epoke®
GROUP

CERTUS AST

Advanced Spreading Technology

– the safe way!

CERTUS AST

- auger spreader with low centre of gravity

CERTUS AST is Epoke's auger spreader and it is ideal for spreading salt and pre-wetted salt.

The application system in CERTUS AST models is design in accordance with the auger principle. The auger's design ensures that the hopper is emptied regularly and that the centre of gravity distribution is evened out. The result is improved driver safety.

CERTUS AST is well-designed, service-friendly spreader and extremely reliable because of its many design features that among other things, prevent blockages, bridging, etc.

Depending on the individual spreader specifications, it can be detached when full – up to a total weight of 17 tonnes. This significantly reduces response times when called out.

Everything on CERTUS AST is designed to solve the task optimally and in the shortest time possible without compromising environmental considerations or the safety of the driver and his surroundings.

CERTUS AST is GS and CE marked, and it has passed spreading and dosing tests B and C in accordance with DIN CEN/TS 15597-2 and industry association EUnited, respectively.

CERTUS AST can be precisely adjusted to suit the individual task using Epoke's wide range of control software.

The inspection ladder is positioned on the spreader arrangement for easy and safe movement.

The new side tank now has a capacity of up to 3500 l (small 2200 l, medium 2592 l, large 3500 l) and has been adapted to suit the

The engine compartment, which houses all of the control units is well shielded from the road, in accordance with the principle "well protected but easily accessible".

CERTUS AST BENEFITS:

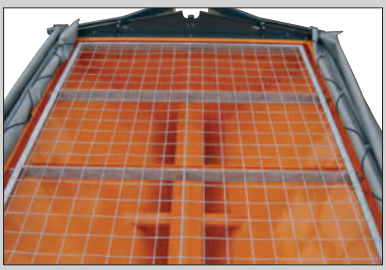
- Highly effective spreader, ideal for spreading salt and pre-wetted salt.
- Extremely flexible
- Mutually adjusted capacity for the liquid tank and hopper, which ensures an optimal range when spreading pre-wetted salt.
- Spreading width of up to 12 m.
- Working speed of up to 60 km/h.
- Easily accessible operating locations behind the spreader within safe reach.
- Fast fitting to truck bed via four lashing eyes.
- Extremely reliable machine that is ideal for treating icy roads in Central Europe.
- Different unloading systems.
- Benefit of Epoke's expertise and many years of experience.

Operational

Hydraulics
SH – Vehicle hydraulics

Diesel engine
SE – Lombardini diesel engine

The diaphragm pump for pre-wetting is positioned in the engine compartment where it is easily accessible for inspection. The pump's operation is extremely precise, even after many years of operation.



When the new tarpaulin is fully tipped up, it leaves the hopper fully open.

Remote control options:
EpoMini X1 or EpoMaster X1.

A number of options are available with CERTUS AST, which means it can be precisely adapted to the individual task. Using Epoke's GPS-controlled spreading system – EpoSat, the spreader does the work itself once the route has been coded in. It remembers the varying road widths and ensures that no location is forgotten.

Using EpoTherm, a sensor measures the road's temperature and automatically sets the spreading quantity. This means that only the quantity of salt necessary is used, which benefits the environment and saves money. EpoTherm can also be combined with GPS control.

An investment in EpoTrack ensures that all of the data from a given route is collected. All of the information about the route – temperature conditions, the total quantity of spreading material used and variations in the amounts applied along the route are collected in EpoTrack and this information is also thorough documentation for well-executed work.

Epoke Group

We produced our first sand and salt spreader in 1955, and since then we have solely focused on the development, production and sale of machines and equipment for the treatment of icy roads. Today, we are a global leader. In Denmark, sales are carried out by our own sales staff, while abroad our subsidiaries and 31 dealers manage sales.

Learn more at www.epoke.dk

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EpoAdapt

- the simple method for automatic calibration

- the safe way!

EpoAdapt - the simple method for calibration

The characteristics and properties of spreading materials can vary a lot.
From sand and salt, to fine-grained vacuum salt, which tends to stick, to coarse-grained rock salt, which is much more moveable.

This means that in order to ensure the precise treatment of icy roads, salt spreaders must be calibrated. But calibration can be a time-consuming process, which means it may be neglected during the busy winter season.

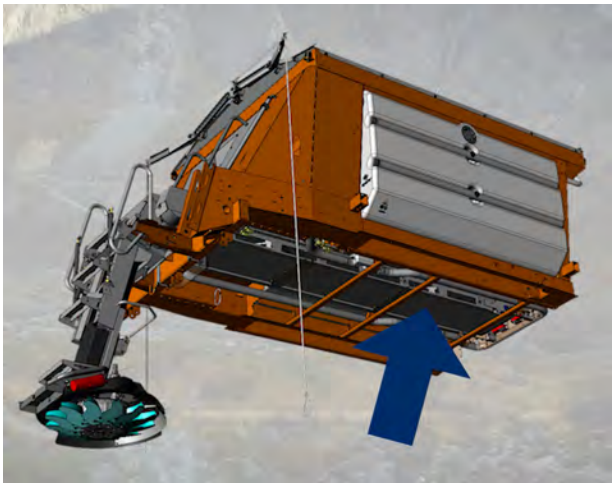
The good news is the process is now a simple push of a button with Epoke's load cell based calibration tool, known as EpoAdapt. The spreader setup can now be set correctly and precisely, and it also means that when called out, the start time is reduced to a minimum.

Maximum precision using load cells

EpoAdapt uses load cells. Salt dosage calibration is carried out by the weighing of the spreader conveyor along with the spreading material, and this is carried out continuously and automatically – without any intervention from the driver. Since only the conveyor belt and material are weighed, the measurement is very accurate.

The unique Epoke method means that the spreading material from the hopper is moved via the roller to the unloaded conveyor belt, which because of its positioning is protected from snow, dirt, ice and water.

The Epoke method also eliminates the need for extra frames for the positioning of the load cells. This mean smaller, more accurate load cells can be used, which helps to significantly simply the entire solution.



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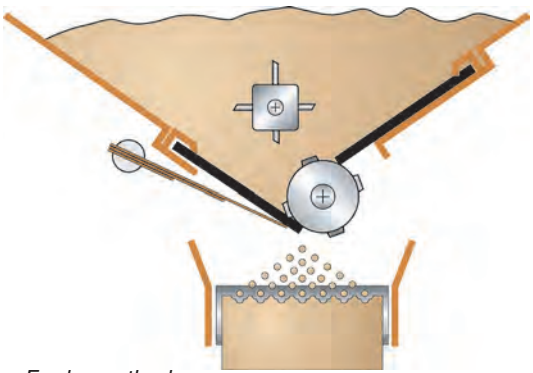


The Epoke method

EpoAdapt is activated by a press of a button on the remote control.

Short response time

The Epoke method means that the conveyor belt is not loaded, and at the same time the roller only requires limited power at start-up. This means that immediately after a spreading job has been completed, the Epoke spreader can be loaded and made ready for the next spreading job.

When the driver is called out, all he needs to do is mount the spreader on the truck and press the “tare” button in the EpoMaster X1 remote control. He is then ready to operate the spreader knowing it is perfectly calibrated and that it will deliver precisely the desired amount of spreading material.

Not affected by inclines or uneven areas

EpoAdapt is equipped with incline compensation, which means when the spreader is driven over a hilly area with many bends and banking, it compensates for the external forces.

At the same time, the system software filters out effects, e.g. speed bumps.

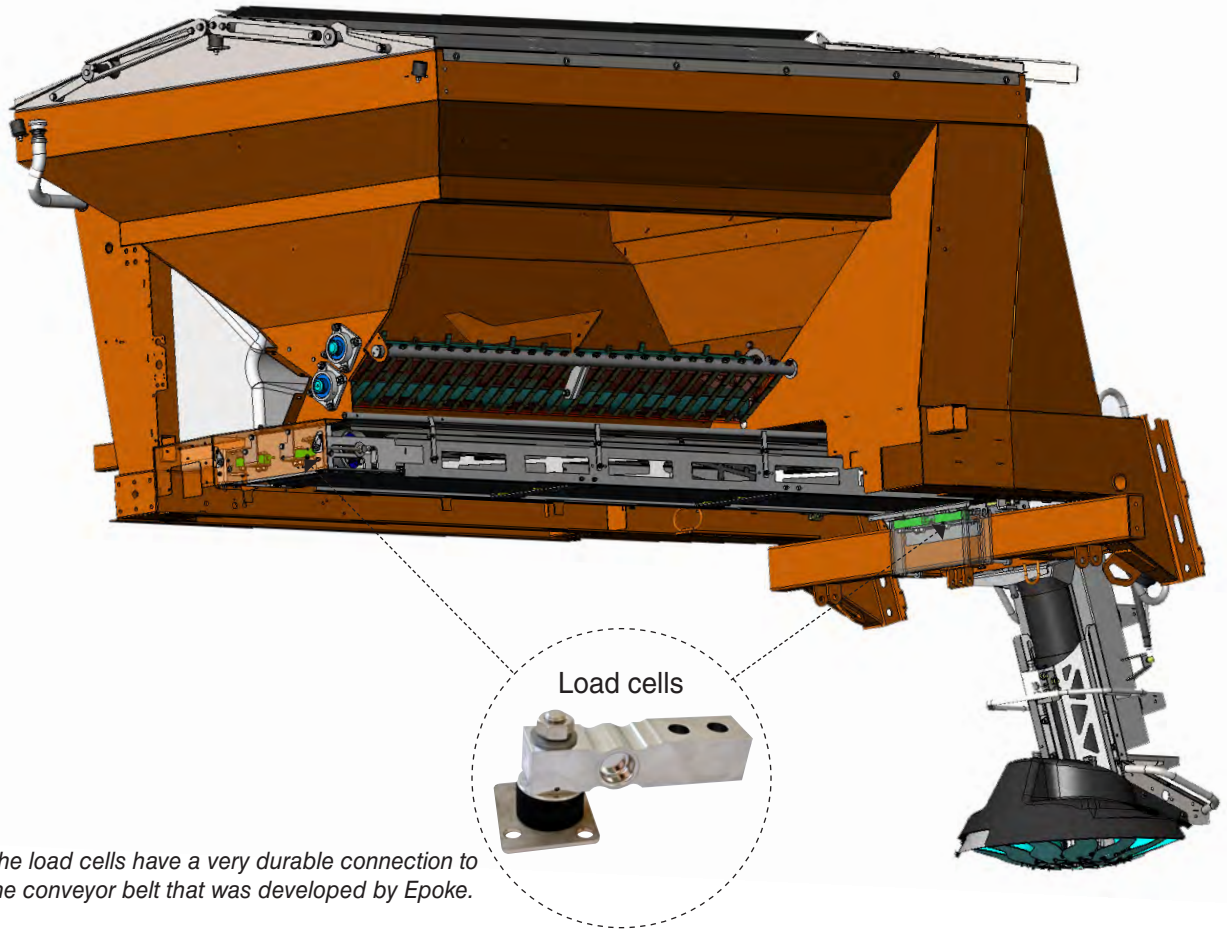
EpoAdapt is therefore ideal for use in all areas, such as flat areas, mountainous areas, open countryside and built-up residential areas.

Roller disengagement with double function

The Epoke system provides a large number of benefits and extra options through the use of EpoAdapt.
One of these options is the electronic disengagement of the roller from the remote control, which means that the important taring of weight before each spreading job can be done quickly, easily and precisely. At the same time, the disengagement ensures that once the spreading job is finished, the remaining spreading material on the conveyor belt can be removed quickly and easily.

Optimal precision

EpoAdapt increases the precision of the work because the solution ensures a maximum deviation of +/-5% compared to the normal 20–30% with conventional calibration.



The load cells have a very durable connection to the conveyor belt that was developed by Epoke.

SNOWLINE

EPOMINI 5

EpoMini is equipped with the Epoke metering system consisting of an impellor, a delivery roller and a spring loaded rubber base which ensure an accurate and homogeneous distribution along the full width of the spreader.

Like all other Epoke machines, EpoMini features surface treatment consisting of sandblasting, zinc dust priming, 2-component polyurethane base coat and a 2-component top coat.

EpoMini 5	
Hopper capacity:	app. 50 liter
Spreading width:	550 mm
Total width:	760 mm
Weight:	30 kg
Cruising radius per filling	
Salt:	app. 5 km
Sand:	app. 1 km

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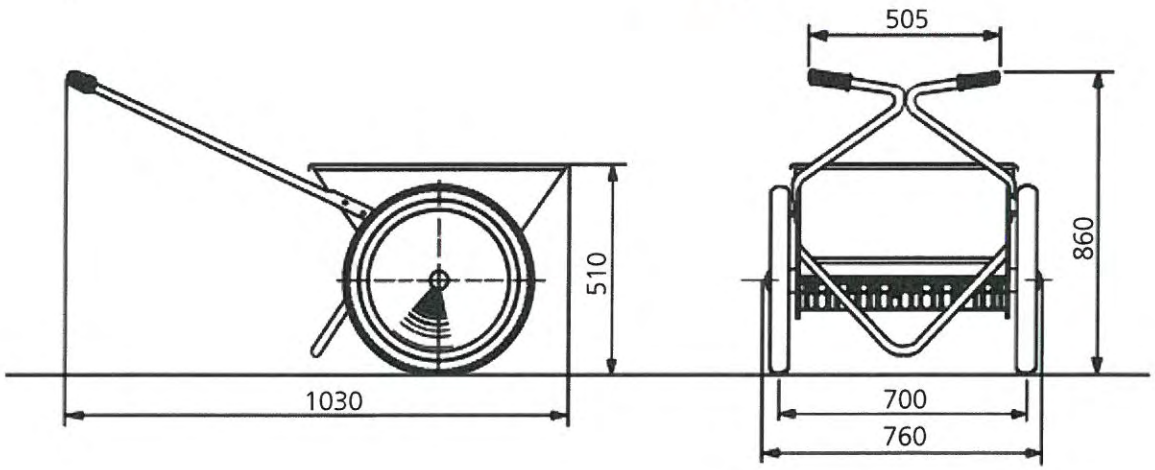
SNOWLINE

EPOMINI 5

Standardudstyr:

- Abigator
- Rubber base
- Spring base adjustment
- Transmission
- Wheel



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PM 1,4

epoke®

– de-icing of roads!

James A. Cuthbertson Limited
www.jamescuthbertson.co.uk
Tel: 01899 220020

CE

PM 1,4

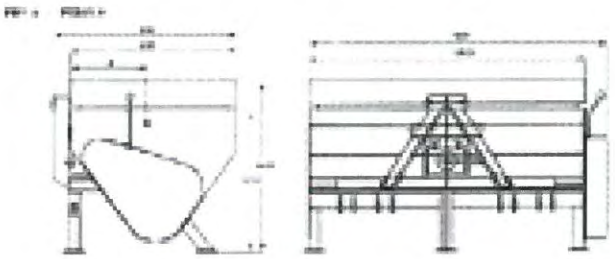
Technical data and dimensions

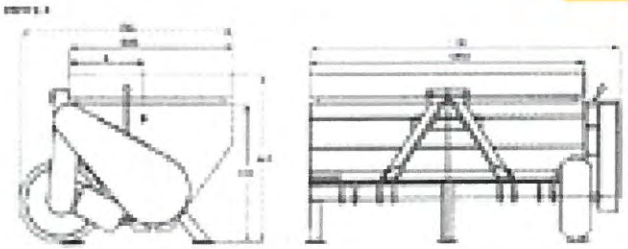
Spreading width:	1010 mm
Approx. capacity:	140 l
Self-weight:	85 kg - 95 kg
Standard equipment:	Standard agitator, safety grate, spring base and spring base adjustment
Optional equipment:	Lights and reflex, 60 l hopper extension, 140 l hopper extension, cover, fittings for PMH 1,4

Features:
The quantity of material is adjustable through a hand lever placed on the side of the spreader, by means of which the spring base is either loosened or tightened according to the desired delivery amount.

The delivery roller ensures an accurate and uniform delivery of the material over the entire spreading area, and the agitator prevents material bridge building and grinds down any lumps in the material.

The PM models are - like all other Epoke spreaders - sandblasted and rustproofed using zinc dust primer and a two-component polyurethane base coat, followed by a two-component top-coat.





The PM 1,4 is powered by the tractor PTO and is available with 540, 800/1000 or 2000 rpm of the PTO.

The PMH 1,4 is powered hydraulically by a Danfoss hydraulic pump and is available for flows of 15 or 30 l/min at 160 bar.

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TLG B-3 approval
GS approval
E1 approval
RoHS directive
WEEE directive

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Epoke Computer Assisted Spreading

- the safe way!

Epoke Computer Assisted Spreading

The Epoke Computer Assisted Spreading system consists of a number of software solutions that can be used separately, each meeting specific requirements. The system is robust and integrated, ensuring the best spreading quality and minimal effort from the driver.

Each individual element was developed by Epoke's own software and electronic specialists, working in collaboration with customers in several countries. The individual elements were tested while the machines operated under very different conditions and were closely monitored by Epoke staff throughout the entire testing phase. In a similar vein, production takes place at the factory in Vejen, which means Epoke has a complete overview of all of the development and production process details.

Perfect spreading and ensuring the driver has optimal focus on the road are two requirements that are difficult to combine. This was why Epoke Computer Assisted Spreading was developed – to ensure at all times faultless spreading and the best working conditions for the driver, who can concentrate on the road and nothing else.

Precise dosing and delivery of only the necessary amount of spreading material benefits the environment and saves money.
Using Epoke Computer Assisted Spreading, all of the spreading operations are monitored and documented and the data can be used, for example, as documentation, for statistical purposes and for ongoing optimisation of the work.

EpoMaster X1

Epoke's advanced remote control was developed in collaboration with users.
EpoMaster X1 is the basis of Epoke Computer Assisted Spreading. Several of the system's functions are controlled from the 7" display, which has a user-friendly layout, simple pictographs and pleasant touch buttons.

EpoTherm

The system for temperature-controlled spreading automatically adjusts the spreading amount based on the ongoing measurements of the road's temperature and the driver's selection of the weather type. EpoTherm is activated by the press of a button on the EpoMaster X1 remote control.

EpoSat

EpoSat even controls the spreading, so that the driver can fully concentrate on the road.
Before the winter season, routes are configured, which contain for example, control of the spreading amount, width and symmetry, start/stop of spreading and start of the rotary light. Using GPS, the spreader's position is determined on the route and based on this position, the spreader's settings are set.
Spreading is uniform and optimal every time, and neither too little nor too much is spread, which benefits both the environment and road safety.
EpoSat is activated by the press of a button on the EpoMaster X1 remote control.

EpoSat Web App

To use the EpoSat Web App, all that is required is internet access. Once logged in, the user can edit the spreader routes that are configured in EpoSat.
The intuitive user interface is simple and logical to use and with the detailed map layer, changes to the route can be made quickly and easily. EpoSat Web App is particularly ideal for reorganising routes, road works, etc.
To operate EpoSat Web App, the user only needs to log in using an ordinary computer with internet access.

EpoAdapt

EpoAdapt is Epoke's load cell solution for the automatic and continuous calibration of the salt spreader. EpoAdapt ensures correct calibration and thus the precise amount of salt is spread, benefiting traffic safety, the environment and material consumption.

EpoAdapt functions via the EpoMaster X1 remote control and is activated by Epoke's specially trained service personnel.

EpoData

EpoData is the latest web-based product developed by Epoke software engineers. The app provides a large number of options, e.g. fleet monitoring, information logging in real time, reporting of many parameters and the documentation of executed work for settling invoices or for insurance cases.
At the same time, EpoData provides the option for generating and processing large amounts of data, and the optimisation of spreading thus becomes much simpler.
To operate EpoData, the user only needs to log in using an ordinary computer with internet access.

EpoNav X1

Using EpoNav X1, the full benefits of EpoSat are assured. The driver is informed on an ongoing basis and in good time about the route and the direction of travel. The navigation box's map display and audio messages lightens the driver's workload and he can thus stay focused on the road. If the driver does not know the route, he can use EpoNav X1 to easily take over new spreading tasks with increased flexibility in the planning as a result.
EpoNav X1 functions via the EpoMaster X1 remote control and is activated with a single press of the on/off button.

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EpoMini X1

Remote control

- the safe way!

EpoMini X1

- Epoke's own in-house developed remote control

EpoMini X1 is Epoke's own in-house developed remote control, which perfectly balances functionality, simplicity and price. It is designed to provide the user with easy access to the most advanced functions, directly from logically positioned backlit buttons that produce a clear, audible click when pressed.
The easily readable high-contrast 3.5" LCD colour display provides the user with an intuitive understanding of how the machine is set.

The easily readable numbers for the spreading settings and a simple graphic display of the spreading profile provides a fast and easy overview.
Clear colours and adjustable backlighting makes the screen content easy to read, even in strong sunlight. At the same time, the screen is kind to the eyes in dark surroundings, where the display is clear and sharp.

1. **3,5" colour display**
   Easily manageable settings and graphic display of the spreading profile

2. **Simple operation**
   All of the spreader functions are operated directly using the physical buttons

3. **Practical distribution of widths**
   Right/left spreading profile widths can be set separately

4. **Three function buttons**
   Spreading settings can be quickly saved/ replayed

5. **Status LED**
   Direct in the button for the most used functions (start/stop, lamps, pre-wetting, etc.)

6. **Easily accessible control of combustion engine**
   Direct from physical buttons

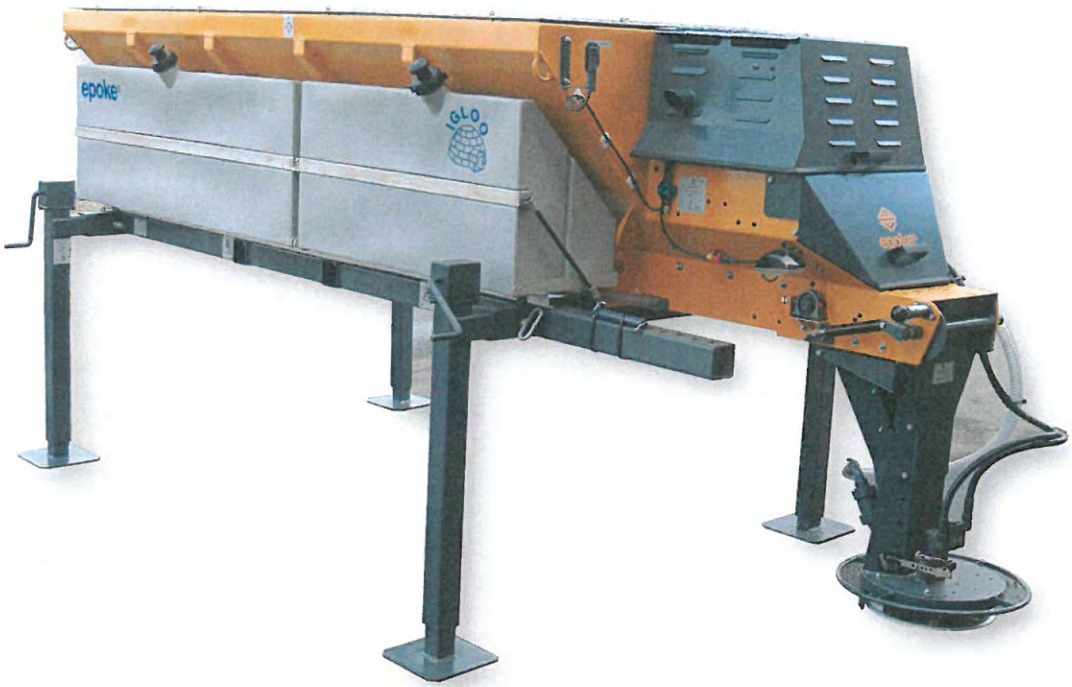
EpoMini X1

- Compact, fast and simple remote control
- Impact-resistant and high ingress protection rating (IP64)
- Functions at temperatures as low as -25 °C
- Haptic feedback (click) and adjustable backlighting on all buttons
- Counter system with both trip counters and total counters for a number of parameters
- Alarm system with easily understandable alarm text, icon graphics and the option for an acoustic alarm
- Simple menu system for adjusting settings - in several languages
- Separate settings for up to three materials (two for the type of salt, one for the type of sand)
- Speed-dependent material dosage, which automatically adjusts the amount of salt in relation to vehicle speed


epoke
0 km/h
0 kg
20.0
g/m²
F1
F2
F3
2.00
meter
1.00
meter
START
STOP
1
2
3
4
5
6

IGLOO S2300

Belt spreader for small vehicles
in three hopper sizes:
800, 1100 and 1400 liters.



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EPOKE IGLOO S2300

Functional design and quality

IGLOO S2300 is width and quantity compensated and controlled by the EpoSet remote control.

The spreader is driven by the vehicle hydraulic system or a Honda petrol engine (5.5 HK).

Hopper sizes of 800-2000 liters are available through combination of basic hoppers and extension frames, whereby the optimal hopper capacity may be adapted to the individual vehicle. The low own weight and center of gravity of IGLOO makes it ideal for installation on small trucks and carrying vehicles.

The IGLOO-series is characterized by its clean-looking design, including the very practical machine house. This makes the spreader very service-friendly and easy to maintain resulting in low operating costs.

Basic dosage adjustment is performed at the dosing gate. The profiled conveyor belt works well with all material types and ensures steady and even material supply.

The stainless steel spreading disc featuring a working width of 1.5 – 6 meters makes the spreader well suited for action on bike paths, small roads, parking lots etc.

IGLOO surface treatment consists of sandblasting, rust protection with a 2-component zinc dust primer and a 2-component top-coat.

Optional extras:

- Prewetting system
- Petrol engine
- Folding cover
- Off-loading systems
- Stainless steel version
- Relief plate
- Center of gravity stabilizer
- Extension frame

The EpoSet remote control is installed in the driver's cab for control of start/stop of spreading, spreading width, orange warning light and working lamp.

The spreading disc and funnel are made of stainless, lacquered steel.

The spreader is equipped with a profiled conveyor belt to achieve even emptying of the hopper.

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In order to maintain the high and uniform product standard Epoke® A/S has been certified by Lloyd's register to ISO 9001:2008.
TLG B-3 approval
GS approval
E1 approval
RoHS directive
WEEE directive

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ITM

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– de-icing of roads!

EPOKE ITM 35 - 45 - 60

Technical data and dimensions

	ITM 35	ITM 45	ITM 60
Approx. capacity:	350 l	450 l	600 l
Spreading width:	780 mm	1010 mm	1461 mm
Track gauge:	1028 mm	1290 mm	1730 mm
Total width:	1150 mm	1435 mm	1885 mm
Self-weight:	145 kg	192 kg	220 kg

Standard equipment: Standard rubber base, spring base, spring base adjustment, delivery roller, transmission, rims and tyres

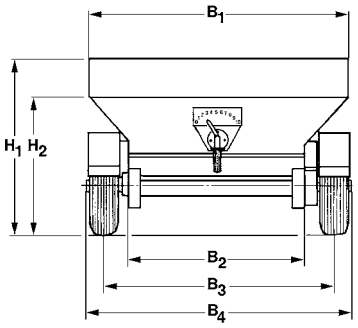
Optional equipment: Agitator, drawbar w. eye or ball bearing, three-point suspension, fitting for fork-lift truck, lights, electronic remote control and cover.

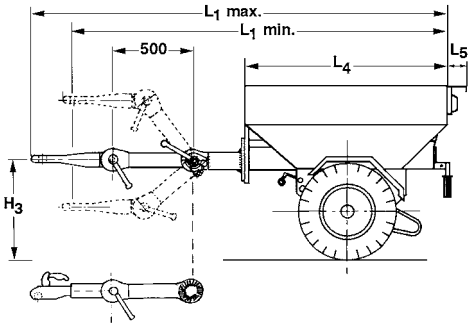
Features:
Stepless adjustment of the spreading flow. This means that the spreader can be set to deliver as little as possible but as much as necessary.

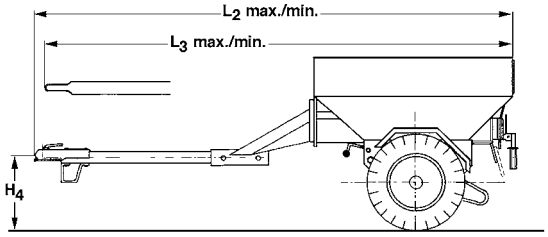
The ITM spreader may deliver sand, abrasive, urea, oil absorbers and other common spreading materials and combinations of these.

All models may be fitted with the Epoke dosing system, featuring an agitator, which prevents material bridge building and the delivery roller ensures accurate and even delivery over the entire spreading area.

Like all other Epoke machines, ITM features surface treatment consisting of sandblasting, zinc dust priming, 2-component polyurethane base coat and a 2-component top coat.







	B_1	B_2	B_3	B_4	H_1	H_2	H_3		H_4		L_1		L_2		L_3		L_4	L_5	V-m³
							max.	min.	max.	min.	max.	min.	max.	min.	max.	min.			
ITM35	1125	782	1028	1150	770	595	760	160	695	300	1930	1530	2000	1600	1900	1500	885	75	0,35
ITM45	1435	1012	1290	1435	840	715	880	280	825	430	1930	1530	2000	1600	1900	1500	885	75	0,45
ITM60	1885	1461	1730	1885	840	715	880	280	825	430	1930	1530	2000	1600	1900	1500	885	-	0,60

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SIRIUS AST

Advanced Spreading Technology

- the safe way!

SIRIUS AST

a salt spreader with many applications

SIRIUS AST is the global flagship of our modern winter service machines. It has been developed to precisely meet the requirements of the Danish Road Directorate and the requirements of municipalities and developers throughout the whole of Europe.

SIRIUS AST can work with dry matter or pre-wetted salt.

This ensures a short response time to changing weather and weather conditions during operation.

This advanced combination spreader incorporates several different spreading methods within a single machine, which ensures high efficiency and reliable execution when keeping areas clear of snow and ice in winter.

The application system in all SIRIUS AST models is designed in accordance with the Epoke method, which ensures uniform and precise spreading of all forms of spreading material, regardless of temperature conditions or the material's characteristics.

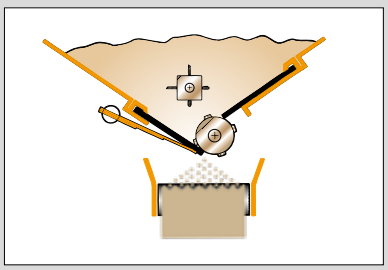
A roller along the entire hopper length evenly empties the hopper and maintains the machine's centre of gravity, which increases the safety for the driver during the operation.

The system's spring base guarantees fast adaptation to the different spreading materials, which increases flexibility.

The material is moved to the spreading disc either via a conveyor belt or conveyor auger.

The hopper design ensures that it can be detached when full – up to a total weight of 17 tonnes, without having to fit extra reinforcement. It is the only hopper of its kind on the market that can do this.
This means for example, shorter response times when called out because spreading can be started immediately.

The spreading disc with or without a mixing chamber is selected independently of the spreading material.
Efficient spreading at speeds of up to 60 km/h.



The Epoke method ensures the uniform and precise spreading of all forms of spreading material, regardless of temperature conditions or the material's characteristics.

All of the vital components are located in a sealed and locked engine compartment and thus protected from salt dust. The machine is also designed to be user-friendly – both for the driver and service personnel.

Everything on SIRIUS AST is designed to solve the task optimally and in the shortest time possible without compromising environmental considerations or the safety of the driver and his surroundings.

SIRIUS AST benefits:

- Closed engine compartment, which contains hydraulic and electrical components.
- Telescopic funnel with variably adjustable funnel length. Can be adjusted by one person.
- Ladder with integrated spreading disc mounting.
- Tarpaulin opens for the entire width of the spreader.
- Service-friendly – the spreader is developed in collaboration with service professionals.
- Guard rail integrated in the tarpaulin system.
- Many different unloading systems – **See accessories brochure**
- Flexible solutions that can be adapted for all types of trucks and which ensure the truck's correct centre of gravity.
- Easily accessible operating positions behind the spreader within safe reach.
- Fast response in changing weather and weather conditions, even during operations.
- Working speed of up to 60 km/h with the spreading disc.
- A highly efficient spreader, which can work with salt, pre-wetted salt, sand and gravel.
- Independent operation, synchronous spreader amount compensation.
- Access to Epoke specialists and their expertise.

Operational mode

Hydraulics
SH – Vehicle hydraulics.
40–50 l/minute 170 bar at 60 km/h.
Max. 75 l/minute, short period.

Diesel engine
SE – own water-cooled diesel engine.
2, 3 or 4 cylinders.

SW – 'the fifth wheel' (road wheel)
A very flexible option, which makes the spreader independent of the vehicle. Patented by Epoke A/S.

The specially developed liquid tanks ensure that there is stable distribution of liquid inside the tanks.
The durable liquid tanks are made from thermoplastic material, which is resistant even in extreme climate conditions.

Wide steps on the spreading disc arrangement means safe and easy access to the engine compartment.

Remote control options:
EpoMini X1 or EpoMaster X1.

A number of options are available with SIRIUS AST, which means it can be precisely adapted to the individual task. Using Epoke's GPS-controlled spreading system – EpoSat, the spreader does the work itself once the route has been coded in. It remembers the varying road widths and ensures that no location is forgotten.

Using EpoTherm, a sensor measures the road's temperature and automatically sets the spreading quantity. This means that only the quantity of salt necessary is used, which benefits the environment and saves money. EpoTherm can also be combined with GPS control.

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Learn more at www.epoke.dk

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SIRIUS COMBI AST

Advanced Spreading Technology

– the safe way!

SIRIUS Combi AST

- all of the options and functions in a single machine

SIRIUS Combi AST is a global flagship of machines for modern winter service. The combination spreader incorporates features from several machine types in a single machine, and it is developed precisely to meet requirements from the Danish Road Directorate, and from Danish municipalities and developers.

SIRIUS Combi allows you to work with dry material, pre-wetted salt or pure liquid. This ensures a short response time to changing weather and weather conditions during the work.
With this advanced combination spreader, there are many different spreading methods available in a single machine, which ensures that you get high efficiency and reliable execution when keeping areas clear of snow and ice in winter.

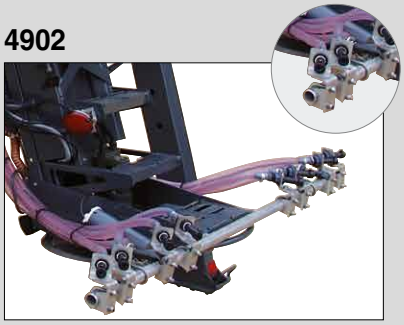
The application system in all SIRIUS Combi AST models is designed in accordance with the Epoke method, which ensures uniform and precise spreading of all forms of spreading material, regardless of temperature conditions or the material's characteristics.
A roller along the entire tank's length empties it evenly and maintains the machine's centre of gravity, which increases the safety for the driver during the work.
The spring base in the system guarantees fast adaptation to the different spreading materials, which increases flexibility. The material is moved to the spreading disc either via a conveyor belt or transport auger.

The container design ensures that it can be detached when full – up to a total weight of 17 tons, without having to add extra reinforcement. It is the only container of its kind on the market that can do this. This means for example, shorter response times when called out. Everything on SIRIUS Combi AST is designed to solve the task optimally and in the shortest time possible without compromising environmental considerations or the safety of the driver and his surroundings.

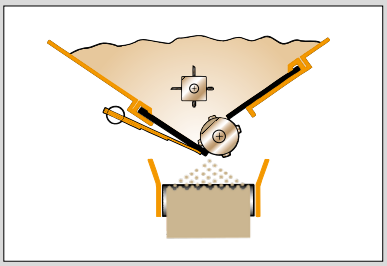
4900

High-speed spreading using Spreading Disc. Efficient spreading at speeds of up to 60 km/h.

4902



High-speed spreading using Spratronic nozzles. Efficient spreading at speeds of up to 90 km/h.



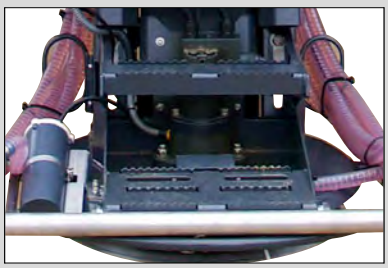
The Epoke method ensures the uniform and precise spreading of all forms of spreading material, regardless of temperature conditions or the material's characteristics.

This combination provides you with:

- A highly efficient spreader, which can work with salt, pre-wetted salt, saline solution, sand and gravel.
- Fast response in changing weather and weather conditions, even during operations.
- A spreading width of up to 11 m with liquid and up to 12 m with dry material.
- A working speed of up to 60 km/h with spreading disc and up to 90 km/h with nozzles on spreading boom.
- Easily accessible operating locations behind the spreader within safe reach.
- Fast fitting to truck bed via four lashing eyes.
- A flexible machine, manufactured for use in all parts of the world.
- Many different unloading systems.
- Access to Epoke's specialists and their expertise.

All of the vital components are located in a sealed and locked engine compartment and thus protected from salt dust. In addition, there has been increased focus on user-friendliness for the driver and service personnel.

The specially developed liquid tanks ensure that there is a stable distribution of liquid contents inside the tanks. The durable liquid tanks are made from thermoplastic material, which is resistant even in extreme climate conditions.



Wide steps on the spreading disc arrangement means safe and easy access to the engine compartment.

A number of options are available with SIRIUS Combi AST, which means it can be precisely adapted to the individual task. With GPS control, the spreader does the work itself once the route has been coded in. It remembers the varying road widths and ensures that no location is forgotten.

Using EpoTherm, a sensor measures the road's temperature and automatically sets the spreading quantity. This means that only the quantity of salt necessary is used, which benefits the environment and saves money.
EpoTherm can also be combined with GPS control.

An investment in EpoTrack ensures that all of the data from a given route is collected. All of the information about the route, temperature conditions, the total quantity of spreading material used and variations in the amounts applied along the route are collected in EpoTrack and this information is also thorough documentation for well-executed work.

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TP SERIES

Combined spreading disc and drop spreader

TP Series

TP Series spreaders are hitched tractor spreaders that can spread material using a roller or spreading disc.

TP series spreaders deliver the desired amount of material at all times and are road-independent (synchronous), which means that the set spreading amount per m^2 remains constant regardless of changes in spreading width or vehicle speed.

TP series spreaders are available in three variants – TP1,5 (up to 65 HP tractor) TP3 (up to 75 HP tractor) and TP9 (up to 200 HP tractor), and are supplied with a hopper capacity of 300 l and 900 1, with the option of a hopper extension frame. Each spreader is supplied with a liquid tank.

TP Series spreaders are operated as standard using the EpoMini X1 remote control and have a data acquisition option.

The spreader can be equipped with EpoSat/GPS control.

TP Series spreaders have a simple and service-friendly design, which makes them easy to maintain and keeps operational costs low.

The tractor spreader can spread all material types via the **Epoke quantity application principle** and/or directly via the spreading disc with a spreading width of 1.5-6.0 m. This makes the spreader ideal to use on cycle paths, car parks, smaller roads and in large spaces.

- Agitator to prevent bridge building
- Well-known components used
- Easy change-over between roller and spreading disc
- Road-speed related
- Full control by remote controller in driver's cab
- Hopper size from 200 – 1400 l
- Fittings for category 1 and 2 optionally available
- SH or PTO drive optionally available
- Data collection optionally available

TP1,5

The Epoke quantity application principle with delivery roller and agitator.

Easy-to-use, foldable tarpaulin.

Remote control options:
EpoMini X1 or EpoMaster X1.

The TP Series is sandblasted and rustproofed using a 2-component zinc dust primer and 2-component topcoat.

Technical data:	TP1,5	TP3	TP9
Hopper capacity	200 l	300 l	900 l
Hopper extension frame	100 l	100 l and 200 l	300 l and 600 l
Total width	1100 mm	1300 mm	2100 mm
Spreading width per disc	1 til 4 m	1.5–6.0 m	1.5–6.0 m
Spreading width, roller	800 mm	1.2 m	1.8 m
Weight	180 kg	315 kg	435 kg
Fitting on tractor	From 800 kg	From 1 tonne	From 3 tonnes
Drive power	Hydraulic	Hydraulic	Hydraulic
3-point suspension	Category 0 + 1	Category 1 + 2	Category 2 + 3
Hydraulic system, oil flow	Min. 25 l/minute	Min. 25 l/minute	Min. 25 l/minute
Oil pressure	160 bar	160 bar	160 bar
Liquid tank capacity	-	200 l	500 l

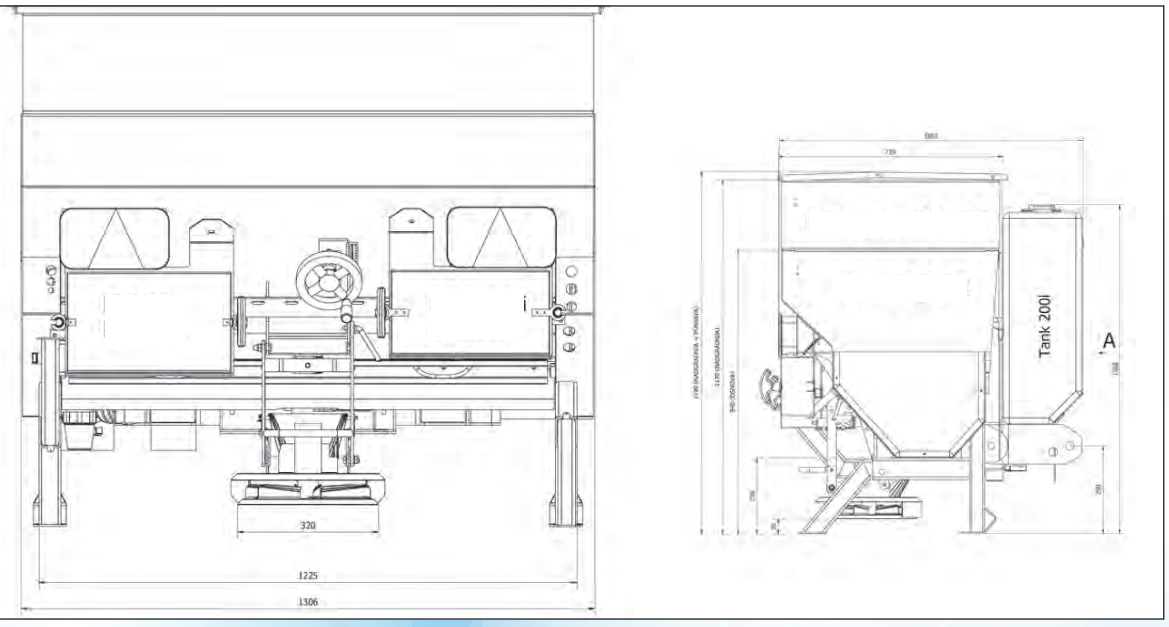
LED work light.

Combined disc and drop spreader with a spreading width of 1.5–6.0 m via the spreading disc. With a roller, a spreading with of 1.2 m (TP3) and 1.8 m (TP9) is achieved.

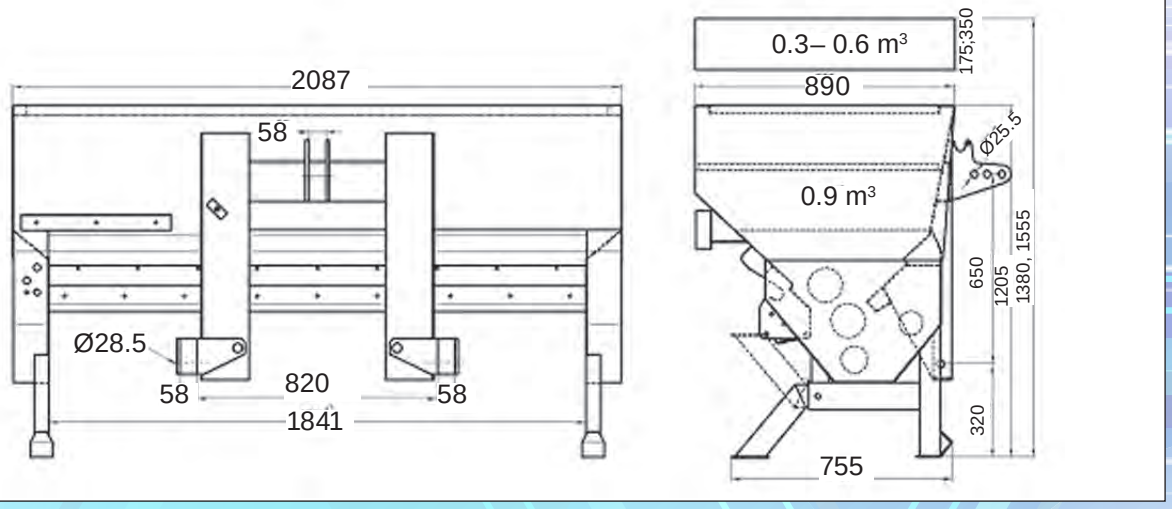
Emptying function and reset button.

2.3.1 Dimensioned drawing

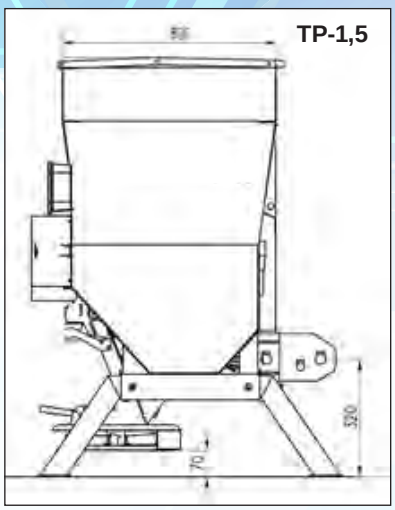
TP-3K



TP-9K



TP-1,5



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VIRTUS BASIC

– the safe way!

VIRTUS BASIC

VIRTUS BASIC is a lightweight and compact liquid spreader, especially suitable for smaller areas, paths and pavements.

The liquid spreader is fully automatic and dependant of road speed and always applies the desired quantity of liquid, even at varying speeds and widths.

The spreading of liquid ensures uniform, efficient and fast-acting distribution of the salt on the desired areas and is ideally suited for preventive measures.

VIRTUS BASIC uses jet nozzles that optimise the spreading profile in widths of 1–3 m. This means there is a significant reduction in material consumption, resulting in reduced costs and minimal environmental impact.

VIRTUS BASIC is equipped with a reliable diaphragm pump, valve system and non-return valves, which ensure quick and precise switching and thus an accurate spreading profile.

PTO operation with hydraulic pump mounted on the spreader.

Hose connection for flower watering (option).

Hand lance for steps and hard-to-reach places (option).

VIRTUS BASIC is designed for smaller carrying vehicles with a 3-point hitch. The machine is driven by the carrier vehicle's hydraulic system or by a PTO pump. The carrying vehicle's Tacho signal ensures liquid dosing that is dependant of road speed. The spreader boom is height-adjustable using the carrying vehicle's hitch. The spreading liquid is applied on the roadway from a low height.

VIRTUS BASIC is operated using the EpoMini X1 remote control located in the operator's cab.

VIRTUS BASIC can be supplied with a hand lance for applying liquid in hard-to-reach areas and steps.

VIRTUS BASIC is supplied with a hose and hose connection for flower watering.

Refer to the technical data on the back page.

Fan nozzles with non-return valve ensures optimum spreading profile in widths of 1–3 m (optional).

Easily accessible engine compartment protects hydraulics, control and diaphragm pump.

The EpoMini X1 remote control is ergonomic, user-friendly and located in the cab.

TECHNICAL DATA:

	PTO – PTO pump on spreader	**SH - Vehicle hydraulics**
Operational mode	PTO shaft: 6-spline	30 l/minute +/- 5 l/minute at min. 50 bar
	PTO speed: 540 rpm	
Electrical plug	EN ISO 4165 12–32 V minimum 10 A	
Attachment	3-point hitch 1, 2 and 2N	
Height nozzle boom	450–550 mm	
Tank capacity	350 l	
Spreading width	1–3 m (with side nozzle option)	
Application	5–30 ml/m^2	
Spreading speed	0–30 km/h	
Dimensions (w x l x h)	Maximum 1100 x 1200 x 1175 mm	
Deadweight	235 kg	175 kg
Unloading weight	The machine can be removed with full load (650 kg)	

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VIRTUS CITY AST

Advanced Spreading Technology

- the safe way!

VIRTUS CITY AST

VIRTUS CITY AST spreaders are fully automatic road-independent liquid spreaders. This means that the spreaders deliver the desired amount of liquid at all times, regardless of vehicle speed.

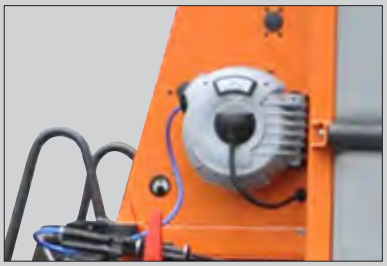
The modular liquid tanks ensure stable distribution of liquid contents inside the tanks. The durable liquid tanks are made from thermoplastic material that is robust even in extreme climatic conditions.

The engine compartment is service-friendly with central components that are clearly positioned and easily accessible, making the work as easy as possible for drivers and service technicians.

Liquid spreading
Liquid spreading seriously reduces material consumption because as little as possible and as much as necessary can be spread. Lower consumption of materials means lower costs.

Experience shows that the amount of salt used with liquid spreading is reduced significantly, so it is kinder to the environment. At the same time, a saline solution is effective immediately after spreading.
Liquid spreading is therefore ideal in many situations and as a preventative measure.

This model and others are the result of the developments that Epoke has made in the liquid field. The liquid spreader's design, operation and robustness are groundbreaking.


Hand lance for steps and hard-to-reach places (option).

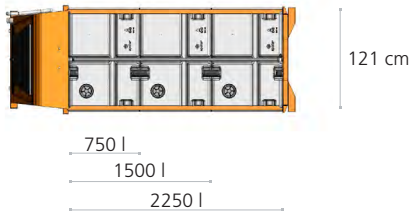

Easy access to engine compartment.

Logical positioning of central components.

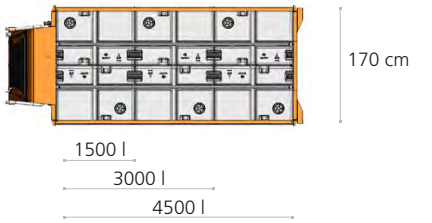
Model overview

The VIRTUS CITY AST series is available in three different ranges – small, medium and large, with a hopper capacity of 750 l to 6800 l.

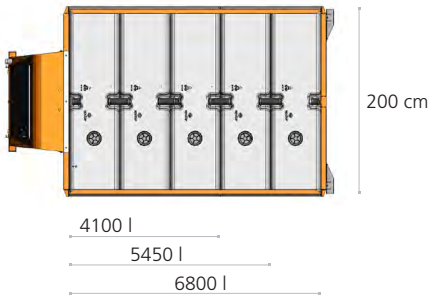
SMALL			
Capacity	Width	Height	Length
750 l	121 cm	102.5 cm	145 cm
1500 l	121 cm	102.5 cm	225 cm
2250 l	121 cm	102.5 cm	305 cm

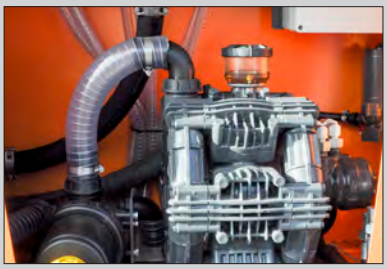


MEDIUM			
Capacity	Width	Height	Length
1500 l	170 cm	102.5 cm	145 cm
3000 l	170 cm	102.5 cm	225 cm
4500 l	170 cm	102.5 cm	305 cm

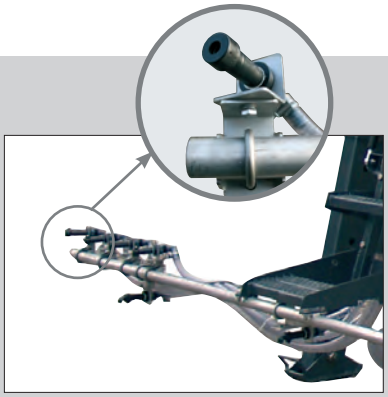


LARGE			
Capacity	Width	Height	Length
4100 l	200 cm	143 cm	236 cm
5450 l	200 cm	143 cm	291 cm
6800 l	200 cm	143 cm	343 cm





Logically designed liquid system with diaphragm pump.



High-speed spreading using Spratronic nozzles.

Remote control options:
EpoMini X1 or EpoMaster X1.

A number of options are available with VIRTUS CITY AST, which means it can be precisely adapted to the individual task. Using Epoke's GPS-controlled spreading system – EpoSat, the spreader does the work itself once the route has been coded in. It remembers the varying road widths and ensures that no location is forgotten.

Using EpoTherm, a sensor measures the road's temperature and automatically sets the spreading quantity. This means that only the quantity of salt necessary is used, which benefits the environment and saves money. EpoTherm can also be combined with GPS control.

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In practice, the amount of salt used with liquid spreading is reduced significantly, so it is kinder to the environment. At the same time, a saline solution is effective immediately after spreading. Liquid spreading is therefore ideal in many situations and as a preventative measure.

This model and others are the result of Epoke's development in the spreading field. The liquid spreader's design, operation and robustness are groundbreaking.

Operational

Hydraulics
SH – Vehicle hydraulics

Diesel engine
SE – Lombardini diesel engine

VIRTUS AST BENEFITS:

- Reduced environmental impact
- Reduced material consumption
- Revolutionary design
- High-speed spreading
- High-precision application
- Improved spreading profile settings
- Service-friendly

High-speed spreading using Spratronic nozzles. Spreading at all speeds of up to 90 km/h.

Modular liquid tank.

Service-friendly engine compartment with fast access to the computer unit, valves and liquid pumps.

High-speed spreading
VIRTUS AST spreaders are fully automatic road-independent liquid spreaders. This means that the spreaders deliver the desired amount of liquid at all times, regardless of vehicle speed.

VIRTUS AST is available in four different variants with tank capacities of 7500 l, 10,000 l, 12,500 l,15,000 l and 17,500 l.

The modular liquid tanks ensure stable distribution of liquid contents inside the tanks. The durable liquid tanks are made from thermoplastic material that is robust even in extreme climatic conditions.

The engine compartment is service-friendly with central components that are clearly positioned and easily accessible, making the work as easy as possible for drivers and service technicians.

The combination of fan nozzles and jet nozzles delivers a working width of 3–11 m. Also available with 4–12 m working width.
The width can be increased in steps of 1 m, thus allowing for adjustments for side winds or spreading in bus bays and turning lanes.

The special Spratronic nozzles deliver spreading at all speeds of up to 90 km/h. Increased speed means routes are finished more quickly.
The spreader is also able to move at the same speed as other vehicles, causing less inconvenience to drivers.


Logically designed liquid system with diaphragm pump.


Different forms of unloading systems available as options.


Remote control options:
EpoMini X1 or EpoMaster X1.

A number of options are available with VIRTUS AST, which means it can be precisely adapted to the individual task. Using Epoke's GPS-controlled spreading system – EpoSat, the spreader does the work itself once the route has been coded in. It remembers the varying road widths and ensures that no location is forgotten.

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