

Fog application with Wanjet

Wanjet fogging machines

Wanjet F-series is our fourth generation of ULV fogging machines. The main advantages of the F-series are:

- **High reliability.** The units are designed with the experience from the three earlier generations of fogging machines and with commercial and technical knowledge from more than 25 years experience of manufacturing of plant protective equipment.

- **Attractive pricing** - because of our standardisation;

- **Easy to maintain** - Very easy to make service on and repair. Wanjet system has because the design of our own for the purpose designed components a low quantity of components compared with our competitors.

Internationally has this type of machines many different names such as:

Cold fogging, LVM (low volume mist), aerosol generator, ULV and LV generator

What is ULV

ULV is an abbreviation for the term Ultra Low Volume. Ultra Low Volume is the technique of treating areas with relatively small amounts of chemicals in an aerosol state.

Internationally is the general description of different application technologies defined after the median droplet size they use.

Median diameter	Description of application technique
>400 micron	Course spray
201-400 micron	Medium spray
101-200 micron	Fine spray
51-100	Mist
<50	Aerosol

What is a micron

A micron is a measure in the metric system and is equal to $1/1000\ 000\ m=0,001\ mm$.

To give a relation a raindrop has a diameter of around 4000 micron and human hair has a diameter of around 75 micron.

What is median diameter

The median diameter is the diameter of which 50 % of the droplet in a droplet collection have less and larger size.

How does the droplet size affect the application

In a small particle/droplet in the air tends to be of spheric shape, which volume can be calculated by the formula:

$$V = \frac{\pi \times D^3}{6}$$

V=volume of a sphere
D=The diameter of the sphere

When a droplet covers an area it forms the shape of a circle. The area of the circle can be calculated by the formula:

$$A = \frac{\pi \times D^2}{4}$$

A=The area of a circle
D=The diameter of a circle

Example

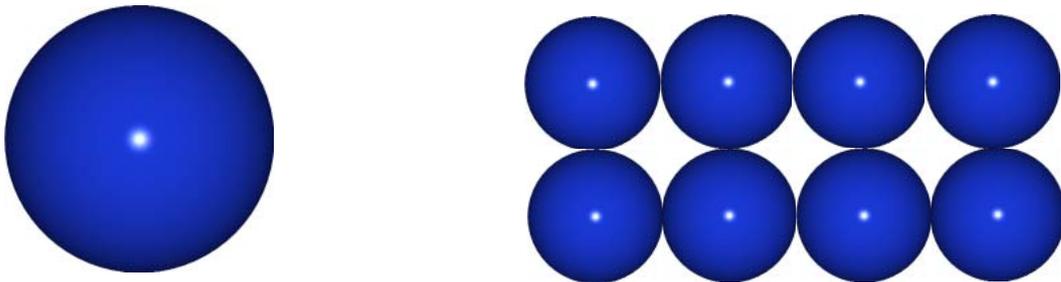
If we take one droplet with the diameter D and divide it into droplets of the half diameter we can calculate the number of droplets (x) we get from the original droplets volume:

$$\frac{\pi \times D^3}{6} = \frac{\pi \times (D/2)^3}{6} \times x$$

D=The diameter of the original sphere

x=the number of droplet with half diameter

The X will become 8, which means that 8 droplets of the half original droplet's diameter represent the same volume as the original droplet.



A comparison between the theoretical area the 8 droplets cover with the original droplet's covered area can be calculated by using the formula for area of an circle (new area covered by the 8 droplets divided with original area covered by one droplet):

$$\frac{\pi \times (D/2)^2}{4} \times 8 / \frac{\pi \times D^2}{4} = 2$$

D=The diameter of circle by original droplet

The conclusion from this example is that by reducing the droplet size to 50 % we can cover the double area with the same volume of liquid.

Example 2

Below is an example how many droplets you get when one droplet with the diameter 500 micron (the normal dropletsize generated by a knapsack sprayer) is divided. The right column shows how many area units which is covered in relation to the droplet size.

Median diameter	Quantity of droplets	Covered area units
500	1	1
100	125	5
25	8000	20
10	125000	50
5	1000000	100

Advantadges with Wanjet fogging machines

The small aerosol droplets generated by the Wanjet fogging machines gives compared with other application methods:

- Better coverage by small droplet formation.
- No loss from dripping drops
- Less visible residues
- Reduced working time
- Reduced personal exposure for the chemicals

The small droplet the longer time for it tal fall down to the ground.

A 10 micron droplet fall down to the ground with a speed of 0,5 m/hour.

This means it is easier to reach targets which are difficult to reach by conventional spraying methods.



Market for WANJET fogging machines

Agricultural machine suppl.	Food storage	Pest control - operators
Airports	Garden centres	Pet stores
Animal buildings	Grain warehouses	Pharmaceutical Man.
Animal hospitals	Greenhouses	Potatoes storage
Bakeries	Home owners	Poultry Farms
Breweries	Horse tracks	Restaurants
Bus stations	Horticultural machine suppl.	Recreation vehicle dealers
Cafeterias	Hospitals	Schools and universities
Camps	Hotels and motels	Seed companies
Cattle feeders	Insurance adjusters	Stadiums
Cigarette manufact.	Kennels	Swimming pools
Circuses	Laboratories	Tennis clubs
Cities	Meat packers	Tobacco storage
Clothing manufact.	Mines	Tool rental dealers
Construction sector	Mink ranches	Truck lines
Exterminators	Night clubs	Veterinaries
Factories	Paper companies	Zoos
Farms	Parks	

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala Sweden
Tel: +46-40 40 45 57 Fax: +46-40 40 45 81
e-mail: wanjet@swipnet.se
www.wanjet.se

WANJET Fogging machines

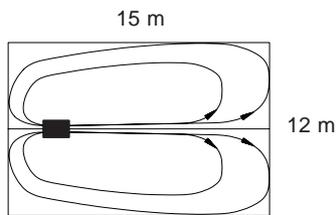
Technical data - fogging machines

	F10	F15	F20	F21	F22	F23	F30	F40
Fog capacity	0-40 l/h*	0-40 l/h*	8,5 l/h	8,5 l/h	8,5 l/h	8,5 l/h	8,5 l/h	2 x 8,5 l/h
Reach	15 m	15 m	60 m	60 m	60 m	60 m	60 m	2x60 m
Tank capacity	5 l	5 l	12 l	12 l	12 l	12 L	12 L	2X12 L
Agitation, solution tank	-	-	by air	by air	electric motor	electric motor	electric motor	electric motor
Cleaning system	-	-	-	-	-	-	standard	standard
Voltage, VAC	220-240	220-240	220-240	220-240	220-240	220-240	220-240	380-400
Fan capacity	-	-	5400 m³/h	5400 m³/h	5400 m³/h	5400 m³/h	5400 m³/h	10800 m³/h
Feet/wheeled chassis	-	-	stand	wheeled chassis	stand	wheeled chassis	wheeled chassis	wheeled chassis
Dimensions, cm	41x17x37	41x17x37	110x60x88	130x70x165	110x60x88	130x70x68	130x70x165	130x100x165
Weight	3,5 kg	3,7	30 kg	38 kg	34 kg	42 kg	42 kg	85 kg

* Output for LV fogging included

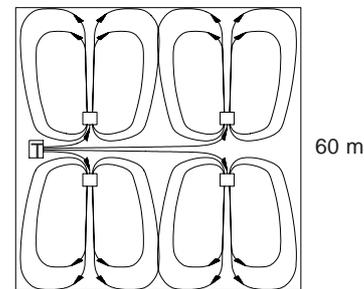
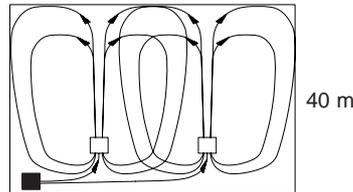
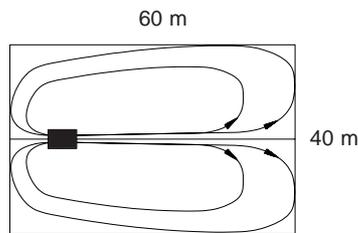
Positioning of Wanjet fogging machines

Wanjet F10



■ Wanjet F10

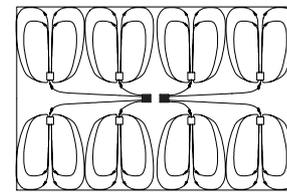
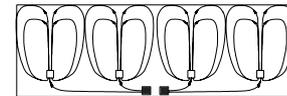
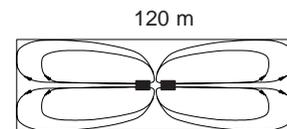
Wanjet F20 - F30



■ Wanjet F20 - F30

□ Cirkulation fan

Wanjet F40



■ Wanjet F40

□ Cirkulation fan

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala
Sweden

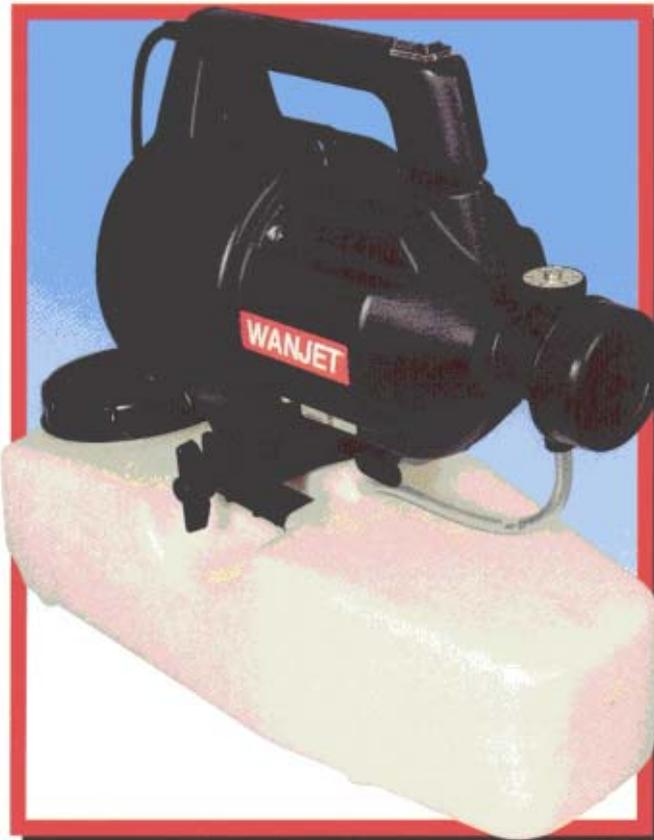
Tel: +46-40 40 45 57 Fax: +46-40 40 45 81

e-mail: wanjet@swipnet.se

www.wanjet.se

WANJET F10 & F15

Fogging machines



WANJET F10

A Hand-held fogging machine for indoor application of chemicals.

Filling up the solution can be carried out easily and safely and the tank is designed to be easy to clean.

The choice of fogging method, (Ultra low volume) or LV (Low volume) is easy to set by a special air valve.

The output is determined infinitely by a solution valve.

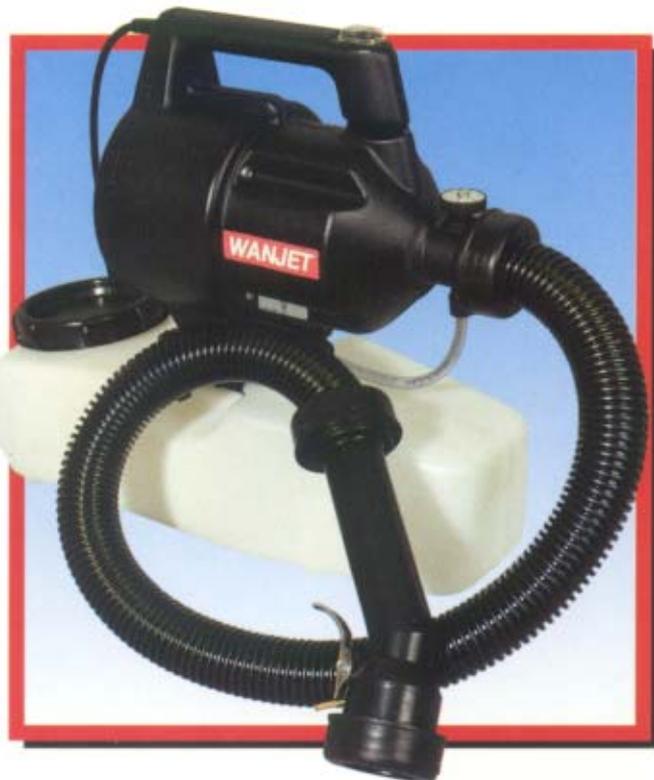
The low weight together with the design of the

machine makes it easy to carry, but it can also work from a stationary place in the area to be treated.

The on/off switch is comfortable because the switch is placed on the handle.

The machine is equipped with an air filter, which is easy to replace.

Wanjet F10 is like Wanjet F15 manufactured in HD Polythene which is crack proof and has a very high resistance towards aggressive chemicals .



WANJET F15

The same unit as Wanjet F10, but equipped with a fog gun and a flexible hose.

The fog gun makes it easier to control the direction of the fog at the same time as it makes interval fogging without stopping and starting the motor possible.

Technical data

	F10	F15
Capacity in ULV mode	0-16 l/h	0-16 l/h
Capacity in LV mode	16-40 l/h	16-40 l/h
Reach	15 m	15 m
Tank capacity	5 l	5 l
Voltage	220-240 VAC	220-240 VAC
Blower, power	1000 W	1000 W
Fog gun	-	standard
Hose length	-	1,3 m
Cord length	0,5 m	0,5 m
Dimensions	41x17x37 cm	41x17x37 cm
Weight	3,5 kg	3,7 kg

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala Sweden

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e-mail: wanjet@swipnet.se

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WANJET F20-F23

Fogging machine

Treatment of large areas

The units in the Wanjet F20 series are designed for treatment of large areas. The design of the fan housing is the result of extensive work on aerodynamics. By means of the specially designed intake, air control and the conically designed front, a very powerful air stream with a long range can be achieved.

Minimized exposure to chemicals

A timer makes unattended treatments up to 12 hours possible, which means it is possible to reduce exposure to chemicals to a minimum.

High reliability

A great deal of care was taken during the design stage to use simple and dependable technical constructions that minimize the need for service and maintenance. All components in contact with



chemicals are made of polythene and stainless steel. The chassis is zink plated to prevent rusting.

Wheeled chassis or stand

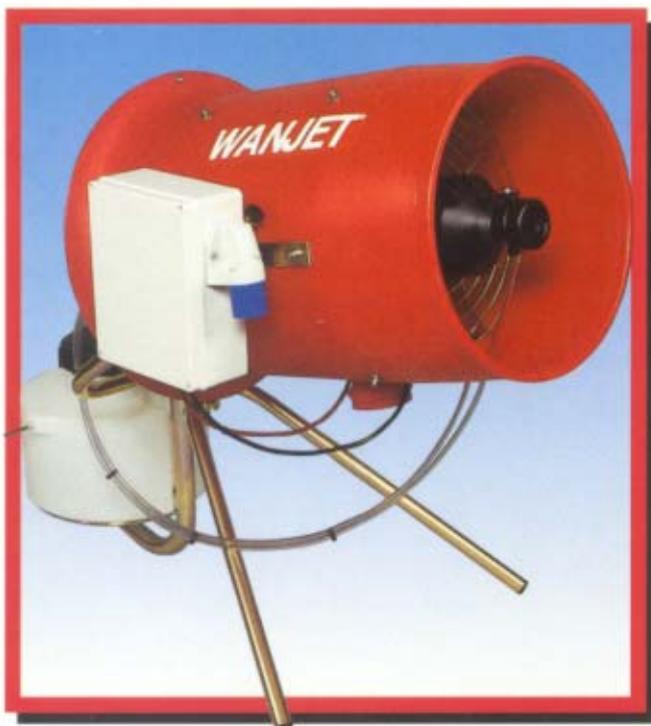
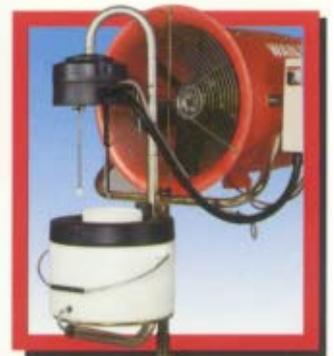
Wanjet F20 and F22 are equipped with stands to be placed on the floor, a table or on a trolley. Wanjet F21 and F23 are equipped with a wheeled chassis.

Agitation

Wanjet F20 & F21 have a agitation system working by air pressure from the blower.



Wanjet F22 & F23 have a agitation system, working by an electric motor, which is assembled on a telescope arm.



Technical data

	F20	F21	F22	F23
Fog capacity	0-8,5 l/h	0-8,5 l/h	0-8,5 l/h	0-8,5 l/h
Reach	60 m	60 m	60 m	60 m
Tank capacity	12 l	12 l	12 l	12 l
Agitation	by air	by air	by electric motor	by electric motor
Fan capacity	5400 m ³ /h			
Fan motor, power	370 W	370 W	370 W	370 W
Blower, power	1000 W	1000 W	1000 W	1000 W
Equipped with	Stand	Wheeled chassis	Stand	Wheeled chassis
Adjustable height	-	140-190 cm	-	140-190 cm
Dimensions, cm	110x60x88	130x70x165	110x60x88	130x70x165
Weight	30 kg	38 kg	34 kg	42 kg

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WANJET F24

Fogging machine

Wanjet F24 is specially designed for disinfection in food processing, stock buildings and livestock.

Wanjet F24 - Advantages:

Reduced labor time

The unit runs unattended up to 12 h.

Minimized personal exposure for chemicals

It is only necessary to be present when filling the tank and starting the unit.

High capacity

By means of the specially designed intake, air guides and the conically designed front, a very powerful air stream can be achieved.

High reliability

All components in contact with chemicals are made of polythene and stainless steel. The chassis is zink-plated to prevent rusting.

The machine is easy to clean, because it is designed with few parts, which are speci-

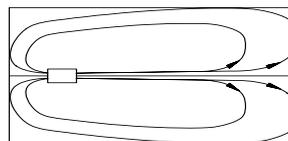
ally designed for the machine.

Working principles

The unit works with the ULV/LV principles. (ULV=Ultra Low Volume, LV=Low Volume). The small size of aerosol droplets means that coverage of the target area is achieved with a lower volume of liquid than with conventional methods.

This allows the volume of carrier to be reduced.

The small droplets fall down very slowly and are therefore possible to distribute evenly in the area by the forced air circulation



Wanjet F24 positioned in an area of 60x24 m without any extra ventilators

Technical data

F24	
Capacity	0-30 l/h
Control unit	timer 12 h
Reach	60 m
Tank capacity	60 l
Voltage	220-240 VAC
Fan capacity	5400 m ³ /h
Fan motor, power	370 W
Blower, power	1000 W
Dimensions, cm	130x70x165
Weight	41 kg

Wanjet fogging machines

Wanjet F24 is one of nine models in the Wanjet F-series. In the F-series are included Wanjet F10 and F15, specially suitable for disinfection of smaller areas, vehicles etc.



Wanjet F10



Wanjet F15

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala Sweden

Tel: +46-40 40 45 57 Fax: +46-40 40 45 81

e-mail: wanjet@swipnet.se

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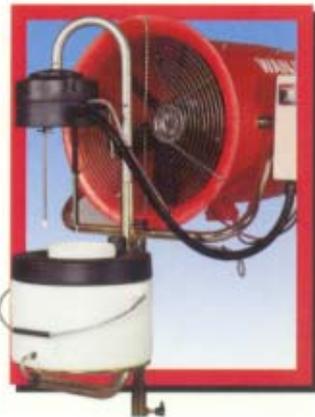
WANJET F30

Fully automatic atomization!

The Wanjet F30 works completely unattended with the help of a microprocessor. Atomization can be set to start at any time up to 24 hours.

Agitation

Once the machine has been loaded with the solution and the starting time has been set, agitation starts to keep the solution in the tank homogeneous. Agitation continues throughout atomization.



Preventilation

When the preset starting time is reached, the generator fan starts building up air circulation in the space that is to be treated.

Atomization

After preventilation, atomization starts and continues until the tank is emptied of the solution. A sensor controls this together with the electronics.

Automatic cleaning

When atomization is complete, the water in the wash tank is drained into the solution tank. The water is then atomized so that the tank, hoses and nozzle are cleaned.

Final ventilation

In order to distribute the particles floating in the air even better, the generator's last programme stage is final ventilation. When final ventilation is complete, all functions on the unit stop.

High performance and reliability

The design of the fan housing is the result of



Fogging machine



an extensive work on aerodynamics.

By means of the specially designed intake, air control and the conically designed front, a very powerful air stream with a long range can be achieved.

For high reliability, all components in contact with chemicals are made of polythene and stainless steel. The chassis is galvanized to prevent rusting.

Technical data

	F30
Fog capacity	0-8,5 l/h
Control unit	Microprocessor
Reach	60 m
Tank capacity	12 l
Cleaning system	Automatic
Voltage	220-240 VAC, 1400 W
Fan capacity	5400 m ³ /h
Fan motor, power	370 W
Blower, power	1000 W
Adjustable height	140-190 cm
Dimensions, cm	130x70x165
Weight	42 kg

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala
Sweden

Tel: +46-40 40 45 57 Fax: +46-40 40 45 81

e-mail: wanjet@swipnet.se

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WANJET F40

Fogging machine

Fully automatic atomization!

Wanjet F40 works completely unattended with the help of a microprocessor. Atomization can be set to start at any time up to 24 hours.

Agitation

Once the machine has been loaded with the solution and the starting time has been set, agitation starts to keep the solution in the tank homogeneous. Agitation continues throughout atomization.



High performance and reliability

The design of the fan housing is the result of extensive work on aerodynamics. By means of the specially designed intake, air control and the conically designed front, a very powerful air stream with a long range can be achieved.

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Automatic cleaning

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Final ventilation

In order to distribute the particles floating in the air even better, the generator's last programme stage is final ventilation. When final ventilation is complete, all functions on the unit stop.

Prevention

When the preset starting time is reached, the generator fan starts building up air circulation in the space that is to be treated.



Technical data

	F40
Fog capacity	0-17 l/h
Control unit	microprocessor
Reach	120 m
Tank capacity	2x12 l
Cleaning system	Automatic
Voltage	380-400 VAC, 2,8 kW
Fan capacity	10800 m ³ /h
Fan motor, power	2x370 W
Blower, power	2x1000 W
Adjustable height	140-190 cm
Dimensions, cm	130x100x165
Weight	85 kg

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala
Sweden

Tel: +46-40 40 45 57 Fax: +46-40 40 45 81

e-mail: wanjet@swipnet.se

www.wanjet.se

F30SI

Fogging machine

Fully automatic atomization!

The Wanjet F30SI is designed for stationary installation.

The method of working is mainly equal to F30, but the machine is divided into two parts:

The fogging unit

The fogging unit is mounted like a circulation fan. This gives the user an opportunity to place the unit anywhere in the area to be treated.

The tank & control unit

The tank and control unit is mounted with two bolts in a safe and convenient height for



the operator.

The output setting is adjustable from the control unit.

Connection to climate computer

We are now developing a software to our F30SI. It gives you an opportunity to connect most of the existing climate computers on the market.

Wanjet AB N Ellenborgsgatan 2 S-233 51 Svedala
Sweden

Tel: +46-40 40 45 57 Fax: +46-40 40 45 81

e-mail: wanjet@swipnet.se

www.wanjet.se

