

OWNER'S MANUAL SPARE PARTS & MAINTENANCE ACCESSORIES



**HIGH PRESSURE
WATER BLASTER
500 BAR**

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General Conditions

Introduction:

Ertek Chemical Products and Services thanks you for selecting its products. This machine has been designed and constructed to ensure maximum performance, comfort and operating facility in wide range of conditions and jobs. This manual is a guide for the proper use of the machine and it also contains useful information about the function and maintenance of the machine. To guarantee a faultless condition, this product has been precisely checked by our technical department and by our distributors. To maintain the machine in perfect condition, it is important that the periodical maintenance procedure is performed. Please read this manual prior of operating the machine especially as far as the safety precautions are concerned. In case more information is needed please contact us or your local distributor.

Spare Parts:

For the safety of the operator and the machine, you should only use original spare parts and accessories. By ordering of parts and or accessories, please always indicate the Serial Number and the exact model type.

Delivery and Guarantee Conditions:

This machine has been dispatched in perfect condition and fully tested. Observed external damages should be notified in written within one (1) week.

Guarantee:

This machine is covered by 1 year guarantee for quality. This guarantee includes and is limited to our choice, either the repair or the replacement of any defected part. Please send us the defected part free of freight charges. This guarantee does not cover abrasion parts or damage caused by improper or careless use of the equipment. Repairs should be exclusively done by authorized technicians.

Technical Data Hyperjet 500

Nominal voltage	380V/440V 3ph 32A
Nominal frequency	50HZ/60HZ
Nominal power consumption	15 KW / 20 HP
Protection type	CLASS F / IP 55
Type of pump	UDOR
Type of pump oil	15W40
Pump oil quantity	1 ltr
Max volume flow	15 lt/min @ 380 V/50 HZ
Max volume flow	18 lt/min @ 440 V/60 HZ
Adm. working pressure	500 bar
Nozzle size	030 @ 380 V/50 HZ
Nozzle size	035 @ 440 V/60 HZ
Noise level	72 Db(A)
Max operating pressure	520 bar
Max water intake temperature	40°
Weight in kg	164 kg
Dimensions LXWXH	92x58x80 cm



Important Safety Instructions:

! Please read carefully this chapter before starting the high pressure water cleaning machine.

This machine is a high pressure water jetting machine which produces a water jet under high pressure and can cause severe injuries. Complete understanding of this manual is absolutely necessary to prevent injuries and damages to objects and or the equipment. This manual includes basic information that has to be respected at all times concerning the installation, start up, operation and maintenance of the machine. It has to be therefore read carefully by the operator and should always be on site.

• Training of personnel

The personnel responsible for the operation and maintenance should have the corresponding qualification for this job. The areas of responsibility, competence and supervision of the personnel should have to be exactly defined by the operator in charge. If the personnel do not possess the required knowledge, they have to be trained and instructed. Furthermore, the operator supervisor has to guarantee that the personnel have completely understood the contents of this manual.

• Safety conscious work

The safety instructions mentioned in this manual, the existing national regulations concerning the prevention of accidents as well as the company internal regulations governing the working environment have to be applied.

You are obliged to have your machine checked by an approved specialist with respect to the safe operation at least every 12 months. The result of the inspection has to be recorded in written form.

• Location of equipment

HYPERJET 500 water jetting unit is designed to be placed and operated under normal environmental conditions according to DIN 500100-1 and DIN 50014.

When you transport the high pressure cleaner on vehicles or trucks please fasten it on a suitable transport pallet.

Before operating please check that installation is proper.

- Do not operate Jet 500-e in places with explosion or fire danger.
- Secure that installation is horizontal and steady.
- Secure against scrolling.
- Check oil level.

• Intended use

High Pressure equipment and their components are specially designed for professional use under hard situation. By using them, a variety of cleaning problems may be solved with environmentally friendly method. Always use this equipment with clean water & original spare parts.

• Using and Descriptions

The HYPERJET 500 is a covered portable high pressure water jetting machine.

The working pressure is procreated by a triplex pump with 3 ceramic plungers.

On the high pressure side of the pump there is a pressure regulation valve that switches on by pass when the pistol closes, the water gets back to the high pressure pump without pressure, till the engine run and the pump is unloaded.

When you interrupt working or you have breaks more than 20 minutes, you should switch off the high pressure cleaner.

• Tips for working with a high pressure cleaner

The choice of the working pressure depends on the cleaning job.

The working pressure depends on the size of the spraying nozzle and the adjustment of the pressure regulation valve, the working pressure is limited on top by the pressure regulation valve.

A rotating nozzle (optional) has the highest mechanical effect.

As standard equipment the machine is supplied with a 15° nozzle.

• Flexible High Pressure Hoses

Use only high pressure hoses duly certified and treat them as high pressure vessel under pressure.

- Never exceed maximum allowed water temperature.
- Use hoses up to their maximum allowed working pressure.
- Never use damaged or worn out hoses.
- Always use high pressure connections suitable to operate on or above maximum pressure provided by the equipment.
- Locate the high pressure connection in such a way to prevent danger in case of leakage, breaks or false coupling.

• Warning

- Never aim the water jet at people, animals, and electrical installations or directly at the high pressure cleaner.,
- Never try to clean clothes or shoes that you or other persons are wearing.
- Always wear protective clothing all over.
- Persons that are in the immediate proximity of the cleaning area, have to protect themselves against spurting particles.
- Never suck up solvent liquids such as thinners, petrol or oil as the resulting spray is highly inflammable, explosive and toxic.
- Vehicle tires and tire valves must be cleaned only with a flat jet nozzle and a minimum spray distance of at least 30 cm.
- According to the law in force, persons under 18 years of age are not allowed to operate such kind of equipment with an operating pressure exceeding 1000 psi.



Increased hazard caused by short spray equipment (less than 750 mm from the handle to the nozzle)! Never direct the jet against parts of the body! Protect yourself from any particles splashing back against you!

Water Quality Requirements

The environment temperature when the high pressure cleaner operates should be min +2° C and max + 40° C.

Notes on the requirements for the water used.

The STANDARD pumps work with clean, soft water, at a maximum temperature of 40°C, and, only for short periods, up to 60°C.

The water must be free of abrasive materials, undissolved gases and air bubbles. Max. 5 mg/l filterable materials.

The filter sizes used are defined and must be adhered to:

Working pressure up to 1000 bar: max 50 µm

Working pressure from 1000 bar: max 5 µm

The conductivity at 20° C must be below 2000 µs/cm.



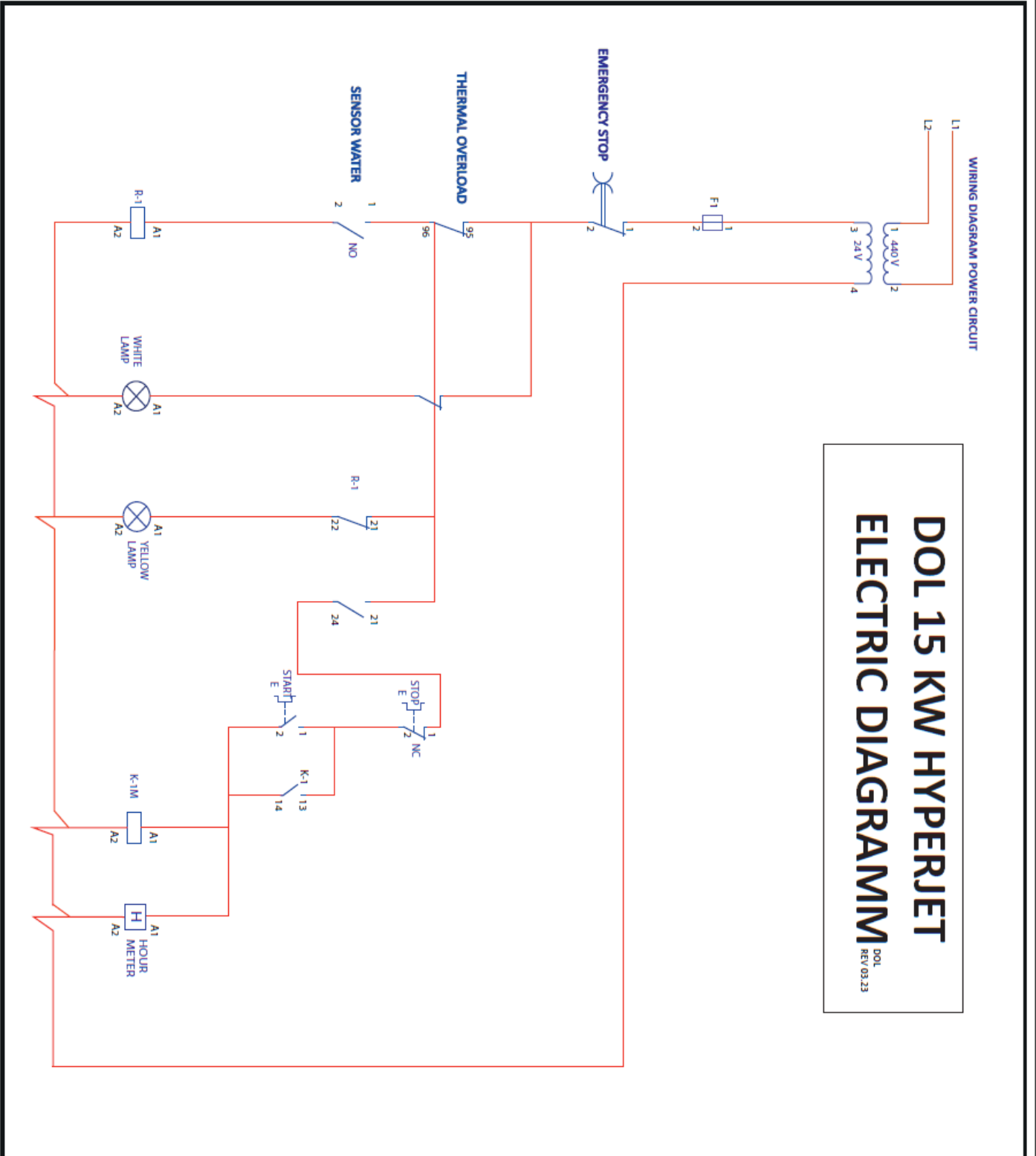
Machine Description



- 1. High pressure gun with lance
- 2. Electric motor
- 3. Pump oil filler
- 4. Unloader valve
- 5. Hp pump
- 6. Pump oil indicator
- 7. Wheels
- 8. SST Frame
- 9. SST top cover
- 10. Electrical box
- 11. Safety valve
- 12. Manometer
- 13. Thermostatic valve



Electric Diagram





Description and function of the security installations

• Pressure regulating valve

The high pressure valve limits the operation pressure. The desirable operation pressure can be adjusted step less with the high pressure regulation valve. When the maximum operation pressure is exceeded or the pistol is closed, the pressure regulation valve administrates the water over a bypass connector back to the high pressure pump. Remove leakages in the pressure system or on the spraying system immediately. Leakages behave to a continuously intercede from the engine and the pressure regulator, as a consequence the high pressure can be damaged.

• Water supply protection

In case of water supply from a tap, the pump is protected against insufficient water flow. In such a case, the motor switches off automatically to protect the pump and the yellow warning LED turns on.

• By pass Valve and Safety Valve

The by-pass valve and the safety valve limit the maximum operating pressure. If the maximum operating pressure is exceeded due to closing of the gun the pressure regulator receives a switching surge and the valve channels the water through its bypass line depressurized back to the high pressure. In case of excessive pressure more than the permissible limit for any other reason, the safety valve is activated and allows to leak through it, thus reducing the pressure.

• Protection against freezing

Freeze can destroy equipment which has not been emptied completely of water. The best protection against freeze is to place the device in a room protected against frost.

• Storage for long time without use

If you need to store the machine for long time without use always fill the pump with antifreeze fluid. It serves as pump conditioner and prolongs life of the machine.

• Safety Instructions during operation

Incorrect use of the high pressure machine can cause severe injuries. For your own safety and the safety of other people, the following rules should be adhered to:

- Never aim the water jet at electronic installations or directly at the machine.
- Switch off the machine before cleaning or servicing.
- Do not operate the machine in areas subject to danger of explosions.
- Do not cover the machine during operation.
- When working the machine with pressure of more than 3500 psi/240 bar, the operator should always wear medium protection clothes.



Operating Instructions

- Place the high pressure cleaner on a plain and secure it against rolling.
- Check the oil level of the high pressure pump. If it is too low, refill oil like specifications on the data sheet.
- Maximum oil level from the high pressure pump is on the top mark of the oil dip stick or in the middle of the window.
- Do not overfill the pump with oil (Damage of the gear box gaskets of the high pressure pumps).

Water connections

- Connect the water intake hose on the high pressure cleaner.
- Water intake pressure should have pressure min 2.5 bar and max 4.0 bar.
- Always secure that the water flow intake is constant and undisturbed.

Connection of high pressure hose

- Screw one end from the high pressure hose on the pressure exit nipple from the machine.
- The other end is to be tightened to the spraying pistol.

Electrical connection

The voltage shown on the motor plate should correspond to the source. The current lead must be fused with 32 A. No higher fuse is allowed.

1. 380 V/50 Hz/3 ph - max 32A
2. 440 V/60 Hz/3 ph - max 32A

- **Danger - Caution**



In case you stop work for more than 10 minutes, pump must be stopped.

When pistol is closed, machine is running in circulation mode. If in this working condition the water temperature exceeds 55°C a thermo valve opens, releases small amounts of hot water and same amount of cold water enters.



Operation

The electrical system is equipped with DOL starter.

- Insert the 4-pole plug, 32A into the appropriate socket.
- Connect the water supply and the pressure hoses without the nozzle.
- Open tab to fill the machine with water.
- Push the green button and the machine will start.
- Pull spray gun trigger. The pump at first empties the device from air. After a while, water comes out of the spray gun. Hold firmly the pistol until a steady jet of water is ejected.
- Close the gun and switch off device.
- Screw the lance with nozzle into the spray gun.
- The device is now ready for operation at 500 bar.

Adjusting the operating pressure

- Adjust the operating pressure, according to the job which is to be performed, by using the unloader valve.
- Please use a wrench and by turning the knob clockwise, pressure raises, anticlockwise pressure decreases.

Stopping

- Close hand gun.
- Push the red button (Stop).
- Open gun to allow remaining pressure to escape.
- Close water tap.
- Close gun and secure trigger
- Remove plug from socket.
- Store the machine in a safe and dry area. Store hoses without hanging.

Maintenance Plan for all Electric version models

Your Jet-500E high pressure cleaner is extremely easy to maintain, a fact that helps you to increase the efficiency of your work considerably. In order to guarantee a long and trouble-free service life, however, the machine requires a minimum amount of care and maintenance.

During daily use please respect the following:

- Free the water supply and the high pressure hoses and in particular their couplings from dirt before assembly.
- Clean lance and gun, in particular their connections before assembly.

In order to protect against wear the components of the unit to particularly heavy duty, specified maintenance and inspection works have to be carried out in certain time intervals.

Maintenance works must be carried out only with stopped motor and pressure-free hoses.

Danger of injury due to rotating parts!



Daily inspection – Testing

For the safety of the machine and operator please check following points:

- Oil level at the pump
- Visual inspection of the machine and its equipment/accessories (hoses, gun, lance, fittings, electrical components, other equipment).
- Inspection for proper air ventilation from the back of the motor.
- High pressure pump
- Pressure manometer - gauge
- High pressure hoses
- High pressure pistol
- Pressure regulator
- Electric current cable
- Function of main switch.
- Water filter, check and replace if necessary.

Weekly inspection – Testing

- First oil change of high pressure pump after 50 working hours, then every 200 working hours.
- Checking of oil level of high pressure pump.
- Checking of oil quality.
- Replacing of water filter.
- Check electrical board screws and tight in case of loose screws.

6 Month inspection

- Change of pump oil every 6 months or every 200 working hours (whichever comes first).

12 Month inspection

- This yearly inspection including change of parts has to be carried by authorized technicians.

Replacing Of Water Filter

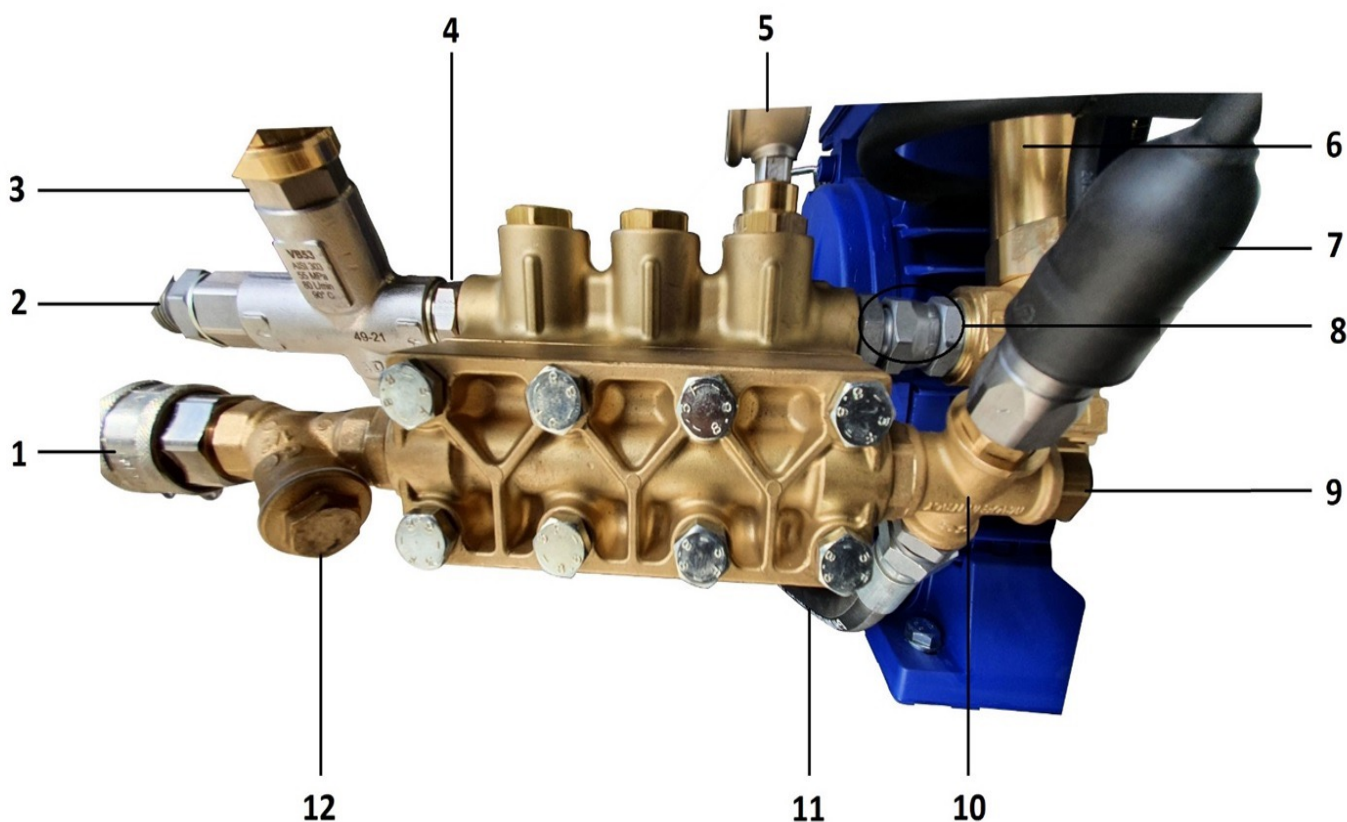
- Unscrew the brass cover of the filter housing.
- Clean the dirty mesh filter or replace if damaged.
- Place it back and screw the cover.

Time interval for filter cleaning depends on water supply quality. In case of existence of particles or soil, the cleaning should be done more frequently – even daily.



Spare Parts

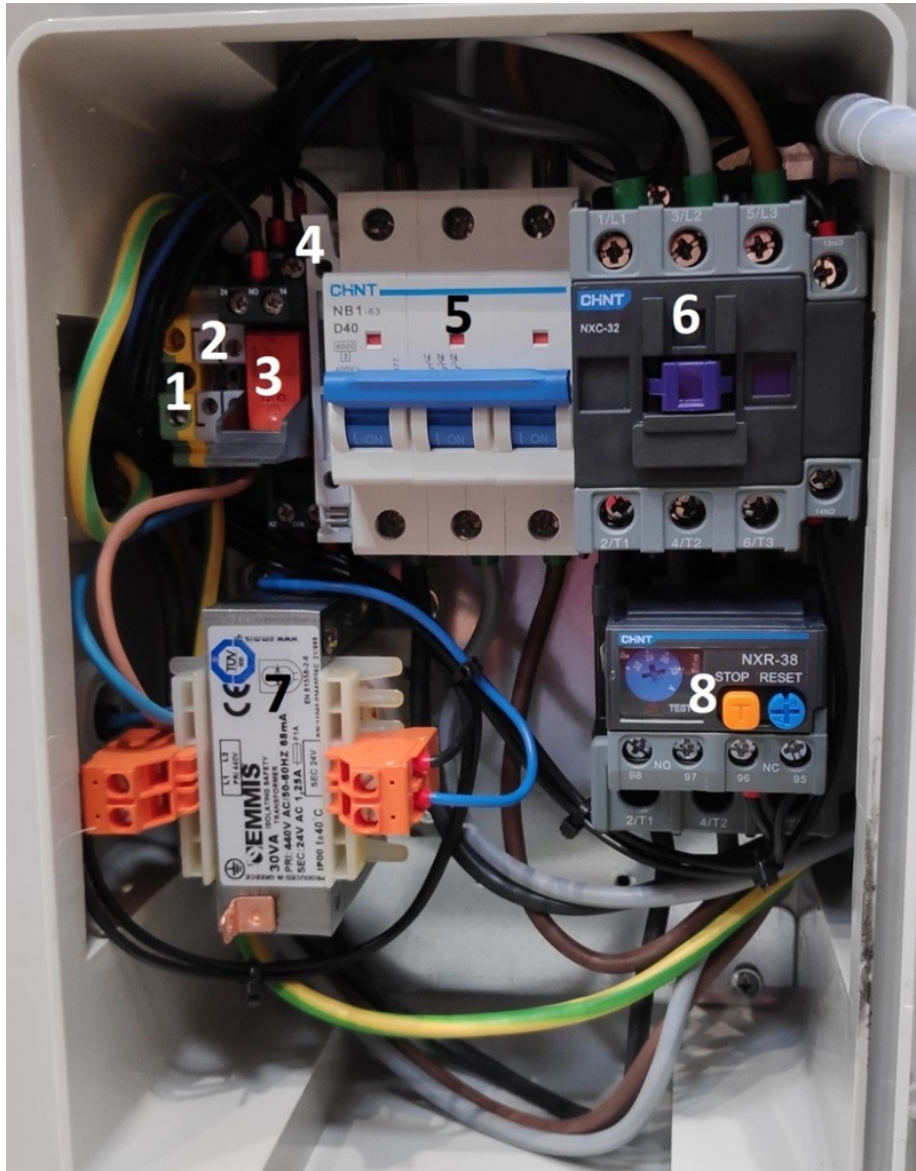
500bar HP assembly



ITEM CODE	Pos.	DESCRIPTION
PAI0000140	1	Water inlet
PAI0000141	1a	Hose barb (Not shown)
TIEF000026	2	Hp nipple
PAI0000252	3	Unloader valve (see drawing page 19)
TIEF000027	4	Hp nipple for UV
ITAL000001	5	Manometer
PAI0000272	6	Safety valve (see drawing page 18)
VL00000580	7	Pressure switch 24V
UNIJ000109	8	Hp set 500 Bar
TECO000007	9	Thermostatic valve
KOTS000089	10	Lp cross 1/2"
UNIJ000065	11	By pass hose 1/2" to VB
KOTS000013	12	Y filter strainer



Electrical Board



ITEM CODE	Pos.	DESCRIPTION
TOP0000086	1	Earth terminal block 6mm
TOP0000091	2	Terminal block 4mm
TOP0000031 TOP0000040	3	Microrelay And base
TOP0000097	4	Fuse terminal
ELME000016	5	D40 circuit breaker
ELME000013	6	Relay NXC 32
EMMI000001	7	Transformer
ELME000007	8	Thermal relay NXR 38



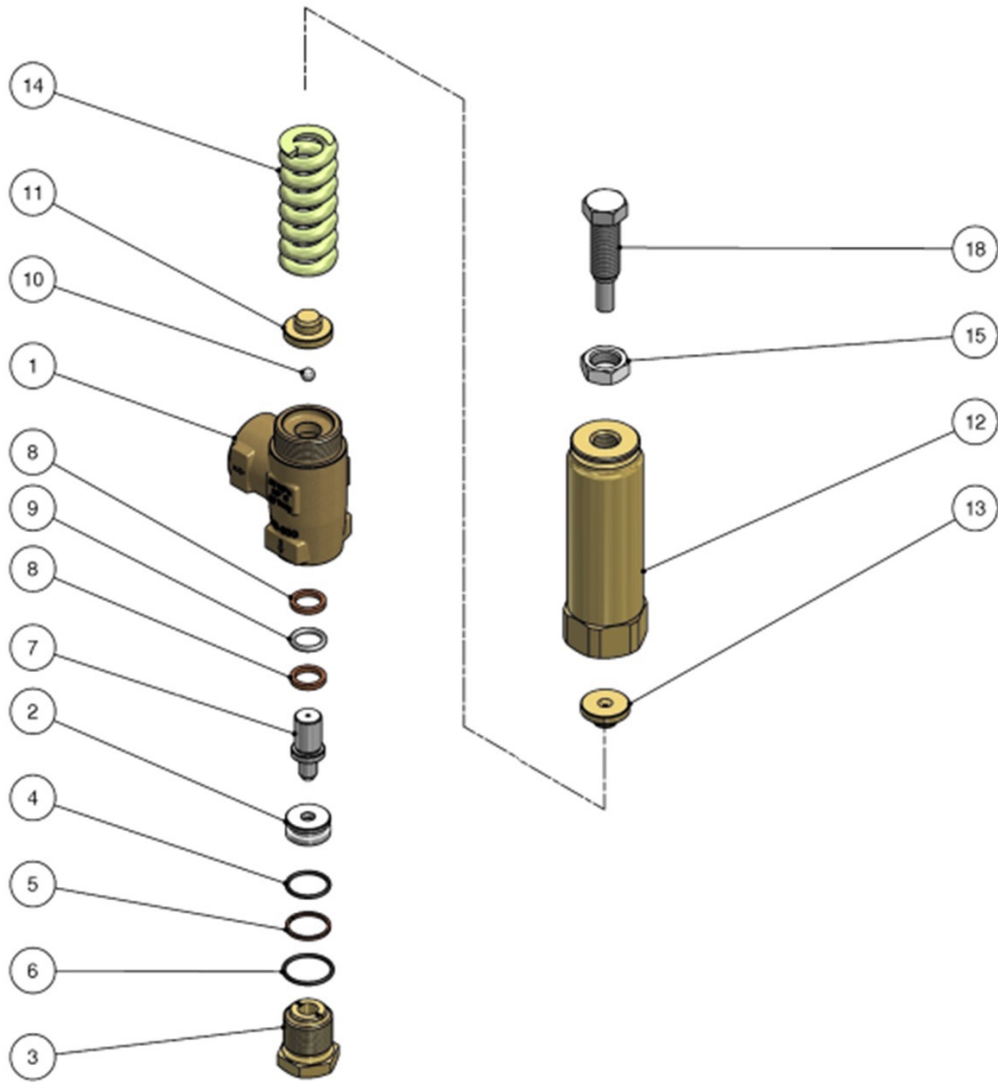
Electrical Board



ITEM CODE	Pos.	DESCRIPTION
TOP0000007	9	Hourmeter
TOP0000120	10	Emergency stop button
TOP0000124	11	Emergency stop button
TOP0000061	12	White indicator lamb Power on
TOP0000060	13	Yellow indicator lamb No water



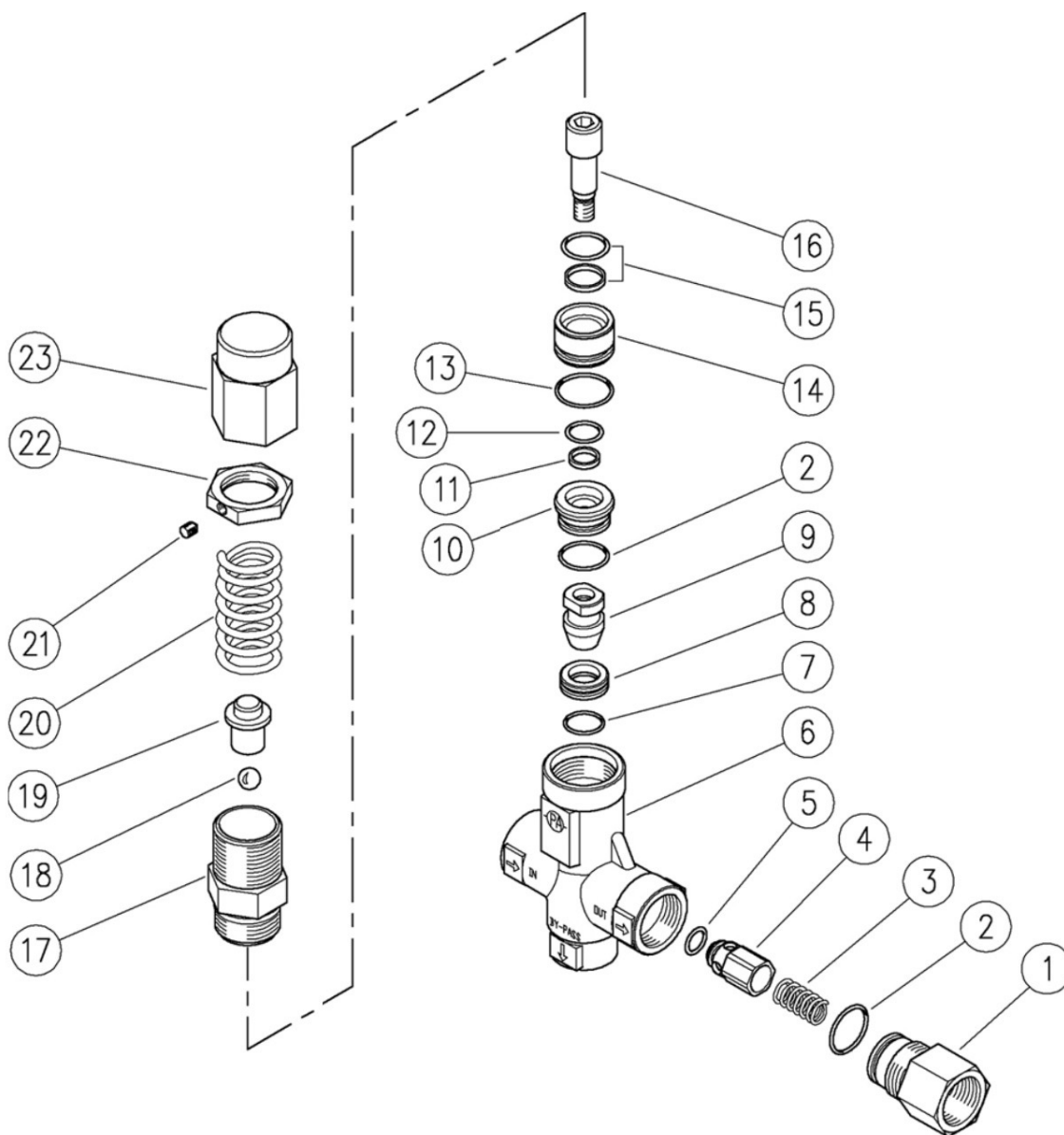
Safety Valve VS



ITEM CODE	Pos.	DESCRIPTION
PAI0000273	K1	SPARE KIT VS (Includes 7 pcs. Positions 2,4,5,6,7,8,9)
PAI0000272		COMPLETE SAFETY VALVE



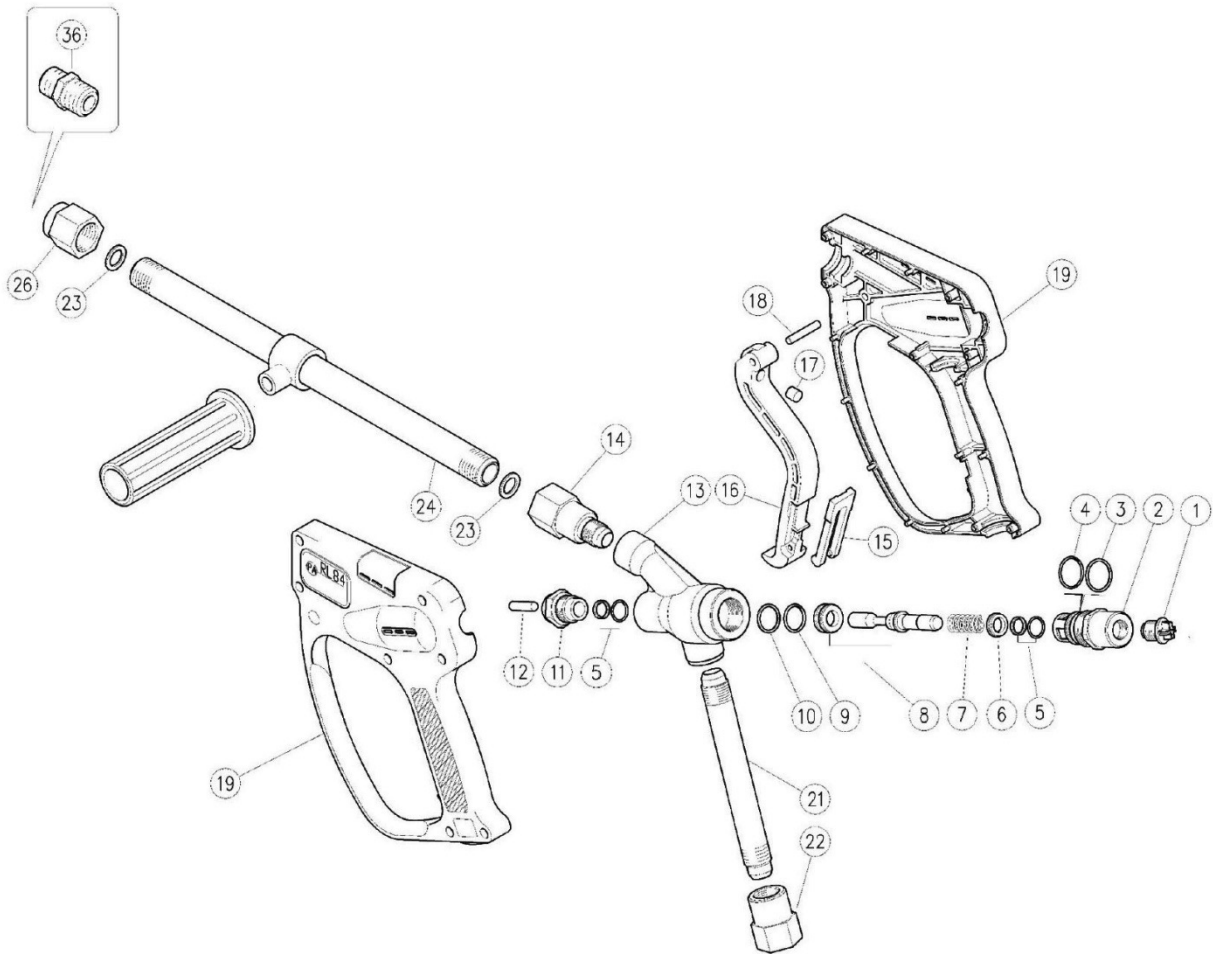
Unloader Valve VB



ITEM CODE	Pos.	DESCRIPTION
PAI0000245	1	SHUTTER COUPLING 1/2 BSP
PAI0000244	3	SPRING AISI316
PAI0000243	4	SHUTTER PIN, SST.
PAI0000274	20	SPRING
PAI0000275	23	VALVE REGULATING RING NUT
PAI0000251	K1	SPARE KIT VB (Includes 9 pcs. Positions 2,5,7,8,9,11,12,13,15)
PAI0000252		COMPLETE UNLOADER VALVE

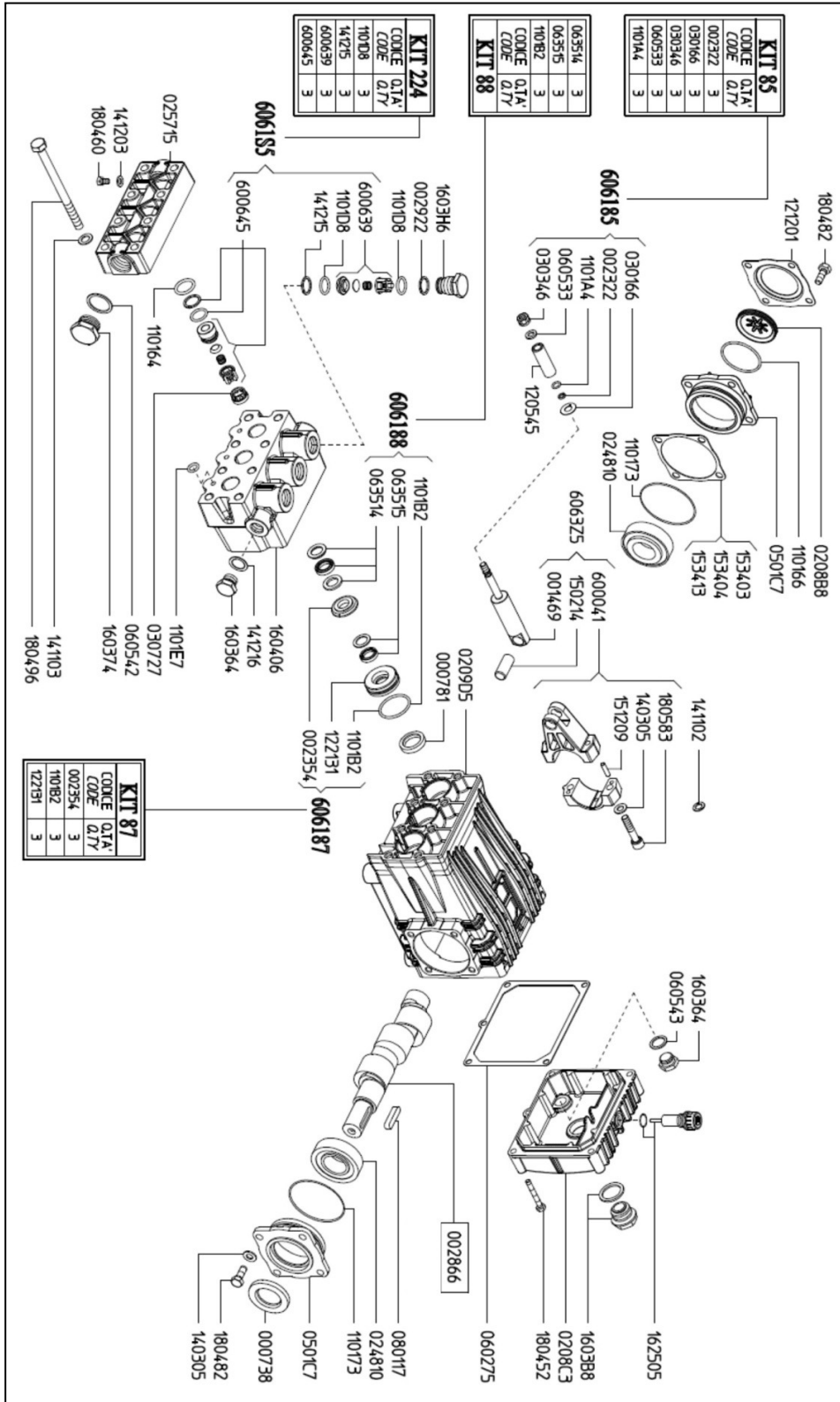


High Pressure Gun



ITEM CODE	Pos.	DESCRIPTION
PAI0000193	K1	SPARE KIT HP GUN (Includes 8 pcs. Positions 3,4,5,7,8,9,10)
PAI0000189	14	COUPLING 1/2" BSP SST
PAI0000191	22	COUPLING 1/2" BSP SST
PAI0000051	23	WASHER
PAI0000378	24	LANCE 800MM 500 BAR COMPLETE WITH KNOB
PAI0000401	26	NOZZLE HOLDER
TECO000017	36	NOZZLE 030 (380V)
TECO000016	36	NOZZLE 035 (440V)
PAI0000188		COMPLETE SPRAY GUN
		REST ITEMS ON REQUEST

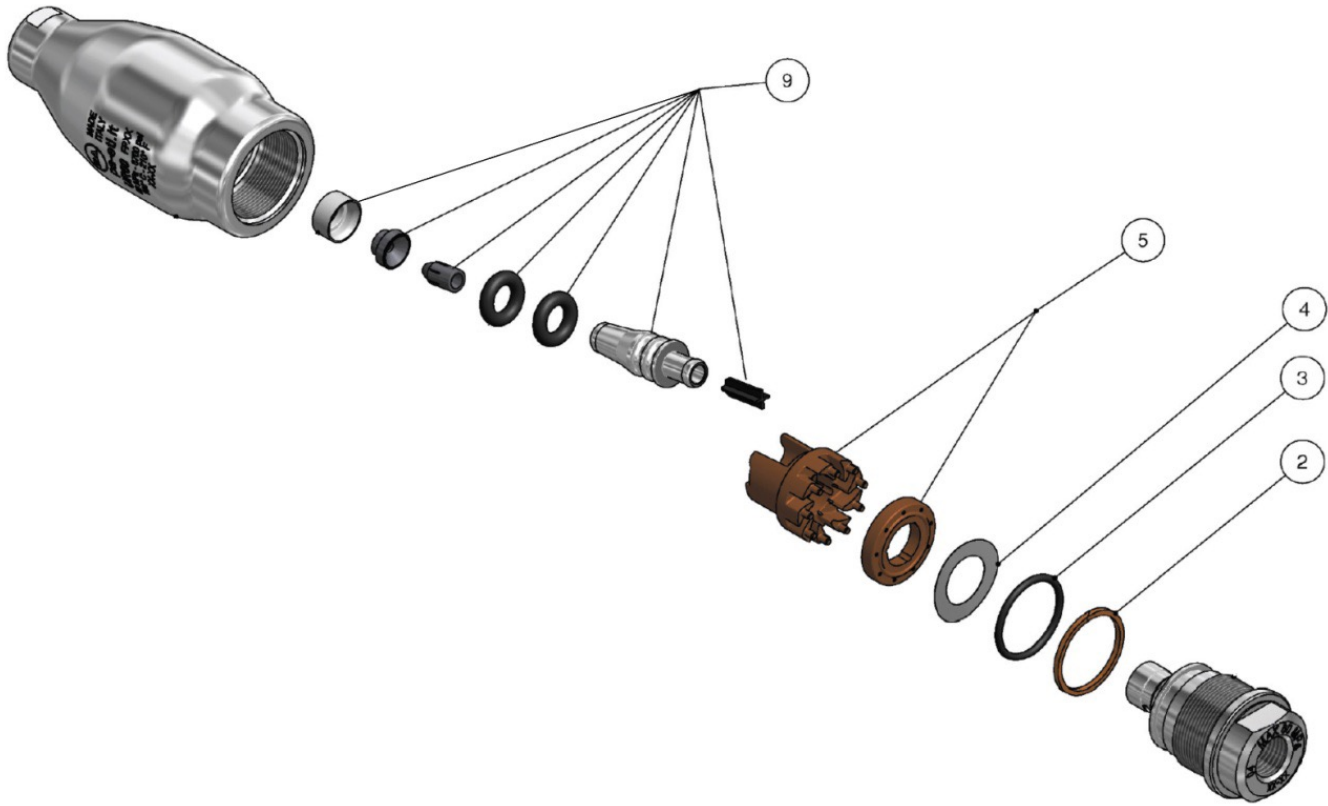
HP Pump Udor



ITEM CODE	Pos.	DESCRIPTION
UDOR00025		COMPLETE PUMP



Rotating Nozzle (Optional Equipment)



ITEM CODE	Pos.	DESCRIPTION
PAI0000037	2	BACK UP RING
PAI0000019	3	O-RING
PAI0000101	4	WASHER
PAI0000103	5	TURBINE
PAI0000097	9	ROTOR SPARE KIT (035)
PAI0000095		COMPLETE ROTATING NOZZLE (035)



Faults and Remedy

FAULTS	POSSIBLE CAUSE	REMEDY
Pump motor does not run	Incorrect power supply	Check power supply.
	missing one phase	Motor protection activated check reason for motor over- load
	Pilot fuse damaged	Change fuse
	Water supply pressure too high (more than 5 bar/70psi)	Reduce water supply pressure with pressure reducer
High pressure shock in case of release trigger from hand	Unloader valve did not operate correct	Check function of pressure regulator
		Replace seal kit
Operating pressure too low	Wrong size of hp-nozzle	Use hp-nozzle as shown on number plate
	Safety valve adjusted to a low pressure	Call technician.
	Dirt in the safety valve (by-pass seal)	Call technician.
	Valves from hp-pump are da- maged or dirt on the valves	Call technician.
	v-sleeves are damaged	Replace v-sleeve kit
	Hp-pump sucking incorrect air into suction pipe	Seal suction pipe
Operating pressure too high	Pressure gauge damaged	Replace pressure gauge
	Unloader valve not correct adjusted	Adjust unloader valve to right pressure
	Unloader valve damaged	Replace unloader valve
	Too long or small hp-hose	Reduce length of hp-hose



Faults and Remedy

FAULTS	POSSIBLE CAUSE	REMEDY
Hp-pump is very noisy	Water supply is not enough	Clean water filter, check water supply
	Hp-pump sucking incorrect air in suction pipe	Seal suction pipe
	Supply water temperature too high	Supply water with lower temperature
No operating pressure, no water supply	Suction pressure valves are dirty	Clean the valves
	Gaskets are dry, brittle, damage malfunction electro motor	Replace gaskets
	Suction pipe coupling is leaking	Replace and ventilate
	Dirty high pressure nozzle	Clean/replace high pressure nozzle
	Wrong adjustment of pressure regulation valve	Adjust of needed pressure
	Pressure of water too low	Check water supply
	Valves / gaskets are damaged	Replace valves / gaskets



General Guarantee Conditions

Guarantee Period

The guarantee period of new high pressure devices and accessories is 12 months from the date of purchase. In all cases the guarantee is based on normal utilization of the devices and accessories. Guarantee services are limited to services that are immediately related to the products delivered. Any consequential or accompanying damages such as idle run times, lost production or other damages that do not occur directly to the product are excluded from service under the guarantee.

Guarantee Limitations

The guarantee includes and is limited to our choice the repair or the replacement of any defected part. In case of repair, this will be performed in our technical department. Please send us the defected part(s) free of freight charge.

Requirements

Ertek Chemical Products and Services is only obliged to honor claims made under guarantee if the requirements listed below have been met by the customer:

- Devices and accessories have been used exclusively in accordance with requirements of the operating instructions or other items of documentation provided.
- The devices have been operated exclusively with original high accessory parts.
- All maintenance tasks and safety checks have been performed within the prescribed time period by authorized service center.

Exclusions

No guarantee is extended for unusual operating conditions for which Ertek Chemical Products and Services has not issued express written approval. In addition, all damages and detrimental effects that are attributable to normal wear and tear are excluded from guarantee coverage.

Further criteria for exclusion are:

- Calcification
- Wear and tear
- Fatigue
- Corrosion
- Frost influence
- Dirt from air, water, and consumable materials
- Defective intake and output air quality

Guarantee Services

Guarantee services include replacement delivery or repairs of the goods in our premises, where they should be sent with no freight charge.



Natural life is a chemical product

We hope to share our experience of over 40 years with you.

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