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ULV Cold Fogging Applicators

Fontan Portastar S, Fontan Mobilstar

SWINGTEC

The first engine driven Fontan

mistblower was designed and developed more than 60 years ago. At that time, it was already possible to equip the machines with a ULV (Ultra Low Volume) attachment for the generation of fine aerosol droplets.

Our engineers and specialists recognized, at an early stage, the high application potential of aerosol spraying technology and subsequently developed this further.

In 1978, the Fontan ULV-R was introduced into the market. This proved to be a milestone in cold fogging technology, because it was the first motorized device in the world that could be used in the form of a knapsack and that was designed especially for ULV applications.

Today, our activities are concentrated on ULV technology and thousands of our products are successfully in use throughout the world with health organizations in the combat of mosquitoes and in vector control.

It is our belief that the Fontan Portastar S and the Fontan Mobilstar are currently the most modern and technically advanced devices of their type.

An important aspect of our company's philosophy is the continuous improvement of the existing product range. In the fields of engineering, design and development we employ highly qualified people, using the most modern computer technology, to optimize our products and to develop new projects. We pay much attention to continuous consultation of our customers, users and suppliers. Careful controls applied during material procurement, production processing and final acceptance testing ensure that we maintain our well acknowledged standard of quality.

One of the first Fontan knapsack mistblowers

We are certified as compliant with DIN EN ISO 9001.

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Portastar S, Mobilstar

Fontan Portastar S
Knapsack ULV aerosol applicator, equipped with:
- 2.0 hp two-stroke engine
- Maintenance-free, low pressure compressor
- Ergonomically designed spray gun with a trigger for intermittent or continuous fogging

Delivery of the spraying liquid is achieved through a negative pressure in the spraying tank. The flow rate (liters per hour) is determined by easily interchangeable dosage nozzles:

Nozzle 30	1 l/h
Nozzle 45	2 l/h
Nozzle 58	3 l/h
Nozzle 68	4 l/h
Nozzle 84	6 l/h
Without nozzle	17 l/h

The droplet spectrum VMD (Volume Median Diameter) is < 30 µm, no matter which of the above nozzles is used.

Fontan Mobilstar
Vehicle mountable ULV aerosol applicators, equipped with:
- A 16 or 18 hp four-stroke engine with electrical starter (also fitted with a manual backup starter)
- A fuel tank with a capacity of 20 l and level indicator
- A dry running side channel compressor
- Two universally adjustable spraying heads
- A control panel/remote control for operating all functions of the applicator
- A flushing tank for automatic cleaning of the feed lines and spraying heads.

Spraying modes and flow rates

ULV	– flow rate between	5	and	50 l/h
ULV-Plus	– flow rate between	51	and	100 l/h
LV	– flow rate between	5	and	100 l/h

Model M
Flow rate setting (liter per hour):
interchangeable dosage nozzles with specific flow rates. Delivery of the spraying liquid is achieved by a positive pressure in the spraying tank.

Model E
The flow rate (liter per hour) is entered, via buttons, on the control panel/remote control and shown on the display. Delivery of the spraying liquid is achieved by a chemical resistant stainless steel gear pump which draws the spraying liquid from the spraying tank. The output quantity can be calibrated electronically.

Model ER
This top of the range model is equipped the same as the model E, however the flow rate of the spraying liquid can either be set to „liter per hour“ or „liter per kilometer“.
The applicator is fitted with a GPS system which enables the flow rate to be synchronized to speed when the device is set to liter per kilometer.
The GPS system operates in a speed range of between 3 and 25 km/h.
Within this speed range, the output quantity is controlled exactly such that an even coverage is achieved, independently from the vehicle speed.

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Fontan Mobilstar and Portastar – our solution for an efficient, economical and target orientated ULV application

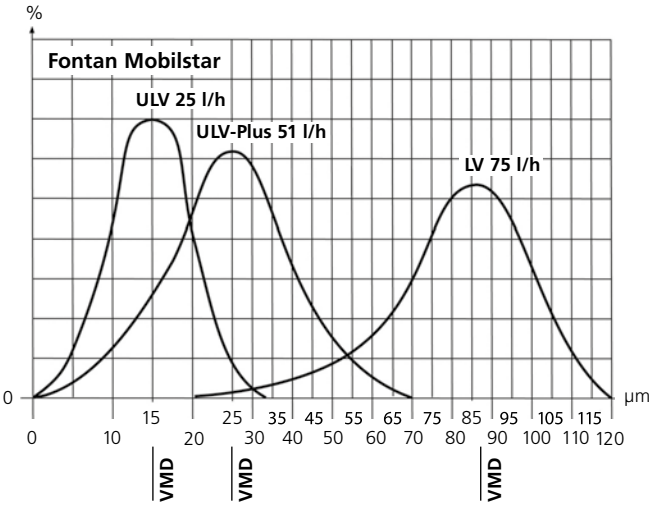
- Mosquito and pest control over extensive areas
- Application of larvicides
- Locust control
- Plant protection measures in large tropical plantations
- Sewage treatment
- Disinfection and deodorization of garbage dumps

The Fontan Mobilstar can be used, not only in the ULV (Ultra Low Volume) mode, but also in the ULV-Plus mode with a reduced droplet drift range and in the LV (Low Volume) mode.

Wind Force	Description	Observations	Wind Speed		Effective Swath Width / in meter*		
			m/s	km/h	ULV	ULV-Plus	LV
0	calm	smoke rises verticaly	0.0 - 0.2	0.0 - 0.7	25 - 50	20 - 40	15 -30
1	light whiff	observable drift of smoke	0.3 - 1.5	1.1 - 5.4	35 - 70	25 - 50	20 - 40
2	light breeze	rustle of leaves	1.6 - 3.3	5.8 - 11.9	50 - 100	35 - 70	25 - 50
3	soft breeze	leaves and twigs are moving constantly	3.4 - 5.4	12.2 - 19.4	75 - 150	50 - 100	30 - 60
4	moderate breeze	movement of small branches, whirl of dust and paper	5.5 - 7.9	19.8 - 28.4	Application possible with certain reservations (e.g. larger droplets with a reduced droplet drift range)		

* Effective swath width = total swath width ./. overlap (approx. 30%).
The given higher effective swath widths refer to an open area.
For obstacles such as dense vegetation or buildings these values are to be reduced by up to 50%.

Fontan Mobilstar
Effective swath widths in the ULV, ULV-Plus and LV modes, dependent on differing wind speeds according to the Beaufort scale.



Fontan Mobilstar
Typical droplet distribution using the modes ULV (Ultra Low Volume) as well as ULV-Plus, providing a slightly wider droplet spectrum for an application under difficult wind conditions, and LV (Low Volume).

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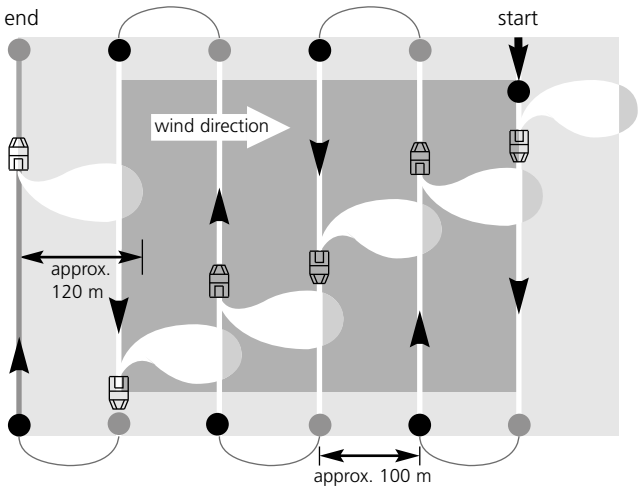
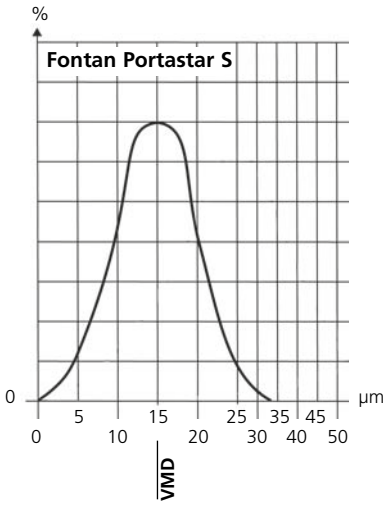
The Fontan Portastar S knapsack is specially designed for use in ULV (Ultra Low Volume) applications.



Example of a large area treatment using the Fontan Mobilstar, taking into account wind direction and swath width.



Fontan Portastar S
Typical droplet distribution. The VMD (Volume Median Diameter) with every dosage nozzle used is < 30 µm.

Control panel/remote control
Fontan Mobilstar model M
– Key switch, to start the engine
– Turn switch: spraying, stop, flushing
– Spraying mode indicators ULV/LV
– Failure indicator

Control panel/remote control
Fontan Mobilstar models E and ER for programming and operating all functions
– Key switch, to start the engine
– Stand-by indicator
– Spraying mode selector button ULV, ULV-Plus and LV with LEDs
– Operation selector button liter per hour
– Output quantity entry buttons
– Display to indicate the flow rate and, if required, the operating hours
– Confirmation button for the selected spraying program
– Spraying button
– Flushing button
– Failure indicators for the spraying system and for the engine/compressor system. Failure codes are shown on the display.
– The spraying program can be locked by entering a special code. This will prevent manipulation of the spraying mode or flow rate, until such time as the program is unlocked.

Additional functions of the Fontan Mobilstar model ER
– Operation mode liter per kilometer (speed synchronized output) or liter per hour.
– Display of the distance driven (in km)
– Display of the vehicle speed (speedometer)
– Indication of the correct vehicle speed in the operation mode liter per kilometer

The control panels are mounted on the applicator but can be detached and used as a remote control.

Ergonomically designed spray gun
of the Fontan Portastar S with a trigger for intermittent or continuous fogging.

Spraying head of the Fontan Mobilstar with adjusting disc for ULV and LV. In the "LV" position, the air volume at the nozzle is reduced, thus producing larger droplets.

Fontan Mobilstar E and ER
Spraying liquid delivery circuit. The circuit consists of a chemical resistant stainless steel gear pump which provides an electronically controlled output dependent on pump speed.

Interchangeable dosage nozzles with specific flow rates (liter per hour):
ULV 20, 25, 30 l/h / ULV-Plus 50, 70, 90 l/h /
LV 40, 70, 100 l/h

Fontan Mobilstar (all models)
Sewage treatment attachment with connecting tubes, spraying head and cover plate
(optional accessory).

Spraying tanks, polyethylene, with level indicator, large filler opening, tank vent, drainage aperture and quick-release coupling for the connection of the chemical feed line.
Available tank capacities 80 l, 150 l, 300 l, 500 l. Optional accessory for Fontan Mobilstar models E and ER only.

For the Fontan Mobilstar models E and ER any chemical resistant spraying tank can be used, that is locally available, provided the tank is equipped with vent and quick-release coupling.

Spraying tank made of stainless steel, capacity 69 l, filter insert (stainless steel), with level indicator, drainage aperture and quick-release coupling for the connection of the chemical feed line.
Standard accessory with Fontan Mobilstar M.
Optional accessory for Fontan Mobilstar E and ER.

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DIN EN ISO 9001

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QUALITY WINS

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