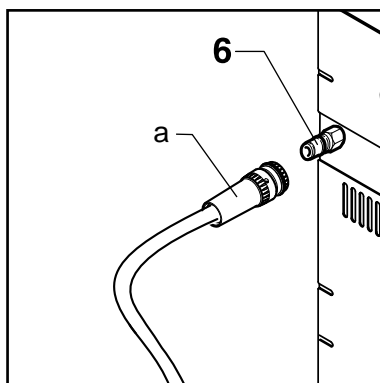
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## 4.1 Connections

### 4.1.1 High pressure hose - directly on the machine



The Nilfisk-ALTO high pressure hose with imprinted max. working pressure and temperature should be attached to the outlet connection of the machine (6) by the quick coupling (a).

Max. extension hose: 50 m.

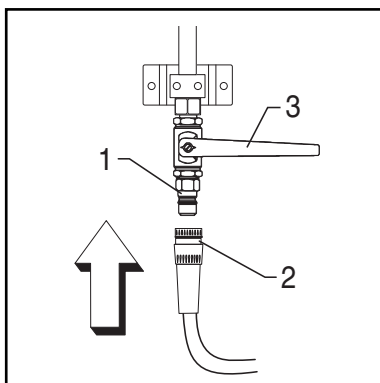


### **Danger of scalding!**

Never dismount high pressure hoses at water temperatures above 50°C.

**IMPORTANT:** Prior to dismounting of the high pressure hose the machine should be stopped and the shut-off cock closed. Then activate the trigger of the spray handle to relieve the high pressure hose of pressure.

### 4.1.2 High pressure hose - to outlet point



In the case of a pipeline with fixed outlet points the high pressure hose with imprinted working pressure and temperature should be attached to the nipple of the high pressure cock (1) by the quick coupling (2). Upon attachment turn the handle of the high pressure cock (3) to open position.



### **Danger of scalding!**

Never dismount high pressure hoses at water temperatures above 50°C.

**IMPORTANT:** Prior to dismounting of the high pressure hose or when changing to another outlet point the high pressure cock should be carefully closed. Then activate the trigger of the spray handle to relieve the high pressure hose of pressure.

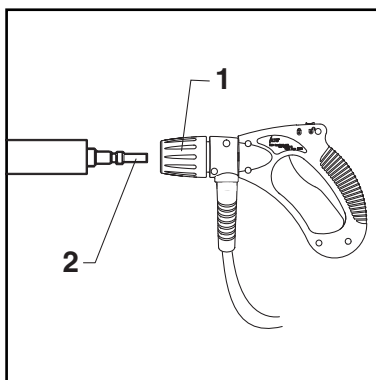


**4.1.2 High pressure hose - to outlet point (continued)**

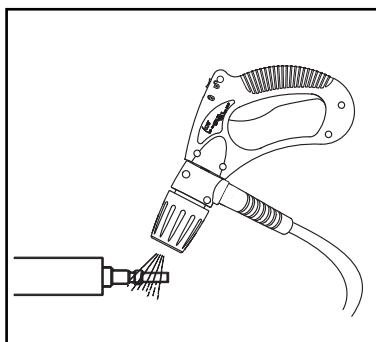
Pipeline, max. length:	
<b>UNO BOOSTER</b>	<b>DUO BOOSTER</b>
Ø15 x 1.5 - max. 50 m	Ø15 x 1.5 - max. 25 m
Ø15 x 1.5 - max. 180 m	Ø18 x 1.5 - max. 120 m
Ø15 x 1.5 - max. 500 m	Ø22 x 2.0 - max. 250 m

When using max. pipe lengths, only use a high pressure hose of 10 m.

**4.1.3 Spray handle - accessories**



1. Pull forward the quick coupling trigger (1) of the spray handle.
2. Insert the nipple of the spray lance (2) in the quick coupling and release the trigger.



3. Pull forward the spray lance or any other accessory to ensure correct mounting before starting the machine.

**NOTE!**

Clean nipple of any impurities each time the spray lance has been dismantled.

**4.1.4 Selection of spray lance (only UNO BOOSTER)**

MULTIPRESSURE		
P bar	Q l/min.	C
27	17	White
50	17	Brown
80	17	Blue
107	17	Orange
152	17	Shiny

You may use a double spray lance as well as a single spray lance with the machine. The machine has been optimized to use spray lances with a type 0640 nozzle. The max. pressure of the machine can be reduced by using nozzles with a wider diameter. See diagram.

*P: Nozzle pressure  
Q: Water volume  
C: Colour code*



**4.1.5 Function (only DUO BOOSTER)**

The machine is equipped with 2 high pressure pumps. These are controlled so that they will start and stop according to requirement. If the machine is connected to a pipeline with 2 users, the machine will automatically adjust the numbers of pumps to run. If the pressure drops below 155 bars,

an extra pump will start. If the pressure rises to above 182 bars, a pump will stop.



It is important to use the correct lances/nozzles for the machine. The nozzle size can be read from the data plate on the machine.



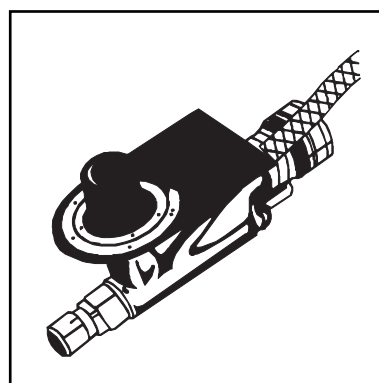
**4.1.6 Application of detergents (external)**

If you want to apply detergents or disinfectants these should be dosed to the water through an injector. In conjunction with the injector it may be advantageous to use a wall rack on which spray lances, 2 pcs. of 25 l

containers as well as 10 m high pressure hose can be placed.

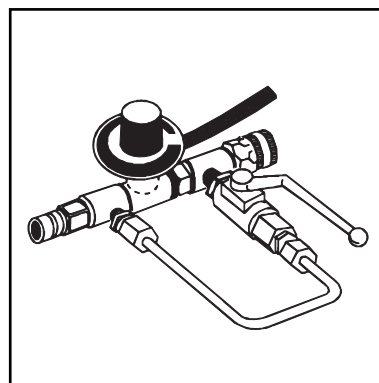


Below you will find various types of outlet points with injectors.



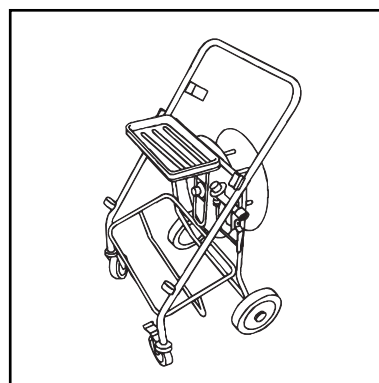
**Outlet point with detachable injector**

To be attached to the quick coupling of the high pressure cock.  
To be used for dosing of low-foaming detergents or disinfectants.  
Dosage 1-8%.



**Outlet point with detachable foam injector**

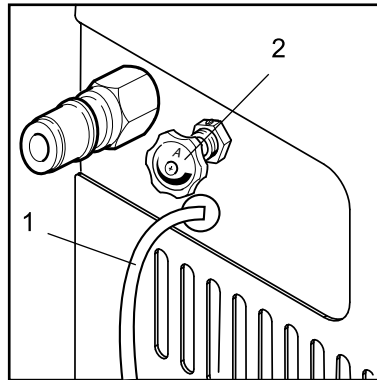
To be attached to the quick coupling of the high pressure cock.  
To be used in conjunction with foam lance for application of high-foaming detergents or disinfectants.  
Dosage 1-5%.



**Outlet point with cleaning trolley and foam injector**

To be attached to the quick coupling of the high pressure cock.  
To be used in the same way as "Outlet point with detachable foam injector".  
Makes it possible to place 4 spray lances, 2 pcs. of 25 l containers as well as 20 m high pressure hose.

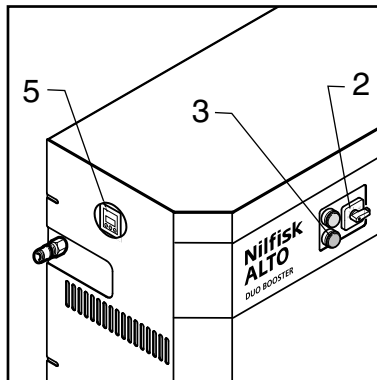
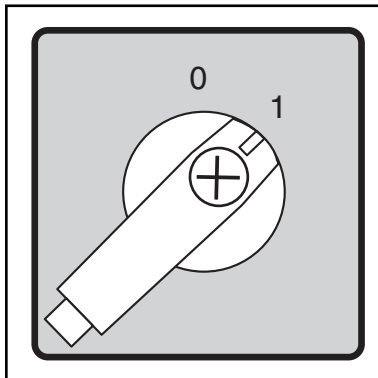
**4.1.7 Application of detergents (internal)**



This kind of detergent addition is an option.

Insert the suction hose (1) from the machine in the container. On the regulating knob (2) the dosage can be set from 1- 4 %. If the machine is mounted on a pipeline, detergent will come out of all outlet points. The pH value **MUST** be between 5.5 and 8.5.

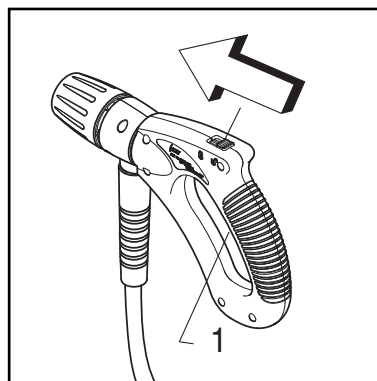
**4.2 Starting up**



1. Turn the main switch (2) to position - 1 -.
2. Push the green starter button (3).

Check on the pressure gauge (5) that a pressure is being built up in the system. If a pressure is not being built up, vent the machine as described in section **3.7 Venting**.

**4.3 Operation - automatic start/stop**



**Always hold the spray lance with both hands!**

The machine is automatically activated when the trigger (1) of the spray handle is activated. When the trigger is released, the machine automatically stops after 20 seconds. When the machine is not in use, the trigger should be locked with locking device (see arrow).

**Note:** If the machine is not used for approx. 35 min., it will automatically be switched off. It can be restarted by pushing the green button (3).



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**4.4 Double spray lance, pressure regulation**

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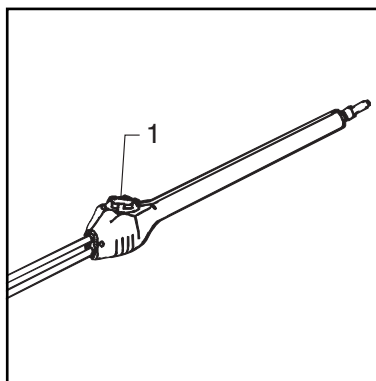
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The spray lance features 2 nozzles, a high pressure nozzle and a low pressure nozzle.

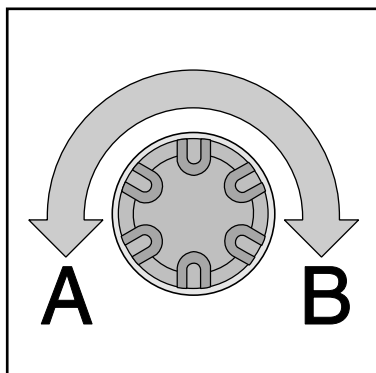
**High pressure mode**

When the pressure reducing valve (1) is completely closed (turned clockwise - **B**), only the high pressure nozzle is used - **high pressure mode**.

**Low pressure mode**

When the reducing valve (1) is completely opened (turned counterclockwise - **A**), both spray lances are used - **low pressure mode** / possibility of dosing detergents.

The pressure may be regulated between these positions.

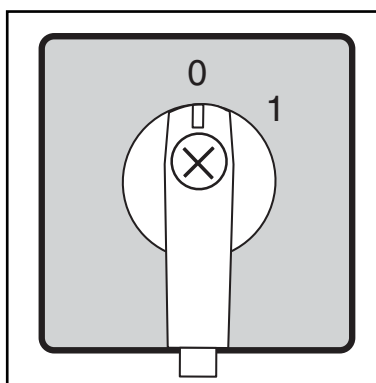


**4.5 Stop**



**Danger of scalding!**

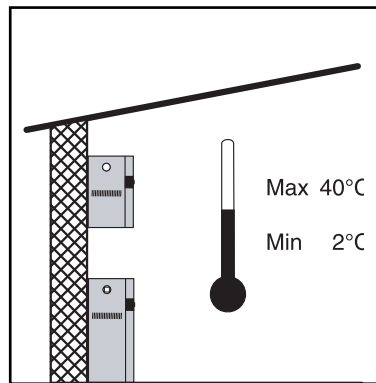
Never detach high pressure hoses at a water temperature above 50°C.



Never detach the high pressure hose while the machine is in operation.

1. To stop the machine turn the main switch (2) to position - **0** -.
2. Close the shut-off cock of the water inlet and activate the spray lance or open the high pressure cock to relieve the pipeline / high pressure hose of pressure.

#### 4.6 Frost protection



The machine should be installed in a frost-free room. This applies to pump as well as pipelines incl. of outlet points. Concerning outdoor outlet points it should be possible to empty that part of the line which is exposed to frost.

**IMPORTANT:** For safety reasons, hoses, spray lances and other accessories should always be thawed prior to use.

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# 5 Fields of Application and Working Methods

## 5.1 Fields of application

The most important fields of application for this product are:

<b>Agriculture</b>	Cleaning of machinery, agricultural implements, stalls, equipment and buildings.
<b>Transport</b>	Cleaning of trucks, buses, cars etc.
<b>Building &amp; Construction</b>	Cleaning of vehicles, equipment, buildings etc.
<b>Light industry</b>	Degreasing and cleaning of machines, workpieces, and vehicles.
<b>Service</b>	Cleaning of vehicles, public baths, institutions etc.

## 5.2 Working pressure

The high pressure system may be used with high or low pressure at your own option:

<b>Low pressure</b>	Is first and foremost used for the application of detergents and for rinsing.
<b>High pressure</b>	Is used during the actual cleaning.
<b>Intermediate pressure</b>	As an example it may be used for the cleaning of surfaces which cannot stand a too powerful jet, i.e. soft surfaces.

## 5.3 Detergents

As standard the system is delivered without a detergent injector. If you want to use detergents or disinfectants these should be dosed through an external injector (see section 4.1.6) or internally through the pump (see section 4.1.7).

The most efficient cleaning is reached with detergents in conjunction with the high pressure cleaning. For that purpose Nilfisk-ALTO can offer you a series of products specially developed for high pressure cleaning, among other fields within:

- Cleaning of vehicles, machines, stalls etc.
- Disinfection
- Degreasing of workpieces
- Descaling

The products are water-based, without phosphates, and the applied tensides (surface active substances) comply with the present requirements for easy biodegradability. Contact your Nilfisk-ALTO distributor for directions as to which product(s) will fulfil your requirements.

The method of application and the dosage of the individual products appear from the product labels or the data sheet.

Low-foaming detergents are applied through an injector and under low pressure. A change to cleaning under high pressure is effected by regulating from »low pressure mode« to »high pressure mode« on the double spray lance or by attaching a high pressure spray lance.

### 5.3 Detergents (continued)

For foam cleaning you will have to attach a special foam equipment. Insert the suction hose of the injector into the foam detergent.

Attach the foam lance on the spray handle and now you are ready for foam application. Upon the application open the by-pass cock of the foam injector and replace the foam lance by a spray lance, and you are ready for cleaning.

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### General rules for addition of detergents

Nilfisk-ALTO cleaning equipment can be used for all detergents and disinfectants, which are suitable for high pressure cleaning according to the prescriptions of the supplier. (If using external injector, the pH-value should be between 4 and 14. If using internal addition of chemicals, the pH-value **MUST** be between 5.5 and 8.5). Acid and lye should not be applied in a concentrated form.

Detergents which are not exactly prescribed for use in conjunction with high pressure cleaning **must only** be used upon a previous approbation from Nilfisk-ALTO and the supplier.

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Carefully observe the prescriptions and guidelines of the supplier, also the rules concerning safety clothing and drainage facilities.

The use of Nilfisk-ALTO detergents ensures that machines, accessories and detergents match, which is the condition of an optimal solution of a cleaning task.

Nilfisk-ALTO can offer you a wide range of efficient agents for cleaning and disinfection. The products are composed of substances which combine efficiency and environmental considerations at one and the same time.

### 5.4 Working methods



Your high pressure washer has been developed for cleaning according to the so-called »2-step method«.

method can be described for a job:

**However, your high pressure washer must be equipped with an external detergent injector.**

#### STEP 1

Application of detergent

1. Apply detergent under low pressure. The dosage is chosen according to the job which is to be carried through, and the adjustment is made on the dosing unit.
2. Await acting time. Let the detergent act on the dirt/ surface for a short time prior to pressure cleaning - usually a few minutes.
3. High pressure cleaning. Clean all surfaces under high pressure.
4. Rinse afterwards, if necessary. To make sure that residual impurities are removed from the surface.

#### STEP 2

High pressure cleaning

In practice the working process is laid down in accordance with the actual job, but as a starting point the following working



In connection with the working process the optimum cleaning will be reached by following these 3 pieces of advice:

**Advice no. 1**

When using a detergent, usually always apply it on a dry surface. If the surface is rinsed with water at first, it may be difficult for it to absorb the detergent, and the result is a reduced effect of the detergent.

**Advice no. 2**

When applying a detergent on large vertical surfaces (i.e.

the sides of a truck) work from below and upwards. Thus you will avoid the detergent running off the surface through grooves and dark streaks appearing on the surface whilst cleaning.

**Advice no. 3**

During the high pressure cleaning you should work so that the high pressure water does not run over the surface which has not been cleaned yet. This is to ensure that there is sufficient detergent on the surface when the high pressure water hits the surface.

## 6 Maintenance

It applies to the most exposed components that a minimum of maintenance ensures a prolonged and problem-free operation. Therefore it will be a good idea to make a habit of the following:

Prior to attaching the water hose and the high pressure hose, the quick couplings

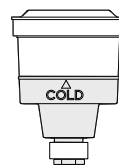
should be cleaned of dust and sand.

Prior to attaching the spray lance or other accessories to the spray handle, the machine should be started and the quick coupling cleaned of dust and sand.

### 6.1 Oil

Check the oil level in the oil glass.

If the oil level gets too low, the machine will automatically shut down.

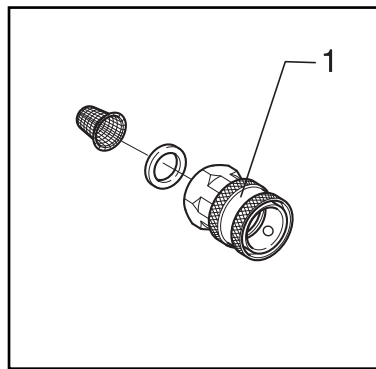


In the case of repeated low oil level (oil waste) please contact a Nilfisk-ALTO service technician.

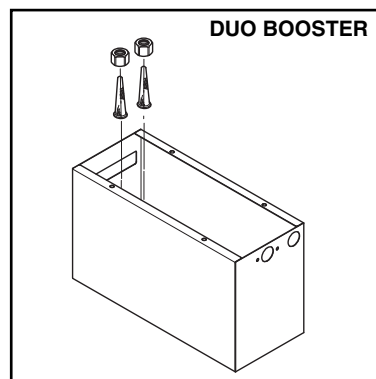
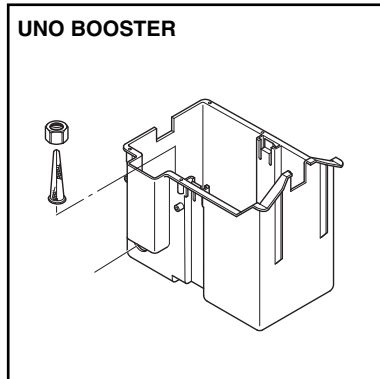
**PROTECT THE ENVIRONMENT**

Waste oil and oil sludge must be removed as laid down in the instructions.

**6.2 Water filter**



To avoid debris entering the high pressure pump, a water filter (fine) is fitted at the water inlet. Dependent on the purity of the water, this filter will have to be cleaned at regular intervals. The filter can be removed when the quick coupling (pos. 1) has been unscrewed.



The water tank also features a filter (coarse) (2 filters in DUO BOOSTER) ensuring that flakes of scale are not entering the pump. The filter should be cleaned at regular intervals. The two filters must not be interchanged, as their filtration capabilities differ.

**6.3 Cleaning of high pressure nozzle**

A clogging up in the nozzle causes a pump pressure which is too high, and a cleaning is immediately required.

1. Stop the cleaner and detach the spray lance.
2. Clean the nozzle.  
**IMPORTANT:** ONLY use the cleaning tool when the spray lance is detached.
3. Flush the spray lance backwards with water.
4. If the pressure is still too high, repeat items 1-3.

**6.4 Disposable waste**

This high pressure washer consists of parts which can affect the environment when thrown away. Parts that can pollute are as follows:

Oil, painted/zinc-coated parts, plastics/plastic-coated parts.

Therefore, it is important to follow the laws concerning

the removal of polluting and dangerous materials when replacing spare parts or disposing of high pressure washer.

It is recommended that you bring the rejected parts to waste disposal areas or recycling plants that are approved for the destruction of these types of materials.

# EN 7 Trouble Shooting

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You have chosen the best quality and therefore deserve the best service. To avoid unnecessary dis-appointments, you should check the following before contacting the nearest Nilfisk-ALTO service organisation:

Symptom	Reason	Action
<b>Machine will not start</b>	> A fuse has blown	• Change the fuse.
	> Power/plug not connected	• Connect power/plug.
	> Thermal switches in motor activated	• Let the motor cool. Start the machine and check that the working pressure is not too high and that the mains voltage corresponds to the specifications.
	> Thermal relay switched off (red lamp flashes)	
	> Oil shortage in pump	• Replenish with oil.
<b>DUO BOOSTER:</b>	> Water temperature too high (red lamp is on)	• Lower the temperature of the inlet water to max. 70°C. Bypass 80°C.
<b>Fuses blow</b>	> Installation does not correspond to the ampere consumption of the machine	• Change to an installation corresponding to the ampere consumption of the machine at a minimum. Change the fuse.
<b>Working pressure too low</b>	> Nozzle worn	• Replace the nozzle.
	> Wrong spray lance	• Replace the spray lance (see section 4.4).
	> Reduction valve of spray lance not adjusted to max. pressure.	• Turn reduction valve completely counter-clockwise (see section 4.4).
	> Nozzle partly clogged up	• Clean the nozzle (see section 6.3).
<b>Working pressure fluctuating</b>	> Water temperature too high	• Lower the temperature of the inlet water to max. 70°C. Bypass 80°C.
	> Insufficient water supply	• Dismount the cabinet and check that the water tank is not drained of water during operation of the machine. If it is, clean the water inlet filter of the machine. If that does not solve the problem, the water supply for the machine

Symptom	Reason	Action
<b>Working pressure fluctuating (continued)</b>	<ul style="list-style-type: none"> <li>&gt; High pressure hoses too long</li> <li>&gt; Wrong nozzle</li> <li>&gt; Air in the system</li> <li>&gt; Water inlet filter clogged up</li> </ul>	<p>is insufficient.  <b>NB!</b> Avoid long, thin hoses (min. 3/4").</p> <ul style="list-style-type: none"> <li>• Dismount high pressure extension hoses and retry. Extension hose max. 50 m. <b>NB!</b> Avoid long extension hoses with many couplings.</li> <li>• Replace lance.</li> <li>• Vent the system (see section 3.7).</li> <li>• Clean filter (see sect. 6.2).</li> </ul>
<b>No working pressure</b>	<ul style="list-style-type: none"> <li>&gt; Nozzle clogged up</li> <li>&gt; No inlet water</li> <li>&gt; High pressure cock of outlet point open.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean nozzle (see sect. 6.3).</li> <li>• Check that the shut off cock of the water inlet is open. Check that the water supply meets the requirements (see section 1.2).</li> <li>• Close all high pressure cocks not in use.</li> </ul>
<b>Machine starts and stops</b>	<ul style="list-style-type: none"> <li>&gt; Leaky hose/ pipeline/spray handle</li> </ul>	<ul style="list-style-type: none"> <li>• Repair leak.</li> </ul>
<b>Machine stops</b>	<ul style="list-style-type: none"> <li>&gt; Water deficiency (red lamp flashes)</li> <li>&gt; Oil shortage in pump</li> <li>&gt; Expiry of stand-by time</li> <li>&gt; Thermal switches in motor activated (red lamp flashes)</li> <li>&gt; Thermal relay switched off (red lamp flashes)</li> <li>&gt; Water temperature too high (red lamp flashes)</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the shut off cock of the water inlet is open. Check that the water supply meets the requirements (see section 1.2).</li> <li>• Check the water inlet filter.</li> <li>• Replenish with oil.</li> <li>• Restart the machine.</li> <li>• Let the motor cool. Start the machine and check that the working pressure is not too high and that the mains voltage corresponds to the specifications.</li> <li>• Lower the temperature of the inlet water to max. 70°C. Bypass 80°C.</li> </ul>



Should other malfunctions occur than those mentioned above, please contact your nearest Nilfisk-ALTO service organisation.

## EN 8 Technical Data

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Model		UNO BOOSTER EXTENDED	DUO BOOSTER 7
Pump pressure <sup>1)</sup>	bar	160	180
Water volume, min./max. pressure	l/h	1200/1120	2506/2360
Water tank, volume	litres	3	7.5
Water connection:			
Max. pressure, inlet water	bar	10	10
Min. pressure, inlet water	bar	1.0	1.5
Max. temperature, inlet water	°C	70 (80, see section 3.4)	70 (80, see section 3.4)
Spray lance:			
Nozzle type		0640	0640
Thrust, max.	N/kp	47/4.8	47/4.8
Pipeline, max. length	m	Ø12 x 1.5 - max. 50 Ø15 x 1.5 - max. 180 Ø18 x 1.5 - max. 500	Ø15 x 1.5 - max. 25 Ø18 x 1.5 - max. 120 Ø22 x 2.0 - max. 250
When using max. pipe lengths, only use a high pressure hose of 10 m.			
Oil:			
Oil type		Castrol Alphasyn 150	Castrol Alphasyn 150
Oil quantity	l	1.0	2.0

<sup>1)</sup> When using a 10 m (3/8") high pressure hose.

Sound pressure level LpA measured in accordance with ISO 11202 [DISTANCE 1m] [FULL LOAD]: 79 dB(A).

Data stated at 12°C hot inlet water.

We reserve the right to make alterations.

## 9 Warranty

Your Nilfisk-ALTO product is guaranteed for 12 months from date of purchase (purchase receipt must be presented) on the following conditions:

- that defects are attributable to flaws or defects in materials or workmanship. (Usual wear and tear as well as misuse are not covered by the guarantee).
- that repairs have not been carried out or attempted by other than Nilfisk-ALTO-trained service staff.

- that only original accessories have been applied.
- that the product has not been exposed to abuse such as knocks, bumps or frost.
- that the instructions in the manual have been carefully observed.

A warranty repair comprises the replacement of defective parts, but it does not cover freight and packaging charges. Besides we refer to national Sale of Goods Act.

Any **illegitimate** guarantee repair will be invoiced. (I.e. malfunctions due to **causes** mentioned in section “**7.0 Trouble shooting**” of the instruction manual).



<b>EU Declaration of Conformity</b>	
<b>Product:</b>	High Pressure Washer
<b>Type:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>The design of the unit corresponds to the following pertinent regulations:</b>	EC Machine Directive 2006/42/EC EC Low-voltage Directive 2006/95/EC EC EMC Directive 2004/108/EC EC RoHS Direktivet 2011/65/EC
<b>Applied harmonised standards:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Applied international standards and technical specifications:</b>	IEC 60335-2-79 (2007)
<b>Name and address of the person authorised to compile the technical file:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer:</b>	  Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Place and date of the declaration:</b>	Hadsund, 02.04.2013

<b>EG Konformitätserklärung</b>	
<b>Produkt:</b>	Hochdruckreiniger
<b>Typ:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>Das Design des Geräts entspricht den folgenden relevanten Vorschriften:</b>	EU-Maschinenrichtlinie 2006/42/EG EU-Niederspannungsrichtlinie 2006/95/EG EU-EMV-Richtlinie 2004/108/EG EU-RoHS-Richtlinie 2011/65/EU
<b>Angewendete harmonisierte Normen:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Angewendete internationale Normen und technische Spezifikationen:</b>	IEC 60335-2-79 (2007)
<b>Name und Anschrift der Person, die bevollmächtigt ist, die technische Unterlagen zusammenzustellen:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identität und Unterschrift der Person, die bevollmächtigt ist, die Erklärung im Namen des Herstellers auszustellen:</b>	  Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Ort und Datum der Erklärung:</b>	Hadsund, 02.04.2013

<b>Déclaration de fonformité CE</b>	
<b>Produit :</b>	Nettoyeur haute pression
<b>Type:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>La conception de l'unité est conforme aux réglementations pertinentes suivantes :</b>	Directive "Machines" 2006/42/EC Directive "Basse tension" 2006/95/EC Directive "Compatibilité électromagnétique" 2011/65/EC Directive RoHS 97/23/EC
<b>Normes harmonisées appliquées :</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Normes internationales appliquées et spécifications techniques :</b>	IEC 60335-2-79 (2007)
<b>Nom et adresse de la personne autorisée à compiler le fichier technique :</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identité et signature de la personne habilitée à faire la déclaration au nom du fabricant :</b>	  Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Endroit et date de la déclaration</b>	Hadsund, 02.04.2013

<b>Verklaring EG</b>	
<b>Product:</b>	Hogedrukreiniger
<b>Type:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>Het ontwerp van het apparaat voldoet aan de volgende reglementen:</b>	EG-machinerichtlijn 2006/42/EG EG-laagspanningsrichtlijn 2006/95/EG EG-EMV-richtlijn 2004/108/EG EG RoHS richtlijn 2011/65/EC
<b>Toegepaste geharmoniseerde normen:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Toegepaste internationale normen en technische specificaties:</b>	IEC 60335-2-79 (2007)
<b>Naam en adres van de persoon die is bevoegd tot het samenstellen van de technische gegevens:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identiteit en handtekening van de persoon die namens de fabrikant gerechtigd is om de verklaring op te stellen:</b>	  Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Plaats en datum van de verklaring:</b>	Hadsund, 02.04.2013



<b>Declaración</b>	
<b>Producto:</b>	Hidrolimpiadora de alta presión
<b>Tipo:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>El diseño de la máquina cumple las siguientes normativas:</b>	Directiva europea sobre máquinas 2006/42/EC Directiva europea sobre baja tensión 2006/95/EC Directiva europea sobre compatibilidad electromagnética 2004/108/EC Directiva europea RoHS 2011/65/EC
<b>Normas armonizadas aplicables:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Normas internacionales y especificaciones técnicas aplicables:</b>	IEC 60335-2-79 (2007)
<b>Nombre y dirección de la persona autorizada para elaborar el expediente técnico:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identidad y firma de la persona apoderada para redactar esta declaración en nombre del fabricante:</b>	 Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Lugar y fecha de la declaración</b>	Hadsund, 02.04.2013

<b>Dichiarazione di conformità CE</b>	
<b>Prodotto:</b>	Idropulitrice
<b>Tipo:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>Il design della macchina è in conformità alle seguenti normative pertinenti:</b>	Direttiva macchine CE 2006/42/EC Diretta CE per la bassa tensione 2006/95/EC Direttiva CE per la compatibilità elettromagnetica 2004/108/EC Direttiva CE RoHS 2011/65/EC
<b>Norme armonizzate applicate:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Norme internazionali applicate e specifiche tecniche:</b>	IEC 60335-2-79 (2007)
<b>Nome e indirizzo della persona autorizzata a compilare il file tecnico:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Identità e firma della persona autorizzata a redigere la dichiarazione per conto del costruttore:</b>	 Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Luogo e data della dichiarazione:</b>	Hadsund, 02.04.2013

<b>Декларация соответствия требованиям (ЕС)</b>	
<b>Продукт:</b>	Моечная машина высокого давления
<b>Тип:</b>	<b>UNO BOOSTER / DUO BOOSTER</b>
<b>Конструкция устройства соответствует следующим техническим нормам:</b>	ЕС машина Директивы 2006/42/EC ЕС Низковольтная Директива 2006/95/EC ЕС ЭМС директивой 2004/108/EC ЕС директива RoHS 2011/65/EC
<b>Применяемые согласованные стандарты:</b>	EN ISO 12100:2010, EN 1717 (2000), EN 60335-2-79 (2006), EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006), EN 61000-3-3 (2005), EN 61000-3-11 (2000)
<b>Прикладная международными стандартами и техническими характеристиками:</b>	IEC 60335-2-79 (2007)
<b>ФИО и адрес лица, уполномоченного на составление технической информации:</b>	Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Личность и подпись лица, правомочного оформлять декларацию от имени изготовителя:</b>	 Anton Sørensen General Manager, Technical Operations EAPC  Nilfisk-Advance A/S Sognevej 25 DK-2605 Brøndby
<b>Место и дата декларации:</b>	Hadsund, 02.04.2013







# Nilfisk ALTO

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