



# **MANUAL**

**HDE 200/15SP**

**Electric-powered high-pressure cleaner for  
industry**

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**Description of the symbols**

The following symbols are used in this manual to mark important paragraphs or sections that require special attention. Their meaning is next to them for information.

	<b>Warning:</b> Failure to follow instructions may result in serious injury or even death		<b>Warning:</b> Failure to follow the instructions may result in damage to the device		<b>Tips and tricks</b> Ensure safe and proper operation
	<b>Personal protective equipment (PPE)</b> Eye protection recommended		<b>Personal protective equipment (PPE)</b> Ear protection recommended		<b>Personal protective equipment (PPE)</b> Safety shoes recommended
	<b>Manometer</b>		<b>Visual check/verify</b>		<b>ON/OFF</b>
	<b>Oil indicator</b>		<b>Person with sound expert knowledge of VRSPLUS high-pressure cleaning systems.</b>		

The following symbols are used on the device to warn the user of possible injury if care is not taken. Their meaning is beside them for information.

	<b>CAUTION</b> Risk of electric shock. Turn off the power before opening the electrical cabinet.
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	<b><u>IMPORTANT SAFETY INSTRUCTIONS AND PRECAUTIONS</u></b> <b>CAUTION:</b> This pressure washer should only be used by persons instructed in its use and authorised to do so. Before using this pressure washer, please pay particular attention to the following safety warnings, as failure to heed them may result in serious injury or even death.
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## 1. User manual HDE

This manual is addressed to the user and (or) owner of the machine and provides instructions for correct use and maintenance. The machine is intended to be used in industry where the manual should always be within reach.

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### Repair parts

When repairing the machine, only VRSPLUS original parts are applicable to ensure the warranty, function and optimal operation of the machine.

Pipes or accessories should be of high quality and approved by VRS+ B.V. if necessary.

### Warranty

- The manufacturer provides a 12-month warranty against manufacturing defects.
- The warranty is applied in the country where the machine is delivered.
- During the warranty period, defective parts will be exchanged free of charge.
- Wear parts due to use of the machine are not covered by manufacturing defects.

**Attention!** Warranty expires at:

- Failure to comply correctly with the manual and maintenance instructions.
- Modification or repair of the machine by workmen without proper professional knowledge.
- Incorrect installation of the water or electricity grid.



### Location machine

- Location + working temperature: 0°C – 55°C
- Humidity: 5% - 90%



### Machine serial number:

A CE conformity certificate is supplied with every VRSPLUS machine. Check that the CE certificate is included. The machine has a clearly visible CE label with serial number that appears on both the machine and the CE attestation. If the machine is defective, the serial number should be passed on to the supplier to obtain the correct corrective actions and repair parts.



### Technical documentation - HDE200/21SP



Working pressure (bar):	Adjustable 30 - 200 bar
Water capacity (l/min):	15 l/min - 900 l/h
Motor:	Industrial electric motor 7,5 kW – low speed 1450 TR./min
High-pressure pump:	Hawk NMT2120RN. 1450 TR./min. Max. 200 bar at 15 l/min. Crankshaft-driven high-pressure pump with ceramic plungers. Nickel-plated pump head.
Frame:	Thick-walled stainless steel 304 frame with glass bead treatment. Brushed stainless steel 304 protective cover.
Operation:	Simple switch control.
Security:	Automatic start-stop function: device switches off after a few seconds when closing the gun. Overvoltage protection. Electrical control at low safety voltage 24 volts.
Accessories:	10-metre high-pressure hose 2SN-DN10 high-pressure hose. High-pressure gun with swivel coupling and ½" quick coupling. Stainless steel lance 1000mm with cast insulator, stainless steel nozzle holder and nozzle.

## 2. Safety regulations



### Personal protection

- Personal protective equipment (PPE) must be worn when operating this device, including footwear, clothing, goggles and any other necessary equipment as per regulations and requirements.



- Always wear suitable hearing protection if the noise level indicated in the technical data of this device exceeds 80dB (A).



- When operating the unit, be alert and hold the gun and lance firmly with both hands.
- When operating the gun, the user is subject to very strong recoil forces and torsion.

### Water supply



- Use clean water to connect the machine, otherwise it may cause damage to the pump.
- The connected water hose should be the same size or larger than the coupling of the pump to which the water is to be connected.
- Always start the engine with water in the pump (water must be connected). The last should never run dry.
- If there is a long pause or period of non-use, drain the water from the machine (switch off the engine, shut off the water and press the gun lance so that the water pressure drops).



### Never use the high-pressure cleaner:

- To purge persons or animals.
- To purge parts that may be under electrical tension.
- Under no circumstances use flammable liquids, undiluted acids or solvents as chemicals, as the spray produced would be highly flammable.

### Connection to the electric grid

- Safety regulations must be taken into account when connecting the machine to the mains. The socket must be earthed and fused according to the regulations and rules applicable in the country of use.
- When using with extension cable, limit the length to reduce drive power loss and heating of the motor (see figure opposite).

LENGTH	
0-10m	
<15A	2.5mm <sup>2</sup>
<25A	4.0mm <sup>2</sup>

- Loose extension cables and power cables pose a potential tripping hazard.
- Take safety measures such as placing traffic cones along the cable or tape the cable to the floor.

#### Protection of components



- When you have finished work, switch off and disconnect the power supply, release the pressure in the hose and lock the gun trigger.
- Never leave the unit unattended while it is in operation.
- Never use a nozzle size other than specified in the technical data. Using a nozzle of the wrong size may damage the unit.
- Keep flammable materials away from the unit and do not place anything on it while it is in operation.

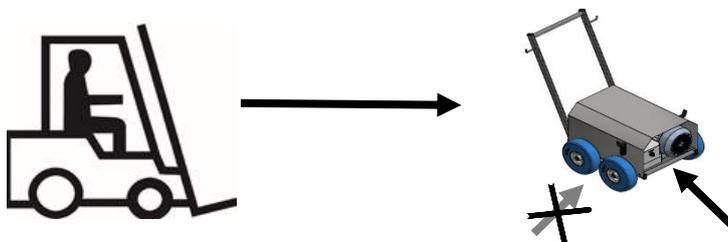
#### Standard components

1. High-pressure hose
2. Automatic pistol with lance and nozzle
3. Electric cable



#### Transport

- To safely move the unit between working areas, make sure it is switched off.
- Let it cool down if necessary. Vent any trapped pressure according to instructions and check that all safety locks are engaged.
- The safest way to lift the unit is by forklift. Do NOT lift the unit from the side. (See figure below)
- For safe transport in and on vehicles, ensure that the unit is properly secured so that it does not shift or fall.



### 3. Installation and use

**Important:** when the appliance has not been used for a while, start the appliance without the high-pressure hose connected so that the water in the machine is removed.



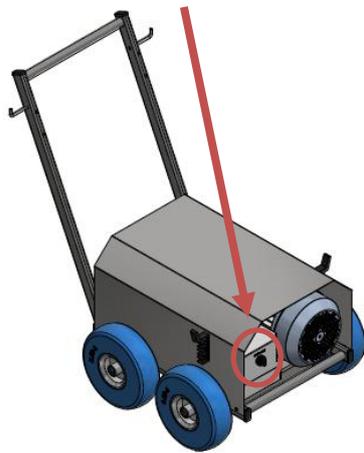
#### Start up



1. Always wear appropriate personal protective equipment (PPE).



2. Place the machine on a level surface.
3. Connect the machine to the water pipe (3/4), max 7-10m, resistant to 10 bar.
4. Repair leaks from hose or fittings if any.
5. Fit the high-pressure hose + lance to the machine.
6. Plug in the machine.
7. Open the water supply to the machine.
8. Turn the dial on the electrical cabinet to the right. The machine will start.



#### Checking the machine during operation

- Check the pressure gauge to see if the working pressure matches the given working pressure from the datasheet.
- Check that there are no water leaks.
- Check the pump for leaks.
- Check that the stop button is functioning properly.
- Listen that the motor does not make any abnormal noises.



#### Checks during operation

We (VRS+) recommend always working with 2 people so that they can both perform any emergency stop in case of problems or accident.

Work consciously. Watch for any leaks from guns or hoses.

**Stopping**

1. Switch off the appliance by turning the dial to the left.
2. Shut off the water.
3. Depress the gun to release the remaining pressure.
4. Remove the plug from the socket.

#### 4. Maintenance instructions HDE



**Important:** when servicing the machine, first ensure that the engine is completely off, the water supply is shut off and there is no water pressure on the unit by squeezing the gun.



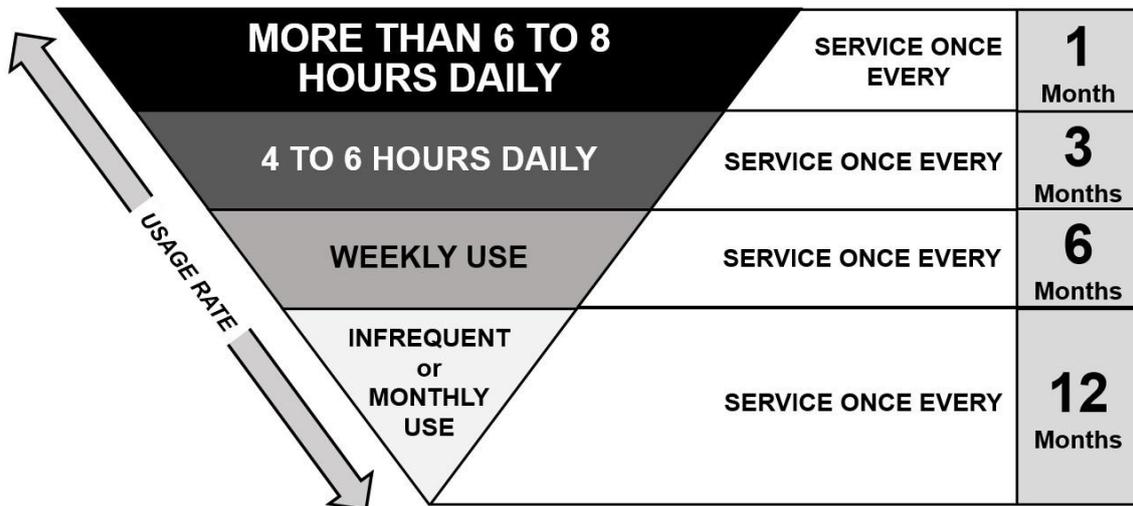
**The pump:** the pump is a 3 piston pump with ceramic plungers.



If the pump leaks or the unit no longer makes the desired pressure, the water seals should be replaced.

If the pump were to leak oil, the oil should be removed and the oil seals replaced.

Repairs should be carried out by a person with a sound expert knowledge of VRSPPLUS high-pressure cleaning systems.



**Service interval in medium and intensive use**

Check	Daily	Weekly	50 hours or 6 months	500 hours or 1 year	1000 hours	1500 hours
Make sure all covers and screens are in place	X					
Check power cable for damage	X					
Filter cleaning	X					
Check oil level	X					
Oil or water leaks	X					
1st oil change			X			
Oil replacement				X		
Replacing seals and valves (*)					X	
Pressure regulator replacement						X

(\*) Replacement of seals and valves depend on use and water quality. Impurities in the water cause greater wear on pistons, seals and valves.

**The pump oil**

To access the pump, the stainless steel cover needs to be removed.

- Check, fill or renew the oil in the pump if necessary (10w40).
- Renew the oil the first time after 50 hours, after this every 500 hours or 6 months.

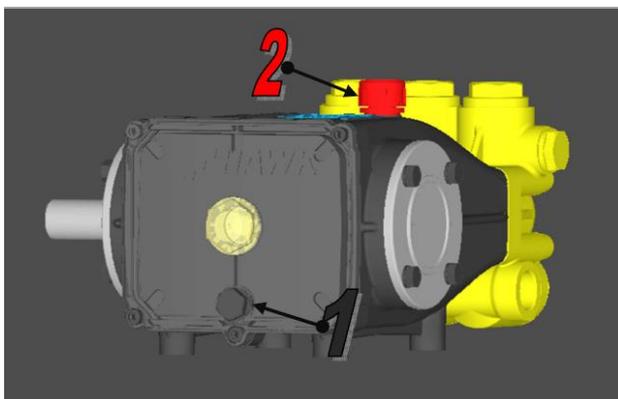


**Level check**

- Place the machine on a flat surface and in cold condition.
- The oil sight glass is located at the back of the pump.
- The level should be in the centre of the sight glass.



If too low, top up by opening 2 and refilling. It is then recommended to change the oil completely (see next paragraph).



**Oil change**

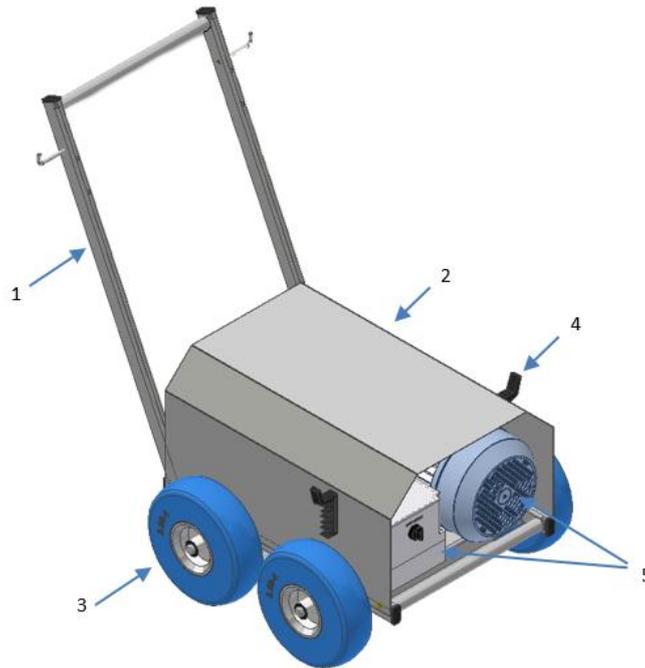
- Provide a container to collect the oil.
- Place it under the pump and remove plug 1.
- Place plug 1 back into the pump.
- Remove dipstick (2) and add oil up to half the level glass (see rear of pump).
- Tighten dipstick (2) again.

**Accessories**

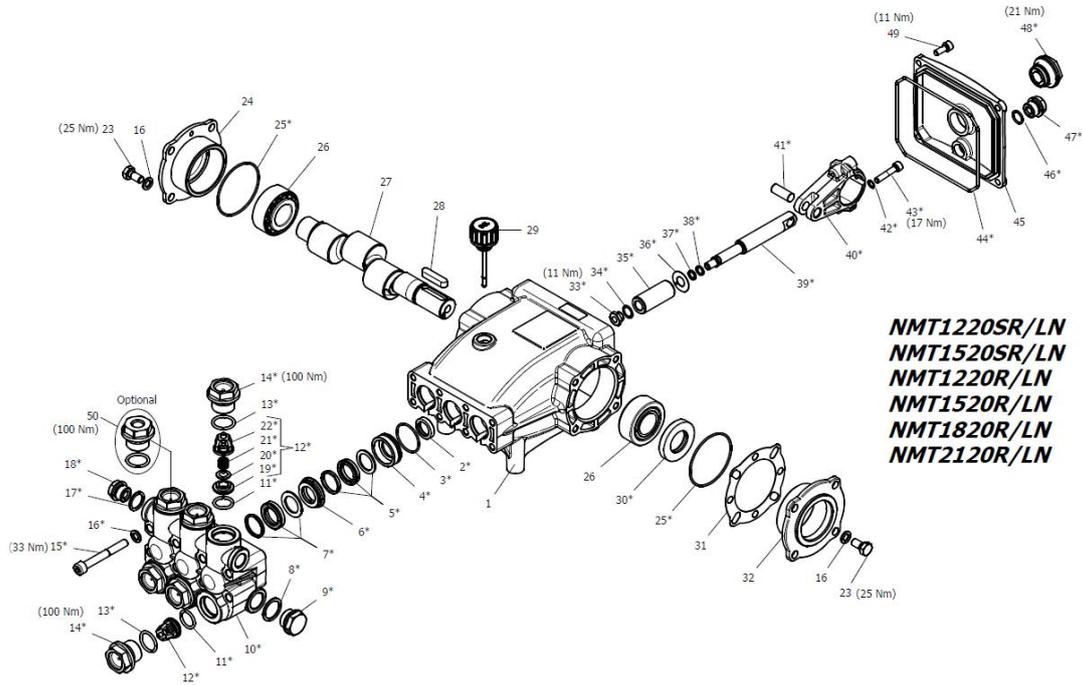
- High-pressure hose and gun: should be replaced if leaking or faulty, this can cause the machine to turn on and off repeatedly.
- Nozzle: should be kept clean, if clogged the machine will not work. May also wear out over time, if this is the case, the nozzle should be replaced.
- Power cable: check the condition of the cable during maintenance.



## 5. Machine parts list: pump, motor with electrical diagram and accessories

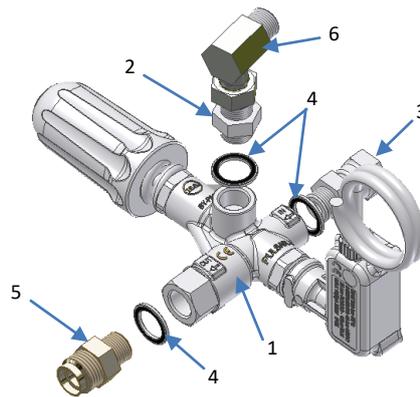


	Art. nr.	Description
1	VRS20021FR	Frame HDE 200/21
2	VRS20021K	Cover HDE 200/21
3	VRS203	Poly. wheel 260 mm roller bearing blue
4	020000970	lance holder GFK
5	PG200/15SP	Pump group 200/15SP



**NMT1220SR/LN**  
**NMT1520SR/LN**  
**NMT1220R/LN**  
**NMT1520R/LN**  
**NMT1820R/LN**  
**NMT2120R/LN**

	Art. nr.	Description
3-5-7	1.099-747.0	Gasket set dia. 20mm
11-12-13(19-20-21-22)	1.905-543.0	Valve set
3-4-5-6-7	1.905-578.0	Gasket set with brass bushings
33-34-35-36-37-38	1.099-749.0	Piston dia. 20 mm (3 needed per pump)
2	1.099-751.0	Oil sealing set



	Art. nr.	Description
1	1.099-506.0	Pressure regulator with contact
2	57078	Double nipple 3/8"
3	58204	Swivel AG/IG 3/8 Steel
4	788838	Seal washer 3/8"
5	200241730	Nipple 1/2" met O-ring – 3/8" external thread
6	MF9006K	Knee coupling out/in 3/8

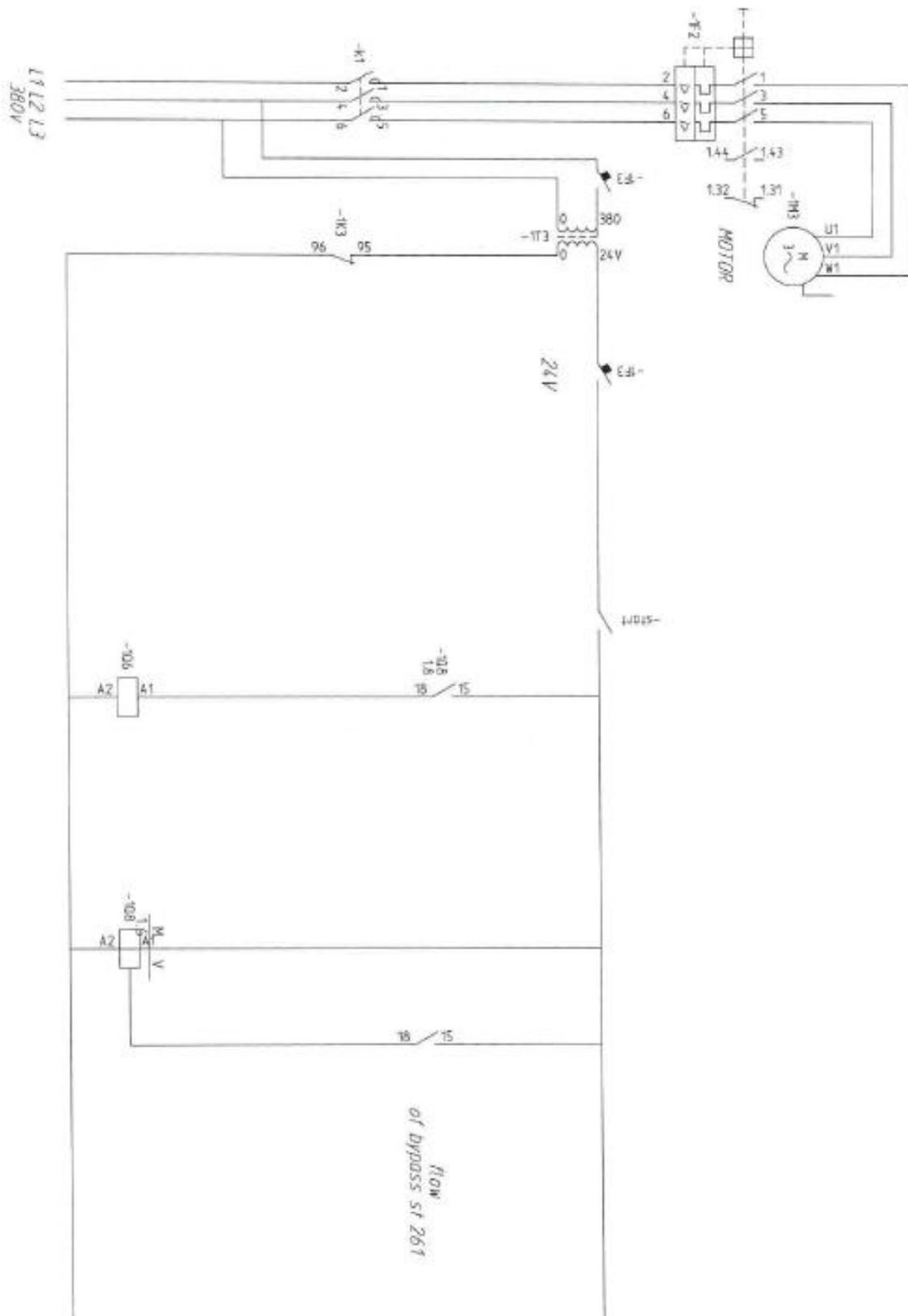


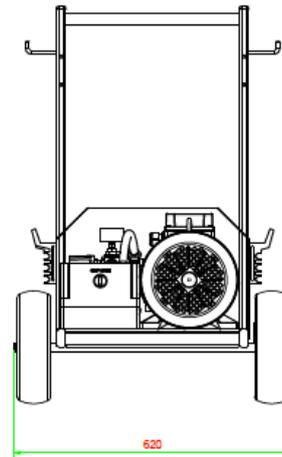
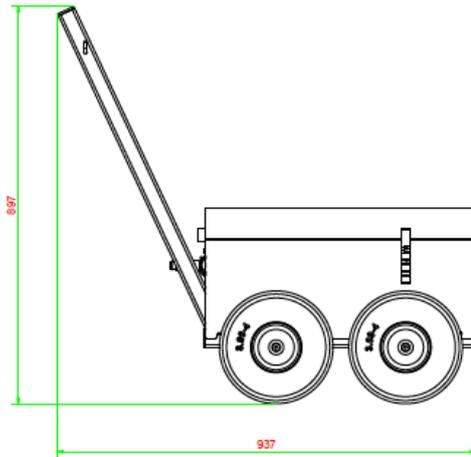
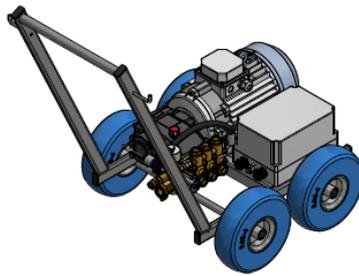
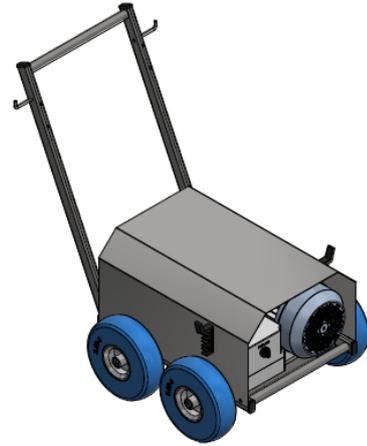
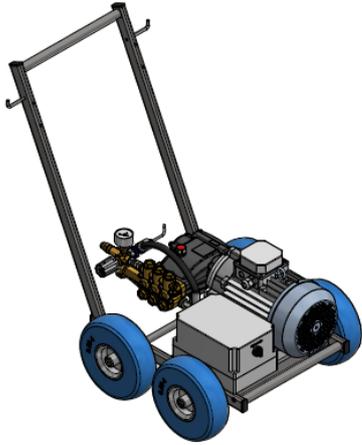
	Art. nr.	Description
1	72330	GK coupling 3/4 "AG Brass
2	0410708	Filter dirt trap brass 3/4" female thread 20bar 500micron
3	0710356	Reduction nipple 3/4"-1/2" brass
4	VRS062	Suction GK, filter, nipple



	Art. nr.	Description
1	200010710	Nozzle holder stainless steel 1/4"
2	070010009	Lance 1000 mm stainless steel
3	200241500	coupling ST-241 swivel 1/4 Bi
4	200241700	coupling ST-241 nipple 1/4 Bi
5	57078	Double nipple 1/4"
6	202300550	Gun ST-2300 Swivel
7	200241520	coupling ST-241 swivel 3/8 Bi
8	VRS021	Lance complete 1000mm stainless steel excluding nozzle
9	VRS001	High-pressure gun with swivel joint 3/8: Nipple
10	VRS012.10	High-pressure hose 2SN-DN10 with coupling 10m black







## 6. Malfunctions and defects



In case of malfunction or failure, please follow the guidelines below or contact your authorised VRSPPLUS dealer if the problem persists.

Problem	Cause	Solution
Pump: pressure high Lance: pressure low	Nozzle blocked in the lance	Removing and cleaning the nozzle
	Pressure control valve blocked	Removing and cleaning the pressure control valve
No pressure rise	Pump pulls air from circuit	Start the pump and gun
	Pump valves jammed	Replace or clean the pump valves
	Lance nozzle is worn out	Replace the nozzle
	Gun seals are worn	Replace the seals
	Filter blocked suction circuit	Replace or clean the filter
	Pressure regulator	Replace or clean
Fluctuating pressure	Pump is drawing air from the circuit	Check water supply/connections
	Nozzle in lance clogged	Remove and clean the nozzle
	Water filter dirty	Check and clean the filter
Pump is running but no water comes out of the lance	No water	Check float and water tank
	Air in the circuit	Draining air
	Nozzle in the lance blocked	Remove and clean the nozzle
	Dirt in the valve of the pump	Remove the screw from the pump, clean the tap
Pressure too low	Draws air through the water pipe	Check water circuit
	Lance nozzle worn out	Replace the nozzle
	Seals pistons pump	Check, replace if defective
Noise	Draws air through water pipe	Check water supply
	Valves with dirt between or worn out	Check, clean and replace if worn
	Bearings worn	Replace bearings or entire pump
Vibrations in hose or gun	Dirt in pump valves	Check, clean and replace if defective
	Draws air on suction side of pump	Find the leak and repair it
Oil in the water	Oil seals broken	Replace the oil seals + water seals
Water loss from pump head	Seals in pump head broken	Replace the seals
	Defective O-rings in pump	Replace the O-rings
Oil loss from pump	Broken seals	Replace the seals
Machine will not start	Fuses broken	Check the fuses
	Thermal protection switched on	Reset inside the electrical cabinet
Motor does not start	Electrical plug not properly connected	Check the plug or socket
The machine is active but does not start	Loss in the electrical network	Check mains
	Pump blocked due to poor lubrication or frost	Check oil and run pump manually
Motor suddenly stops	Thermal protection switched on	Check mains
	<b>For more information about your SOLID+ industrial pressure washer, call: +32 (0)11 49.46.90, email: <a href="mailto:info@vrsplus.com">info@vrsplus.com</a> or visit our website: <a href="http://www.vrsplus.com">www.vrsplus.com</a></b>	