

pulsFOG®



K-50

STATIONARY THERMAL FOGGER



ORIGINAL OPERATING INSTRUCTIONS

REVISION // EN // 07. FEB 2018

DIRECTORY

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Many of the pulsFOG components are of patented design.

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Company 2007

SAFETY INSTRUCTIONS AND ACCIDENT PREVENTION

SAFETY INSTRUCTIONS AND ACCIDENT PREVENTION

Issued: Feb 2018

Thermal foggers with pulse jet engines generate hot exhaust gas which may incinerate flammable objects, gases or dusts and the electrical coldfogger or ULV machines are not explosion proof. It is therefore mandatory to read and strictly observe the operating manual and the safety instructions below. Failure to comply with these may result in fire or accidents. Observe the EU Directives 89/391/EEC (Article 6) and 1999/92/EC (ATEX 137), e.g. Article 5

Intended Use

The pulsFOG foggers are designed for fogging all kinds of pesticides, disinfectants and pest control agents authorized and approved for this type of application insofar as there are no risks for the environment, human beings and animals involved. The following type specifications must be observed:

- The pulsFOG thermal fogger types **K-10-STD, K-22-STD, K-30-STD** are suitable for plant protection in enclosed greenhouses. They can be used for fogging aqueous liquids or wettable powders with a water content of more than 60%. Application of flammable liquids is prohibited. Fogging of non-flammable peroxides or other non-flammable fire accelerants releasing oxygen is only permitted with an automatic cut-off device.
- The pulsFOG thermal foggers **K-10-SP, K-10-DESERT, K-10-O, K-22-O, K-22-10-O, K-22-20-O, K-30-O, K-30-10-O, K-30-20-O**, all of them without air agitator, are suitable for epidemics control, plant protection in enclosed greenhouses, warehouse pest control in enclosed spaces from the outside to the inside and for the disinfection of cleaned empty animal stables with agents tested and approved for this purpose. These units with an "O" type designation are suitable for flammable (flash point > 70°C) and non-flammable fogging liquids. For safety reasons, fogging of flammable products or non-flammable products releasing oxygen (e.g. peroxides) requires using the automatic cut-off device on the unit. "O"-type units are not suitable for fogging suspensions (because of the risk of clogging).
- The pulsFOG thermal fogger **K-10-SP-SAN** is suitable for use in sewerage systems from the outside to the inside and for termite and vole control using approved products.
- All **pulsFOG BIO** thermal foggers are suitable for fogging flammable and non-flammable fogging liquids including peroxides (H₂O₂), suspensions and sensitive biological preparations.
- The pulsFOG series SUPER PRO and TracFOG are designed to apply liquid oil or water based pesticides including suspensions with a concentration of < 6%. Acidic chemicals are not approved for the use with these units

Warning: Repeated application of acidic products (e.g. peroxides: corrode copper (brass) and aluminum parts) requires acid resistant version of the unit.

Contrary to intended use

Contrary to intended use and improper handling (e.g. use of non-original pulsFOG spare parts or unauthorized self-modified original spare parts) may cause hazards for people, properties and environment. With a **not intended use** of the unit the general permit of operation/use expires.

Authorized Operator Groups

The equipment is restricted to professional use by persons of age and qualified operators duly instructed by an authorized dealer **WARNING: Fire Hazard**

Any formation of aerosols or fogs from flammable substances or acids releasing oxygen in a mixture with air and/or dust always involves the risk of fire or explosion if there is a source of ignition. The hot exhaust gas of the engine of thermal foggers is a potential source of ignition. For this reason: Make a risk analysis and develop a strategy to prevent risks! Accordingly observe strictly the following safety instructions:

- Do not smoke when handling the unit!
- Never fill fuel into the chemical tank!
- Whenever fogging flammable liquids – including peroxides – into enclosed spaces, always keep a fire extinguisher readily available near the unit. Take care the fire extinguisher is adapted to the disinfectant in use (e.g. fires caused by peroxides require an extinguishing agent based on water or CO₂)
- Do not use thermal foggers to fog in rooms if there is a risk of fire, dust explosion or dust whirling up (e.g. in grain mills, non-cleaned storage silos or on floors which have not been cleaned or are covered with straw or wood dust).
- Stationary application of approved flammable agents (including peroxides) into enclosed spaces:
 - ▶ Only from the outside to the inside using circulating air ventilation within the room.
 - ▶ Only with automatic cut-off device on the unit for the disinfectant.
 - ▶ Ensure a stable position of the unit on a **non-inflammable support**.
 - ▶ Using peroxides only with pulsFOG BIO units
- Observe the safety data sheet (MSDS) and instructions of the fogging product. Check the flash point of flammable fogging liquids. Do not fog any liquids with a flash point of less than 70°C into enclosed spaces.
- Never fog more than 3 l of an approved flammable liquid or more than 10 l of a flammable aqueous liquid with a water content of less than 70 % per 1000 m³ of space!
- Never fog flammable liquids into a tube or tunnel without suction ventilation (explosion hazard). Exception: pulsFOG BIO units with separate water injection during operation.
- Do not refill fuel into the unit when the engine is still hot! The minimum cooling time is 20 minutes.
- Whenever performing any work on the carburettor or fuel tank, remove all sources of ignition from the vicinity and remove the spark plug cap and the batteries.
- **Caution:** a defective membrane (diaphragm) at the carburettor may lead to a fire accident.

Property, Operator and Environmental Protection

- Observe the specified intended use of the chemical agents. In arid environments or dry seasons and if there is a general risk of fire, only operate the unit with the built-in automatic cut-off device active. Keep a fire extinguisher readily near at the unit available.
- Observe the application instructions and safety data sheets of the manufacturer or supplier of the active substances and fogging liquids used (however, without restricting the unit manufacturer's safety instructions in any way).
- Outdoor application is only permitted with the wind calm, or at a maximum air movement of 6 km/h. Avoid application beyond the target area by keeping a safety distance to the boundary line.
- Always use a funnel and sieve when refilling the chemical tank. Close any product drain valves before filling the chemical tank.
- Wear suitable protective clothing during the preparatory work and when fogging (full-face mask with filter A₂ B₂-P₃, protective suit, gloves, rubber boots) as well as ear protection against the engine noise.
- The unit shall only be accessible to duly instructed persons during operation and in the cooling phase.

Prior to application:

- For safety reasons the fog tap is always closed.
- Check the functional safety of the unit (e.g. by trial fogging with water). Repair any loose or leaking lines.
- If functional safety is not ensured, do not put the unit into operation.
- The dosing nozzle and the nozzle holder (screw insert for the dosing nozzle) on the fogging tube of the thermal foggers must be screwed hermetically tight (never omit the heat-resistant gasket).
- When filling the tanks with flammable liquids, handling a source of ignition is prohibited in the vicinity of the unit.
- In case of stationary use, ensure the **stability** of the unit (e.g. to prevent sliding, shaking or tilting over) on a non-flammable support.
- Make sure that the fresh air supply to the carburettor is unobstructed. Whenever fogging a flammable liquid into a room, all sources of ignition must have been removed from there and all electrical switches disconnected.
- Make sure to prevent unauthorized access to the application area (e.g. attach an access prohibition sign on the door). Close any openings of the application area and eliminate any leaks found.

During application:

- Wear protective clothing (protective suit, gas mask with filter A₂B₂-P₃, safety gloves and ear protection).
- Keep a fire extinguisher readily at hand whenever using flammable products in enclosed spaces. Stay near the unit in order to be able to intervene immediately in an emergency.
- Never let the unit run without supervision.
- Open the fog tap only with the engine running. Close the fog tap when the engine is still running. In case of misuse or an accident close the tap immediately even if the motor is not running.
- The thermal fogger must not stand in the fog in an enclosed space (otherwise there is a risk that the engine could stop suddenly due to the sucking of fog into the carburettor). For this reason, keep the unit away from the fog or fog from **the outside to the inside**.

If the engine should suddenly stop unexpectedly (e.g. because of a lack of fuel or energy) during application, close the fog tap immediately and interrupt the application. Fix the problem when the unit has cooled down.

- When the chemical tank gets low (end of fogging), close the fog tap instantly and stop the engine immediately afterwards.
- If any leakage should occur on the unit or tank during fogging, immediately
 1. close the fog tap,
 2. stop the engine,
 3. loose the cap of the chemical tank of the thermal fogger (depressurize the tank) and
 4. terminate the application
- Do not insert the fogging tube of a thermal fogger into another tube of similar diameter for fogging (this may result in overheating of the engine and inflammation of the fog).
- The hot fogging tube and the hot exhaust gas of a thermal fogger must never touch or reach any flammable material. For through-wall application, the minimum distance from the fogging tube surface to the wall is: 6 cm
- **After application:**
 - Close and lock the fogged room and attach a warning sign. Ventilate the treated room thoroughly before re-entering.
 - Close the fuel main valve of the unit
 - The fogging tube of the thermal fogger will still be hot for up to 30 minutes after stopping the engine. Do not touch the fogging tube!
 - Do not transport a hot unit in an enclosed vehicle/car.
 - If there is any fuel or active substance left in the tanks, the unit must be kept upright and fastened to prevent tilting and the tanks must be well closed.
 - Shipping of units is only admissible with the fuel tank and the rinsed chemical tank empty.
 - Store in a safe place, use the original cardboard box if possible; store in a dry and dust-free room, protected against tilting and only with the rinsed chemical tank empty. Drain the fuel tank if the unit is not going to be used for more than 3 weeks.

Regular Maintenance Required

The unit must be subjected to maintenance at regular intervals (after 50 h of operation at the latest) by a qualified person (technician), observing all applicable safety and accident prevention standards. Worn parts as well as the vibrating diaphragms of the carburettor of a thermal fogger must be replaced as described in the operating instructions by an authorized person.

Warning:

Worn-out vibrating diaphragms on the carburettor not replaced in time may result in an accident involving fire. Any repairs must be made by a qualified person, at the manufacturer's works or an authorized dealer.

Warning labels



1.0. TECHNICAL DATA & DESCRIPTION

PULSFOG TYPE	K-50
Dimensions (length x width x height)	185 x 86 x 61 cm
Empty weight (without option. equipm.)	55 kg
Gross weight (with filled tanks)	approx 219 kg
Capacity of solution tank	2 x 55 litres
Capacity of fuel tank	2 x 20 litres
Volume of engine	3050 m ³
Gross max. power of engine	128 KW / 110.000 kcal/h / 171 hp
Max. fuel consumption	14 l/h
Flow rate (water)	60 - 400 l/h (according to nozzles size used)
Operating pressure in tanks	0,25 - 0,35 bar
Dosing nozzles according to application:	
for horticulture	2 x No. 15 / 4 x No. 20
for formalin	2 x No. 25 / 4 x No. 25
for water-based disinfectants	2 x No. 15 / 4 x No. 20
for water	2 x No. 15 / 4 x No. 20
for inflammable oils	2 x No. 15 / 4 x No. 20

* measured during fogging

OPTIONAL EQUIPMENT

- Remote control
- Turntable
- Protective clothing
- Pump feeding System
- Stainless Steel Solution Tanks

ACCESSORIES

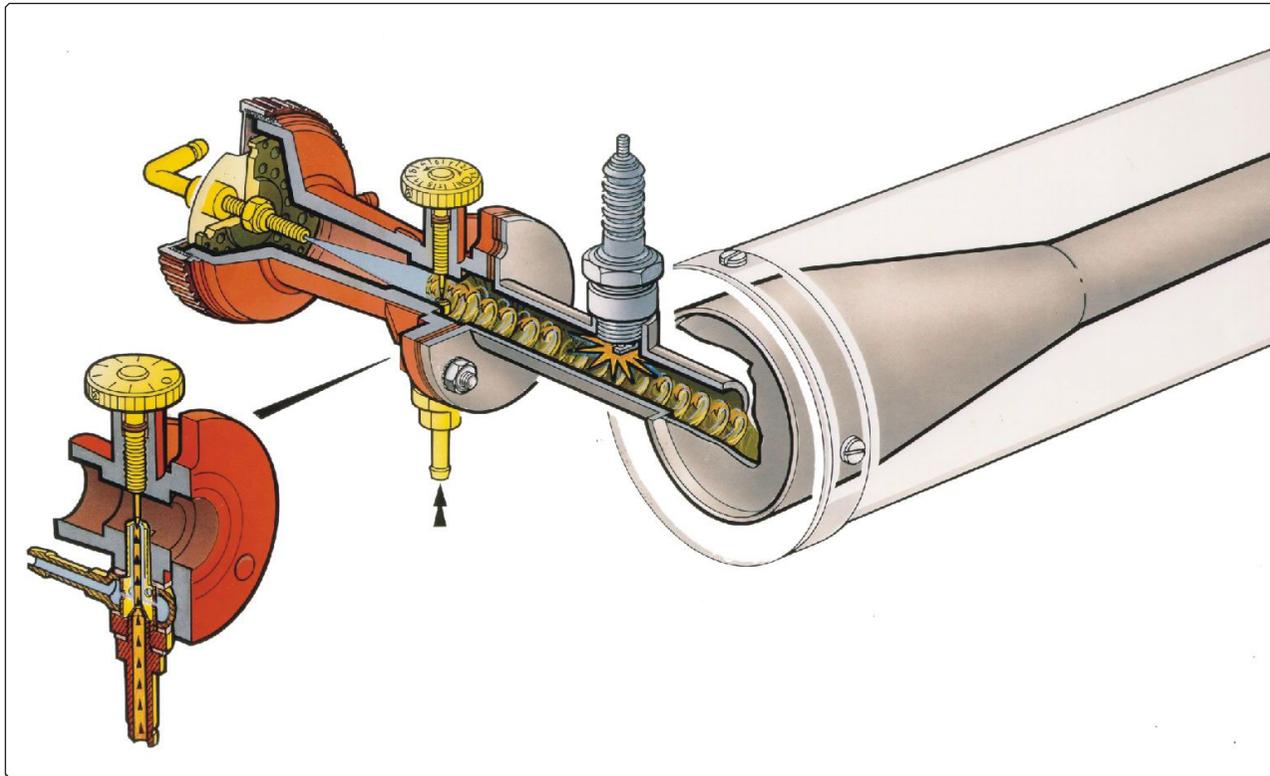
- Funnel for chemicals
- Fuel funnel
- Cleaning brush for resonator
- Ear protectors

RECOMMENDED ACCESSORIES

- Protective clothing
- Gas mask with filter A2B2- P3
- Mixing kit cpl. consisting of:
 - 1 stirring stick
 - Measure 2 ltr.
 - Measure 0,25 ltr.

SPARE PARTS

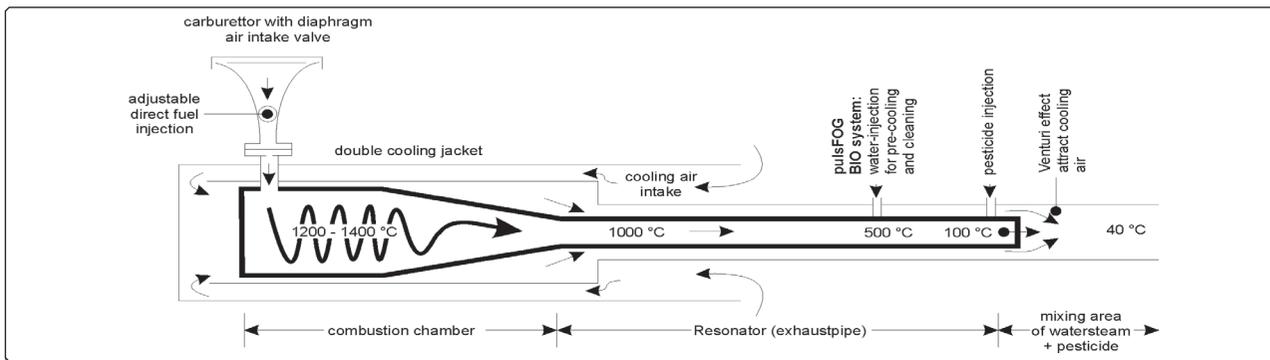
- Spare parts set with gaskets
- diaphragms
- 6 x dosing nozzles



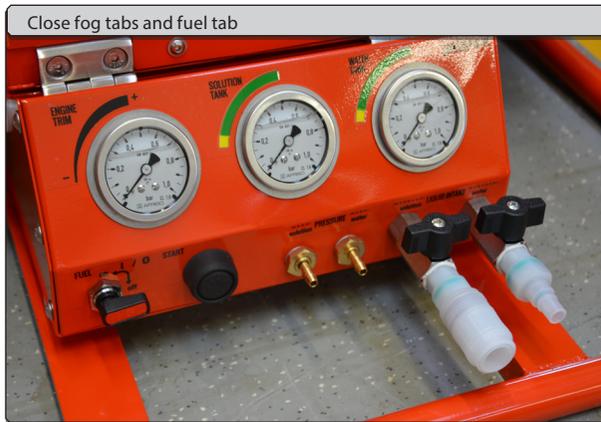
▲ IMPORTANT

The unit works according to the pulse-jet principle without any mechanically moving parts. When pressing on the primer or electric starting button, a fuel/air mixture is produced in the carburettor(s), blown into the combustion chamber and ignited by the spark plug.

A pulsating combustion forms at approximately 80 explosions per second, controlled by an air diaphragm valve and a fuel adjustable screw on the carburettor. A limited overpressure of 0,2 – 0,4 bar is redirected from the carburettor to the chemical tank through a non-return valve. The pressure in the chemical tank conveys the fogging liquid through an ON/OFF valve and a dosing (restriction) nozzle to the end of the exhaust pipe (thermo-pneumatic nozzle). There it is injected into the exhaust stream coming from the combustion chamber. For a fraction of a second (0,05 – 0,1 s), kinetic and thermal energy (600 – 700 kcal/litre of fogging liquid) acts on the injected liquid, which is thereby torn to ultra-fine aerosols. The liquid partially vaporizes and converts into a visible fog by immediate condensation in the relatively cool ambient air.



2.0. PREPARATION



Close fog tabs and fuel tab



spark plug cap properly attached



Detaching the gasoline tanks

2.1. Make sure the equipment, the formulation tank and the water tank are placed on a flat and level surface with no danger of falling off.

2.2. Make sure the solution and water tanks are placed close enough to the equipment to allow an adequate connection of the air and liquid hoses. Preferably place the tanks behind or underneath the unit.

2.3. Close both fog taps and the fuel tap, all located on the control panel.

2.4. Make sure the spark plug cap is properly attached to the spark plug (open top lid to access spark plug). Close and secure the top lid afterwards.

2.5. Fill up both fuel tanks with regular gasoline using the fuel funnel or a standard gasoline pump. The tanks may be detached from the chassis for filling. Preferably fill up both tanks before starting any application, to avoid the fogger from running out of fuel. One complete fuel load (40 Liters, each tank takes up to 20 Liters) allows the unit to run for approximately 2 ½ hours. For the first start or whenever the fuel lines are empty, the fuel tanks must be filled with at least 5 Liters each, in order to allow the fuel to reach the fuel pumps (Floaters).

2.6. After filling the fuel tanks make sure to properly close the lids. Reinstall and secure the tanks in place, then connect the gasoline outlet and return lines of both tanks. Make sure the vents are opened again in order to avoid sudden stop of the unit!

⚠ ATTENTION:

Do not place the solution and water tanks near any hot surface on the equipment, especially the resonator. The heat could damage the tanks or hoses, cause solution leakage and fire.

⚠ ATTENTION:

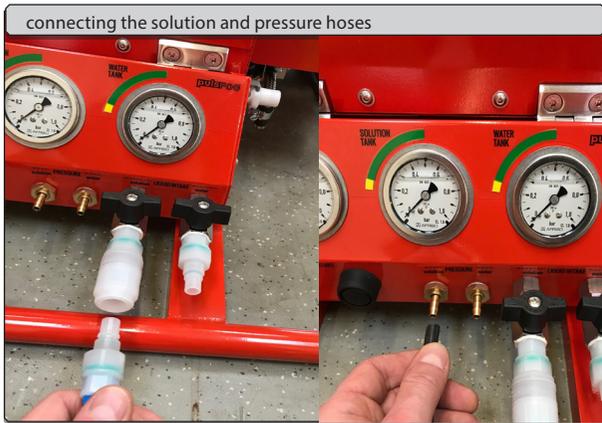
Do not place the solution and water tanks in front of the resonator, as the hot exhaust gases may damage the tanks and hoses, cause solution leakage and fire.

⚠ ATTENTION:

Before detaching the tanks from the chassis, make sure the gasoline taps are closed and the gasoline quick connectors are detached.

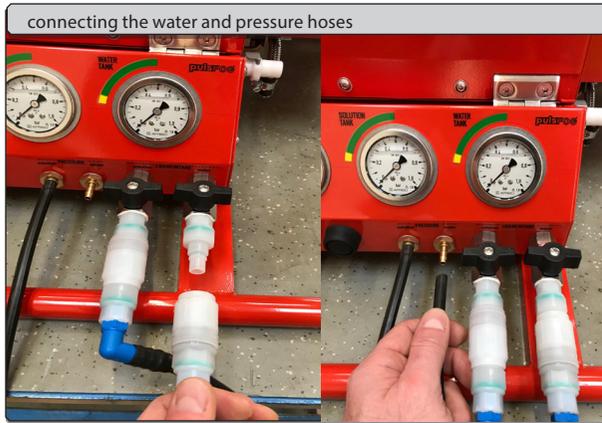
⚠ ATTENTION:

Before detaching or attaching the fuel tanks make sure the lids are tightly closed and the vents are shut (screwed in), to avoid fuel leakage.

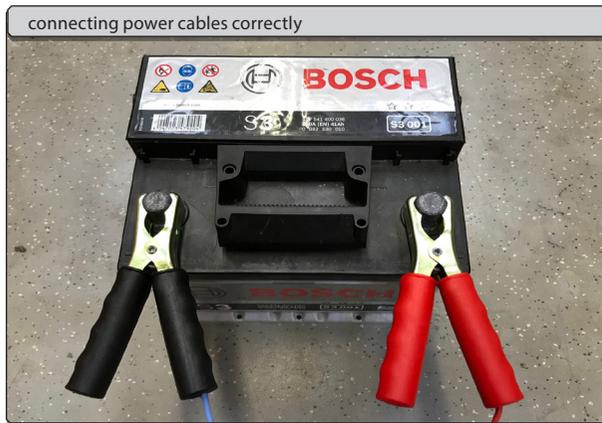


2.7. Fill the solution tank with up to 55 Liters of ready, homogenized and stable solution. Consult your pulsFOG distributor or dealer for recommended fogging solutions. Close both lids tightly. Connect the solution hose to the matching connector on the control panel. Connect the pressure hose to the pressure outlet labeled “solution” on the control panel.

⚠ ATTENTION:
Make sure all connectors and hoses are properly attached before starting the operation, to avoid spilling fuel, formulation or water.



2.8. Fill the water tank at least to the same level as the solution tank using clean water. Close both lids tightly. Connect the water hose to the matching connector on the control panel. Connect the pressure hose to the pressure outlet labeled “water” on the control panel.

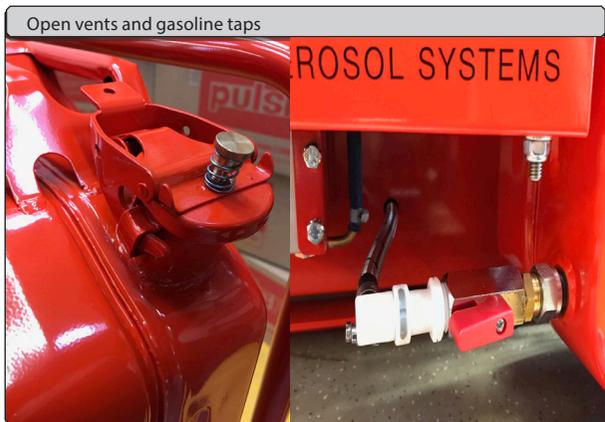


2.9. Connect the power cable to a 12 V DC automotive battery, observing the correct polarity.

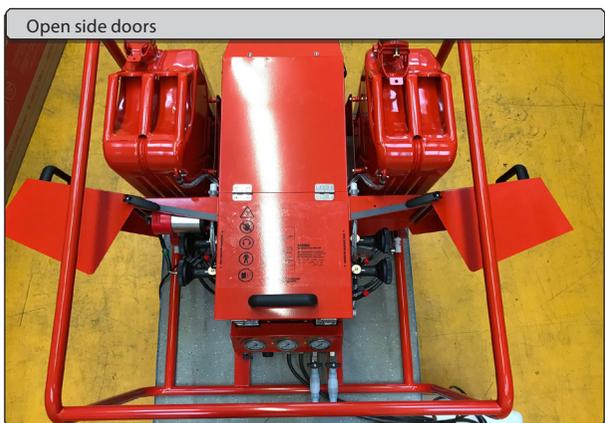
RED = +
BLACK = -

⚠ ATTENTION:
Make sure the battery is placed on a stable and level surface, and away from hot surfaces on the fogger, especially the resonator.

3.0. START ENGINE



- 3.1. Make sure the resonator is completely lowered.
- 3.2. Open both fuel tank vents by unscrewing them completely.
- 3.3. Open the outlet taps on both fuel tanks.



- 3.4. Open the cam locks on both side doors. Open both side doors to allow access to the carburetors. Shut the cam locks to secure the doors open.



- 3.5. Set the main carburetor opening the adjustable screw to position 5-6.
- 3.6. Set the three auxiliary carburetors opening their adjustable screws to position 7-8.

⚠ ATTENTION:

Make sure everyone around the unit is wearing suitable ear protection before starting the unit, as the engine produces up to 106 dB!

⚠ ATTENTION:

Do not allow anyone to stand in front or near the exhaust pipe during engine start or during operation, as the resonator may expel hot flames and cause injury!

⚠ IMPORTANT NOTICE!

The pulsFOG K-50 features 4 carburetors, one main and 3 auxiliary carburetors. These must be set on the first start, after servicing the unit and whenever an irregular function of the engine is noticed.



3.7. Open the fuel tap on the control panel setting it to the "ON" position (vertical).

⚠ ATTENTION:
Do not start the unit if any fuel leakage is detected!



3.8. Press the "START" button for two seconds each time, pausing 3-5 seconds before pressing again, until the engine starts.

⚠ ATTENTION:
On the first start or after servicing the unit the engine start may take a few minutes, as the fuel lines need to be filled with gasoline.

⚠ ATTENTION:
When starting the cold engine it may run with an irregular sound for about a minute. The sound becomes smooth and "round" after the engine heats up.

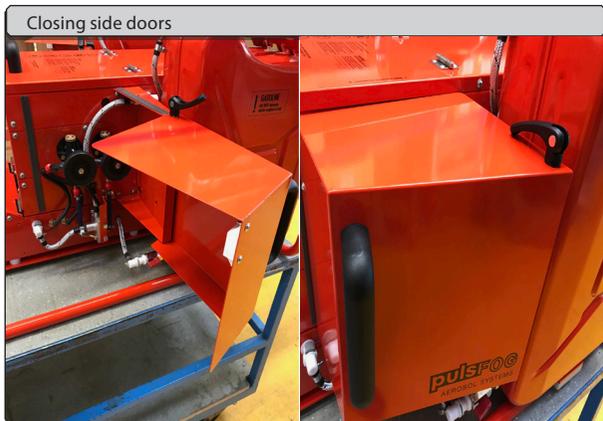


3.9. After the engine starts readjust the carburetor setting on the auxiliary carburetors. To obtain the maximum performance from the pulsejet engine on the K-50 try to set the auxiliary carburetors in order to maximize the pressure on the "engine trim" pressure gauge.

⚠ ATTENTION:
The engine setting may vary depending on height, fuel level in the tanks, fuel quality and solution output, among others. The operator may have to adjust the engine setting several times during application! Running the unit with the correct engine setting is important to assure the correct solution output, droplet size and the resonator's (pulsejet engine) lifespan. It is also important to avoid overheating the unit.

⚠ ATTENTION:
The setting on the main carburetor should not be changed, as it determines the amount of fuel used at the engine start. The optimal setting is usually on position 5-6, which ensures an efficient start with both cold and hot engine.

4.0. START FOGGING

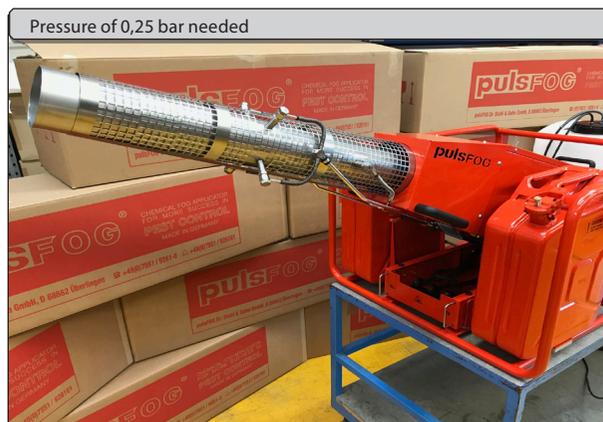


4.1. With the engine running smoothly, open the cam locks, close the side doors and fix the cam locks again.



4.2. Raise the resonator to the desired inclination. Push button under the handle and raise the resonator manually to the desired position!

Max. 45 degree!



⚠ ATTENTION:

Do not leave the unit running unattended! The operator must stand nearby the unit during the entire operation!

⚠ ATTENTION:

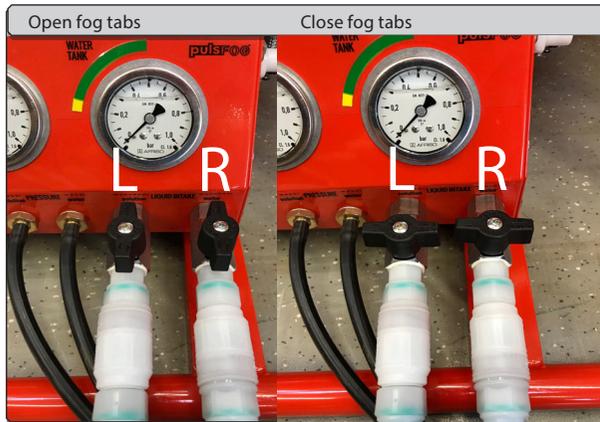
When changing the inclination of the resonator be careful not to touch any hot parts! Do not touch the resonator or the injection nozzles. Use preferably the available handles.



4.3. After up to two minutes after the engine start the formulation tank and the water tank should reach the pressure of at least 0.25 bar, which is the minimum pressure for fogging.

⚠ ATTENTION:

The air pressure inside the solution and water tanks is limited by the pressure delivered by the unit's carburetors. It does not rise continuously and is never higher than 0.5 bar. That pressure is permissible for the original pulsFOG 55 L PE-tanks only. Other non-original tanks may not be suitable and may pose a safety risk!



4.4. Open the water tap (R) first, then the solution tap (L). The unit starts fogging.

4.5. To interrupt the fogging close first the solution and then the water taps. Open the taps to continue the operation.

⚠ ATTENTION:

Fog always from both, solution and water tanks. Fogging from only one of the tanks may overheat and damage the unused nozzles.



The pulsFOG K-50 is equipped with a set of safety valves, which prevent solution and/or water from flowing into the resonator if the engine stops accidentally during operation. This feature should not be used, however, for the regular shut-down. Always interrupt the fogging by closing the fog taps, not by stopping the engine!

⚠ ATTENTION:

Do not interrupt the fogging for more than 1 minute with the engine running, which may overheat and damage the solution and water injection nozzles. If more time is needed e.g. to reposition the unit, stop the engine as described below.

5.0. STOP FOGGING // STORAGE

Unit shut down



- 5.1. Close the solution and water taps. Wait a few seconds to allow the resonator to expel the solution and water remains.
- 5.2. Close the fuel main tap on the control panel. The engine stops immediately.

Inclining the Resonator



⚠ ATTENTION:

Immediately after the engine stop open the top lid first, then incline the resonator to the highest possible position, to avoid overheating in the resonator cabin and to allow the resonator to cool more quickly.

Depressurising tanks



- 5.3. If you do not intend to continue the operation or if you need to refill the solution or water tanks, release the pressure from the tanks by carefully opening the smaller lids.

⚠ ATTENTION:

Do not open the pressurized water or solution tanks by unscrewing the large filling lids. Because of the pressure inside the tanks, these lids could come off suddenly and cause injury. Loosen the small lids first, allowing the pressure to escape, then open the large filling lids. Reattach the lids carefully after filling the tanks.

Close fuel taps on both tanks



5.4. Close the fuel outlet taps on both fuel tanks.

Close vents on both tanks



5.5. Close the vents on the fuel tank lids (screw them in).

5.6. Disconnect the battery.

5.7. Let the unit cool down completely before moving or storing it.

▲ ATTENTION:

Before storing away the emptied unit make sure the fuel tank vents are opened (unscrewed), to avoid pressure or vacuum from building up inside the tanks.

Before storing the unit, the solution tank and solution lines must be rinsed as follows:

- A. Empty the solution tank disposing off possible solution remains accordingly.
- B. Rinse the solution tank with approximately 5 Liters of clean water.
- C. Make sure there are about 5 Liters of water left in the water tank.
- D. Start the unit and fog from both tanks for about two minutes.
- E. Proceed as described in "Finish the application".
- F. Empty both water and solution tanks.

▲ ATTENTION:

Store the unit and tanks in a ventilated environment, protected from direct sunlight, heat and subzero temperatures.

If the unit is not going to be used for a longer period, empty also the fuel tanks, then start the engine as described in this manual, to drain the fuel from the fuel pumps (floaters) and fuel lines.

6.0. CLEANING MAINTENANCE

6.1. The unit must be cleaned after each fogging application. For this purpose, remove the solution tank and rinse it with water. Subsequently, fog approx. 5 ltr of clear water in order to clean the fog solution conduit. Adding a small quantity of alcohol or just a few drops of dishwashing agent is helpful.

6.2. Cleaning of the carburettor diaphragm is very important since some fog usually penetrates the carburettor during a fogging application and may cause blocking. The carburettor diaphragm can be cleaned as described in a) - e) and pictures shown below.

6.3. Servicing

After 50 hours of engine operation, replace the diaphragm on the carburettor.

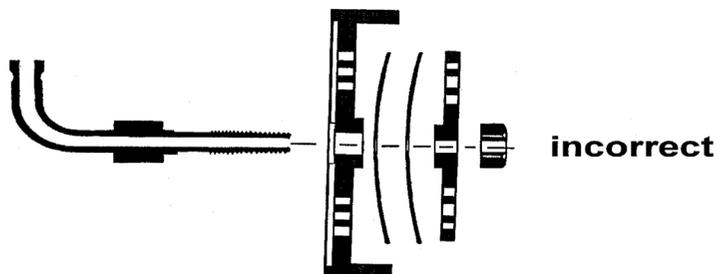
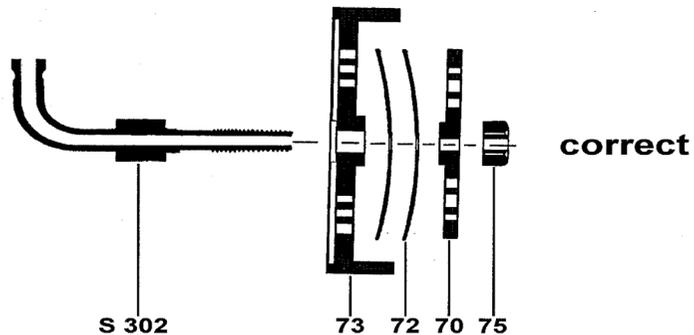
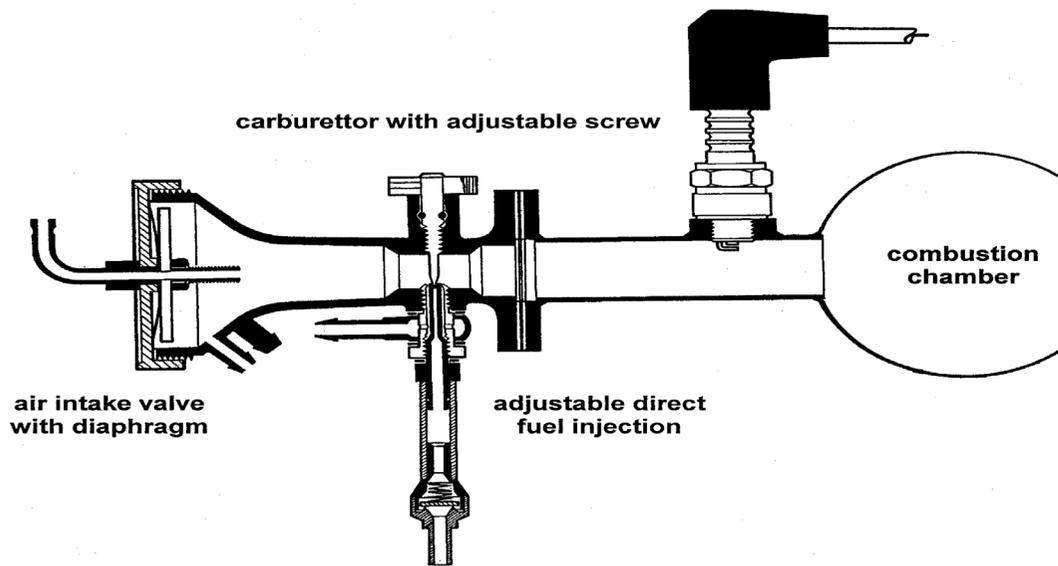
6.4. Cleaning the fogging pipe

After fogging critical agents, or every 10 hours of operation at the latest, the resonator (exhaust pipe) should be cleaned with the cleaning brush.

For this purpose, the cleaning brush must be inserted into the combustion chamber over its full length and then pulled out again.

For easier inserting of the brush, unscrew the nozzle canes a little.





a) Unscrew the diaphragm valve and blow through from both sides with compressed air.

Alternatively:

b) Unscrew the diaphragm valve and rinse in hot water (approx. 60 °C).

Alternatively:

c) Unscrew the diaphragm valve and rinse with hand-warm water to which cleaning alcohol has been added. Cleaning with water and alcohol is especially recommended after fogging with formalin.

Alternatively:

d) Unscrew the diaphragm valve and put it into a vessel with fuel for 5 minutes. Subsequently dry it with compressed air

Alternatively:

e) Disassemble the diaphragm valve (pictured above), clean the disassembled parts according to a), b), c) or d) and re-assemble the parts according to carburettor- motor- assembly.

7.0. TROUBLESHOOTING

7.1. pulsFOG engine does not start

FAULT IDENTIFIED	POSSIBLE CAUSE	REMEDY
No fuel	Fuel tank is empty	Fill fuel tank
No fuel	Adjustable screws are closed	Open adjustable screw
No fuel reaches the carburetors when pressing the start button	Fuel nozzle is choked	Clean fuel nozzle and/or blow through ring slot nozzle
No fuel is visible in the transparent hose between fuel valve and carburettor	Fuel valve sticks or is choked Fuel filter is choked	Blow through or exchange the fuel valve
Fuel in the transparent hose flows back after pumping	Red fuel valve not tight Fuel valve dirty	Exchange fuel valve or try to clean it by low air pressure
No ignition spark at the spark plug	Batteries corroded or empty, spark plug defective or wet/dirty ignition coil defect Micro-switch defective No contact between spark plug and spark plug socket	Replace batteries, exchange spark plug, or dry/clean it. Space between electrodes of spark plug = 1,5 – 2,0 mm. Replace micro-switch / ignition coil Fix the high-tension cable to the spark plug socket
No correct air supply through the diaphragm-valve	Diaphragm (s) is/are dirty and/or pasted up or assembled incorrectly	Assemble cleaned membrane(s) into diaphragm-valve (see carburettor- motor - assembly)
Carburettor is flooded	Diaphragm(s) is/are dirty or pasted up or assembled incorrectly	Clean/change the diaphragm(s) and assembly the cleaned diaphragm(s) (see carburettor-motor-assembly)
	No ignition spark at the spark plug	Check the electric system between batteries and spark plug

7.2. pulsFOG engine has bad running behaviour

FAULT IDENTIFIED	POSSIBLE CAUSE	REMEDY
Air bubbles in the fuel	Fuel pipes or fuel valves leak	Tighten fuel pipes and exchange fuel valves
Fuel supply to the carburettor is not sufficient	Adjustable screws incorrectly adjusted	Turn adjustable screws to the left until the engine runs with a deep powerful sound
Air does not pass at the right measure	Membrane is dirty and/or pasted up or assembled incorrectly	Clean membrane-valve and membrane resp. exchange or assemble correctly
Fuel supply is irregular	Fuel nozzle is choked or destroyed by the adjustable screw	Clean fuel- and ring slot nozzle or replace fuel nozzle
Sparks are thrown out of the exhaust pipe	Resonator or combustion chamber is choked with chemical residues	Clean resonator and combustion chamber with cleaning brush

7.3. pulsFOG unit fogs irregularly or not at all

FAULT IDENTIFIED	POSSIBLE CAUSE	REMEDY
No pressure in chemical tank	Tank lid not tight, pressure valve (green/grey) defective	Close tank lid of chemical tank more tightly. Exchange gasket and replace pressure valve
Dosing nozzle(s) is (are) too hot	Idle running (without fogging) of the engine not longer than 1/2 minute	Cool down cautiously dosing nozzle(s) and nozzle cane(s) with water
No fogging solution arrives at dosing nozzle(s).	Fogging solution conduit, suction piece, fog tap or dosing nozzle choked	Clean suction piece and/or dosing nozzle and/or fog tap, blow through with compressed air. Unscrew dosing nozzle and clean nozzle cane with a small screw-driver or a wire piece.
No fogging solution arrives at dosing nozzle(s).	Viton tube in chemical tank is buckled	Replace Viton tube

EC-DECLARATION OF CONFORMITY

EG-Konformitätserklärung
EC-Declaration of Conformity
Deklaracja zgodności CE
CE-Déclaration de conformité
Dichiarazione di conformità CE
Declaração de conformidade da CE
EG-conformiteitsverklaring
Declaración de Conformidad de la UE
EF-overensstemmelseserklæring
EY-vastaavuusselitys
EG-konformitetsförklaring
EB Atitikties deklaracija

Wir / We / My / Nous / Noi / Nós / Wij / Nosotros / Vi / Me / Mes

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erklären, dass die Maschine / declare that the machine / deklarujemy, że urządzenie / déclarons que la machine / dichiariamo che la macchina / deciamos que as máquinas / verklaren dat de machine / declaramos que la máquina / erklærer hermed, at maskinen / ilmoitamme, että tämä kone / förklarar att maskinen / Parelšklame, kad mašina

Thermo Nebelgerät, thermal fogger, zamglawiacz, nébulisateur thermique, termonebulizador, termonebulizzatore,

Typ / Type / typu / Tipo / vastaa tyyppiltään / tipas

pulsFOG K-10-SP, K-10-STD, K-10-O, K-10-SP-SAN, K-10-SP-ANTEATER

pulsFOG K-22-STD, K-22-O, K-22-BIO, K-22-10-STD, K-22-10-O, K-22-10-BIO

pulsFOG K-30-STD, K-30-O, K-30-20-STD, K-30-20-O, K-30-20-BIO

pulsFOG K-50

mit folgenden EG-Richtlinien übereinstimmt / conforms to the specifications of the following EC directives / został wykonany zgodnie z normami Unii Europejskiej zawartymi w dyrektywach / est conforme aux spécifications des directives CE suivantes / è conforme alle seguenti direttive CE / estão em conformidade com as seguintes directrizes da CE / overeenkomt met de volgende richtlijnen / está conforme con las especificaciones de las siguientes directivas / svarer til følgende EF-direktiver / seuraavia EY-direktivejä / överensstämmer med följande EG-riktlinjer / atitinka šlas EB direktyvas:

2009/127/EG

89 / 336 / EWG (EEC)

EN ISO 13857:2008

EN ISO 12100-1+A1:2009

EN ISO 12100-2+A1 :2009

EN ISO 13732-1 :2008

Überlingen, im Januar/ enero/ gennaio/ styczeń 2018



Geschäftsleitung / Managing director / Dyrektor generalny / Gerente general / Directeur

ÜBERLINGEN AT THE LAKE OF CONSTANCE

GERMANY



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PULSFOG

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