



Injection technology

Liquid fertilization, ever exact dosed.

- > optimal nitrogen supply
- > only one crossing
- > save on fertilizer
- > ensure the harvest



Information for liquid fertilizer injection

Basic principle is **CULTAN** method "Controlled Uptake Long Term Ammonium Nutrition". That means, the plants will be provided in the whole growing period with ammonium fertilizer as dominant nitrogen source over a long space of time.

Plants absorb this fertilizer over their tips of roots already in border zone of depot by assimilation.

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Controlled
Uptake
Long
Term
Ammonium
Nitrition

Advantages:

- **no volatility** of the nitrogen into atmosphere
- fertilizer is stored in soil as **fixed depot**
- this depot will **not** offhand **transformed by soil germs**
- **nitrogen supply is performed compliant to the growth** during the whole vegetation period
- ammonium nitrogen **nearby the roots** is immediately available or will be quick reached by the roots of the plants
- only **one crossing** is required for most crop
- **exact fertilization up to the borders of fields and waters** (border spreading) is still no problem





Unique selling points

- **Guaranteed parallel running** due to maintenance-free rubber spring element
- **roller bearing**, guaranteed upper durability as friction-type bearing into the hub
- **sliding block allocation** increased length of stay in soil
- **hard metal spoke** has a upper wear limit

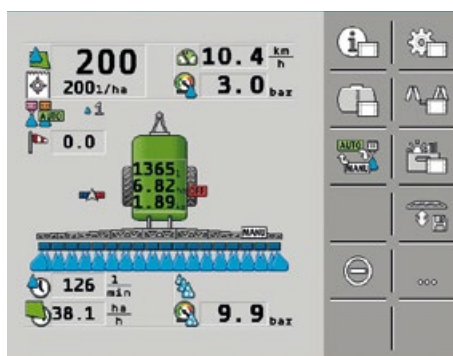


automatic V-Stellung

Operating mode of injection machine

Liquid fertilizer will be injected to a depth of 6 cm into the soil by sprocket wheels. To do so, each wheel disposes of 12 hollow spikes, the so-called spoke. Shortly after spoke is in soil a duct will be opened by mechanical hub-control and fertilizer will be deposited as ammonium depot there.

A computerised regulation of quantity of fertilizer permitted application rates from 50 till 2000 l/ha also if the working speeds change. To work in opimal system-pressure range from 1,5 till 8,0 bar is provided a operation of nozzle plates.



The distance between the seperated depots is 13 cm, the distance of the rows is 25 cm (for smaller machines the distance of the rows can be variable adjustable). Standard are machines with 3 m, 6 m, 9 m, 12 m, 13,50 m and 15 m working width. Functional principle is the same at all injection machines of Güstrower models (GFI).

We take injection wheels made from aluminium and stainless steel which are finished with hard metal spoke. Wheels are springy fixed at the frame.

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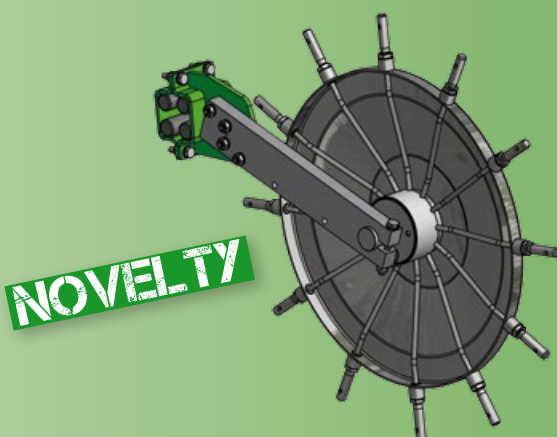
main assemblies	working width modules			
	15 m	12m	6 m	3 m
trailed, single axle steel frame with sturdy unsprung axle	x	x	x	x
assembly frame for mounted version on truck or lorry	x	x		
assembly frame for three-point-linkage version			x	x
injection modul for own mounting	x	x	x	
single compartment tank till 8000 ltr.	x	x	x	
single compartment tank 400 ltr. till 1000 ltr.			x	x
single compartment tank 200 ltr.	x	x		
fertilizer injection system	x	x		
board computer (till 9 sections)	x	x		
board computer (from 5 sections)	x	x	x	x
double ram diaphragm pump	x	x	x	x
centrifugal pump or roller pump with 12 V electric motor	x	x	x	x

Following options and models after modul construction are available in performance profile of producer.

1. Mounted versions with 12 m and 15 m working width (also on special trucks)
2. Trailed single-axle units till 15 m working width
3. Mounted versions as three-point linkage on tractor
4. Injection modul for assembly at own existing machines



model	name of the item	remark	
GFI 3 - 3A	3 m injection machine - three-point-linkage-mounted version		1-piece, 12 injection wheels
GFI 6 - 3AB	6 m injection machine - three-point-linkage-mounted version		threepart, 24 injection wheels
GFI 12 - 3AB	12 m injection machine – three-point-linkage-mounted version	without tank, pump and electronic control path	quadrinomial, 48 injection wheels
GFI 15 - 3AB	15 m injection machine – three-point-linkage-mounted version	without tank, pump and electronic control path	five-piece, 60 injection wheels
GFI 6 - 4	6 m – traileed injection machine	8000 ltr. tank, tyres 800/65 R32, electronic section control, foam marking	threepart, 24 injection wheels
GFI 12 - 4	12 m – traileed injection machine	8000 ltr. tank, tyres 800/65 R32, electronic section control, foam marking	quadrinomial, 48 injection wheels
GFI 15 - 4	15 m – traileed injection machine	8000 ltr. tank, tyres 800/65 R32, electronic section control, foam marking	five-piece, 60 injection wheels



dealer:

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