Original operating instructions

ES 100 M1 Classic

Read this carefully before operating!

Version: 02/2015, V1.4

Technische Produkte GesmbH
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Bezeichnung:
Modell:
Prod.Nr.:
Gewicht:
Baujahr:

Order no.: 00600-3-024

It should NOT be

an inconvenience or a luxury to read and comply with the operating instructions; you cannot simply experience from others that something is a good product, then make the purchase and assume everything will be self explanatory. Those who go down this route not only inflict damage on their own property, but make the mistake of attributing the cause of any failure to the machine, and not to themselves. In order to be sure of success you must get into the spirit of the thing, by learning about the purpose of each individual device on the machine and by gaining experience in how to use it. Only then will you be satisfied both with the machine and with yourself. These operating instructions are intended to help you achieve this.

Leipzig-Plagwitz 1872

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1 EC Declaration of Conformity

in accordance with Directive 2006/42/EC

The manufacturer APV Technische Produkte Ges.m.b.H.
Dallein 15, 3753 Hötzelsdorf, Austria hereby declares that the

"ES 100 M1 Classic" single-disc spreader with a digital and speed-controlled module,

Machine type designation / Product no. (see delivery declaration and title page)

to which this declaration of conformity refers, complies with all relevant basic health and safety requirements specified in the EC Directive 2006/42/EC as well as with the requirements specified in the other relevant EC directives

2006/42/EC

If applicable, Title / number / version of other EC directives

To properly implement the health and safety requirements in the EC directives, the following standards and/or technical specifications were referenced:

EN 12100/1; EN 12100/2

If applicable, Title / number / version

Your contact on CE matters at APV is Ing. Jürgen Schöls.
He can be reached by telephone at +43 (0) 2913-8001.

Dallein, 02/2015
Location, date

Signature

Ing. Jürgen Schöls
Managing Director

2 Provisions

Dear customer!

Congratulations! We are pleased you have purchased our product and wish you much enjoyment and success working with it!

Please read all instructions contained in these operating instructions before using the device!

3 Guarantee

On acceptance, please immediately check for any damage incurred to the device during transport. Claims made for transport-related damage at a later date cannot be accepted.
We provide a one year factory warranty from the date of delivery (your invoice or delivery note serves as the warranty card).
This guarantee is limited to faults in material or design/construction and does not extend to parts that are damaged by normal or excessive wear and tear.

The guarantee is voided if:

- the damage is caused by external forces
- operator error is at issue
- the stipulated requirements are not fulfilled
- the device is modified, augmented, or fitted with third-party spares without our consent.
- the device is treated with water
- if the spreader is used in the winter.

4 Accident prevention

The generally applicable accident prevention regulations of the respective country in which the device is used must be observed.
The device may only be used by persons who have been informed of the possible dangers.

5 Basic Information

5.1 Design and mode of operation

The “ES 100 M1 Classic” single-disc spreader is a small seed spreader with 100 litre capacity.
The spreader disc is driven by a 12 V electric motor regulated by the controller. The speed of the spreader disc, and therefore the working width, can easily be regulated with the controller from the driver's seat. The power supply for the control module is provided directly from the battery.

5.2 Attaching to the tractor

Fig.: 1

For this type of attachment, shown on the left, screw the tractor drawbar between your ES 100 M1 Classic and the counter plate provided in the scope of delivery. You should use bolts with a diameter of 10mm. Screw the top link bracket to the top link plate and fix your tractor's top link in place with the bolt.


Fig.: 2

5.3 Mounting on an attachment


Fig.: 3

When fitting the ES 100 M1 Classic on an attachment, it is best to use the counter plate. Use the counter plate to secure your ES 100 M1 Classic to a frame on the attachment.
To provide for the maximum working width and a corresponding distribution, the implement should be installed at a height of approx. 1 metre.

5.4 Fastening the control module

Using two screws, fasten the standard holder (provided in the scope of delivery) in the cab. Store excess cable in the driver's cab to avoid clamping it.

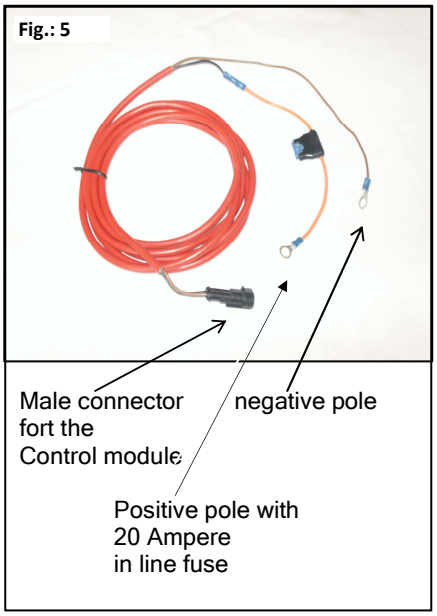
TIP: Pay attention to the angle at which you view the module to ensure optimum readability of the display. You might have to bend the mount slightly to set the correct angle.


Fig.: 4

5.5 Electrical connections

You can connect the standard cable (provided in the scope of delivery) directly to the battery. Connect the other end to the control module.
The 4-pin cable on the spreader is also connected to the control module.
The fuse (20A) is found at the power cable's positive terminal.

Install the wiring as follows:
With 2-pin power cables, connect the cable lug with the in-line fuse (20A) to the battery's positive terminal and connect the other cable lug to the battery's negative terminal.

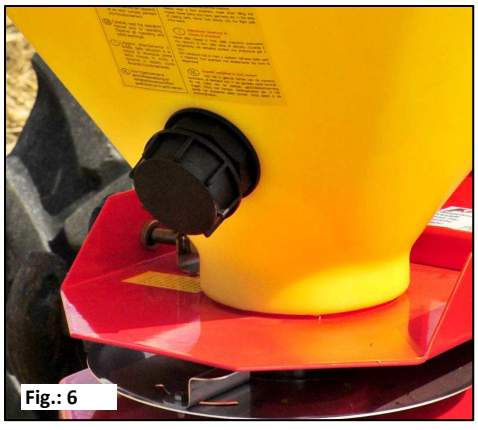


CAUTION: Failure to comply with these instructions can result in damage to the control module!

IMPORTANT: After using the implement, the controller should be disconnected (for safety reasons).

5.6 Emptying and removing the tank

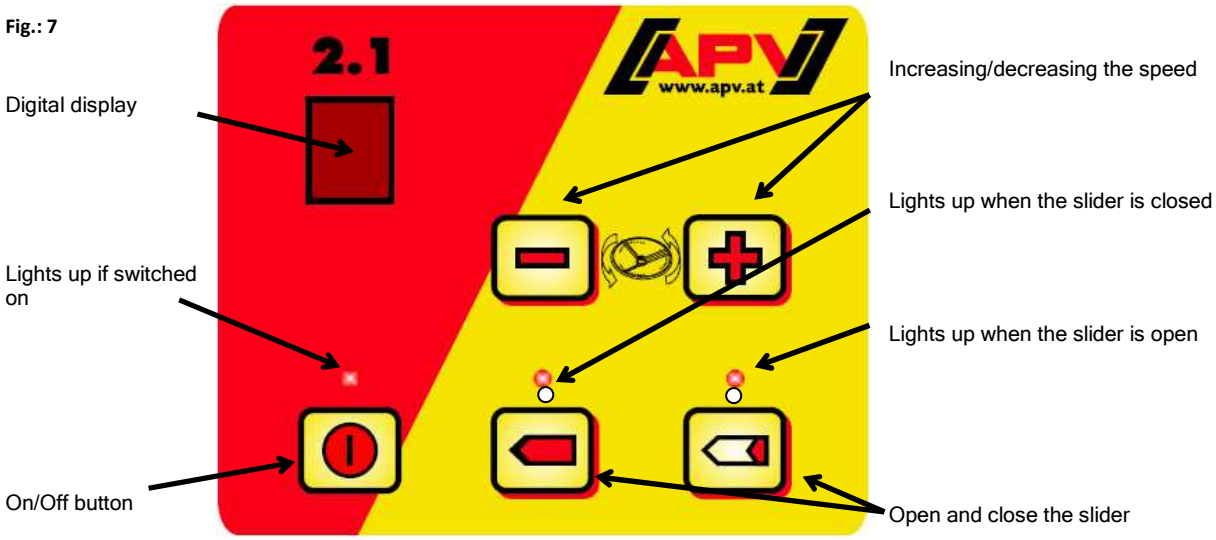
To empty the tank, unscrew the screw plug on the discharge nozzle at the front of the tank and hold a container, bag or other receptacle under it. To ensure that the machine is emptied completely, turn the device upside down.
In rare cases, it will be necessary to remove the plastic tank for cleaning. To do this, bend the latches inwards with a small screwdriver and pull the tank up and away.
Before putting the tank back in place, bend the latches out again and then replace the tank. Finally, seal the cone with silicone again to prevent water ingress.



5.7 Control module

The ES 100 M1 CLASSIC has a control module with a hermetically sealed membrane keyboard. A 2-pin connector (for connection to the battery) and a 4-pin connector (to connect the spreader to the control module) are connected on the underside.

Fig.: 7



The “On/Off” button used to switch the implement on and off is at the bottom left.

The “-” and “+” buttons can be used to control the spreader disc's speed.

The “closed” and “open” buttons for the slider are below the “-” and “+” buttons.

Pressing the “On/Off” button switches the controller on; the control lamp above the button begins to light up.
Using the “-” and the “+” buttons, you can now control the spreader disc's speed as desired.

If you now want to drive off and start spreading, open the slider with the “Open slider” button; the “Slider open” control lamp above the button lights up.
The material to be spread now trickles onto the spreader disc and is spread in accordance with the speed.

When you come to a stop, press the “Close slider” button (the “Slider closed” button above the button lights up); the slider closes.
It is only expedient to also switch off the motor when you leave the field.

6 Settings

6.1 Spread width

The spread width depends on the density and shape of the seed and the spreader disc speed. The seed spreader is designed to spread seed evenly over an area of 24 m. For this to be successful, the battery and generator must be in good condition. Please refer to the setting charts under item 12 for the precise settings for output, working width, etc. We recommend attaching the spreader 1 metre above the ground to enable an optimal spreading density and the maximum working width.

Note: If the ES 100 M1 Classic is attached to a machine with a small working width and the seed will be spread directly into/in front of the roller, the spreader can be angled slightly downward when attached. However, please note that the tank only empties completely if it is level!

TIP: For special applications like these, a precision spreader plate is available as an accessory.

6.2 Regulating the application rate

To regulate the application rate, turn the metering handle that is attached on the left side. This moves the metering shutter with which the required position on the scale is set. The metering shutter is then secured by the lock nut on the thread mount.
Position 0: Closed; Position 10: Completely open.
Refer to the respective setting chart for the settings you require.


Fig.: 8

The transport box or a bag placed over the front of the spreader can be used to perform the seed rate calibration test. If the box is used, one of the sides is cut out and inserted in the spreader. Then, using the control module, set the approximate spreader disc speed with which you intend to spread seed on the field and select the required value for the metering shutter on the scale. Selecting the right speed is important because the calibration quantity also depends on the speed!

Using the “Open slider” button on the control module, the seed rate calibration test is now executed by opening the shutter for precisely **one minute** while catching the spreading material so that none is wasted.

The following formula is used to calculate the application rate:

$$\frac{Desired\ output\ [kg/ha] \times Drive\ speed\ [km/h] \times Spreader\ width\ [m]}{600} = Weight\ [kg/min]$$

Example:

$$\frac{5\,[kg/ha] \times 12\,[km/h] \times 12\,[m]}{600} = 1{,}2\,[kg/min]$$

- The calibrated and collected spreading material must now be weighed.
- By changing the value on the metering shutter's scale and repeating the calibration, the correct value can then be determined.
- This process must be repeated until the desired output has been reached.
- Once work has begun, you should field check the application. In particular, the drive speed, the application rate and the surface area distribution must be checked.

6.3 Agitator

Because an agitator drive with two expansion pins, as a rule, is not required, the agitator was equipped in the factory with only one agitator pin. However, if you need more agitating power (e.g. for grass, etc.), proceed as follows: Connect the standard expansion pins (provided in the scope of delivery) to the agitator's lower expansion pin. This increases the agitator's efficiency. If necessary, the top agitator pin, included together with the expansion pins in a reclosable bag, can be secured to the opening specified on the agitator.
This ensures the continued flow of the spread material which is either very light (grasses, etc.) or tends to form bridges (slightly damp seed, etc.).

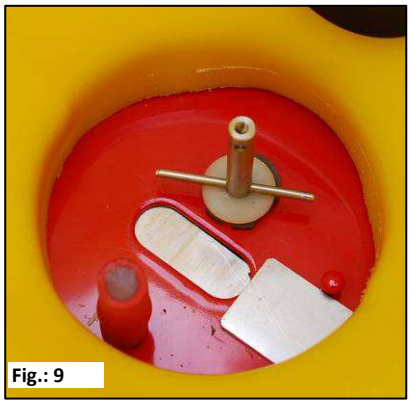
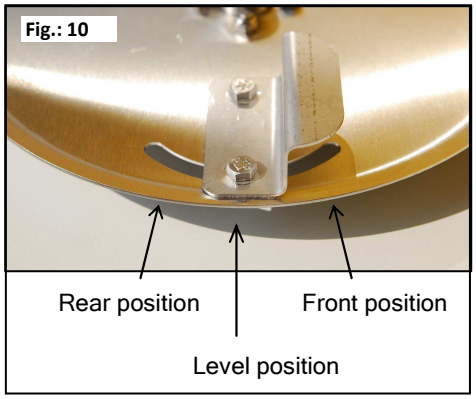


Fig.: 9

6.4 Spreader disc, lateral distribution, spreader vanes

The spreader disc must run anticlockwise. The spreader vanes fastened to the spreader disc allow the spread pattern to be adjusted to the specific weight (density) of the material to be spread. This results in a uniform lateral distribution. If the lateral distribution is not ideal, for some spread widths and spread materials, the spreader vanes are adjusted as follows:



TIP: If the spreader vanes are in the front position, the material to be spread exits the spreader disc somewhat later and is thrown slightly more to the right (as seen when looking at the spreader from the front). If the spreader vanes are positioned to the rear, the material to be spread exits the spreader disc somewhat earlier and is thrown slightly more to the left (as seen when looking at the spreader from the front).

If you have decided on a precision spreader plate (an accessory), install it on the front of the ES 100 M1 Classic. The precision spreader plate is designed for small working widths (up to approx. 4m) and spreads the seed, for example, directly into the roller.

Note: The slider only opens when the spreading disc is running!

6.5 Deflectors (guide plates)

Deflectors are not needed for normal spread widths and for normal application rates. Using the deflectors included in the scope of delivery, either attached to the specified thread mount on the right or on the left behind the spreader disc, you can adjust the spread cone optimally for your specific application.

Here are two examples:

- If you only want to spread on one side, move the longer deflector to one side of the spreader. Using an M6 wing nut, bolt the deflector to the thread mount behind the spreader disc.
- The spreader is installed on a cultivator or on a similar implement. You observe the spread cone and see that the implement overlaps more on one side than on the other. Then use one of the shorter deflectors to shorten the side with the greater overlap.

7 Setting charts

These charts can be used as guide values but, because many factors play a role and/or because there can be significant changes (e.g. thousand-seed weight, damp seeds, changes in flow characteristics and much more), they cannot always be applied without making adjustments.

Spreading height: 1.0 m respectively

Gras **Grass** **Herbe** Lolium perenne (with bottom expansion pins)												
working width	2,5 m				4,0 m				6,0 m			
rotations	2 - 3				3. - 5				8 -9.			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
15 kg/ha	4,8	5,1	5,7	5,9	3,9	4,3	5,2	5,5	3,8	4,0	4,5	5,5
25 kg/ha	5,2	5,5	7,0	8,2	5,0	5,3	6,6	7,2	6,0	7,5	8,2	9,0

Weißklee **White clover** **Trèfle Blanc** Trifolium repens												
working width	3,0 m				6,0 m				12,0 m			
rotations	2.				3.				8.			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
10 kg/ha	1,0	1,2	1,4	1,6	1,3	1,5	1,8	2,0	1,6	1,9	2,1	2,3

Phacelia
Phacelia
Phacélie

Phacelia tanacetifolia

working width	3,0 m				6,0 m				10,0 m			
rotations	2. - 3				4				9 - 9.			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
10 kg/ha	2,0	2,3	2,6	2,9	2,8	3,0	3,6	4,5	3,0	3,2	3,8	5,0

Senf
Mustard
Moutarde

Sinapis Alba

working width	3,0 m				6,0 m				15,0 m			
rotations	1. - 2.				4				8 - 9.			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
15 kg/ha	1,6	1,9	2,1	2,3	2,0	2,3	2,5	3,0	2,8	3,5	4,5	6,0
25 kg/ha	2,2	2,6	3,2	3,4	3,0	3,3	4,0	5,5	4,0	4,8	6,5	8,5

Buchweizen
Buckwheat
Blé Noir

Fagopyrum

working width	3,0 m			
rotations	2.			
driving speed km/h	4	6	8	10
slider opening				
50 kg/ha	6,0	7,0	8,0	9,5
80 kg/ha	7,0	9,0	10,0	

Wicke
Vetch
Vesce

Vicia

working width	3,0 m				6,0 m				9,0 m			
rotations	2				4.				6			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
10 kg/ha	2,5	3,0	3,2	3,6	2,7	3,0	3,3	3,7	2,8	3,1	3,9	4,1
20 kg/ha	3,5	3,8	4,0	4,2	3,7	4,0	4,5	5,2	4,2	4,8	6,0	6,5
position of vanes	1 normal 1 half forwards				both normal				both normal			

Luzerne
Alfalfa
Luzerne

Medicago Sativa

working width	3,0 m				6,0 m				9,0 m			
rotations	2.				4.				8			
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
10 kg/ha	1,5	1,7	1,8	2,0	1,2	1,8	2,0	2,3	2,0	2,2	2,8	3,0
20 kg/ha	2,0	2,5	2,7	2,9	2,5	3,0	3,6	3,6	3,0	3,3	3,9	4,3
position of vanes	Both half forwards				1 normal 1 totally forwards				1 normal 1 totally forwards			

Rotklee
Red Clover
Trèfle Rouge

Trifolium

working width	3,0 m				6,0 m				9,0 m			
rotations	2				5 6.							
driving speed km/h	6	8	10	12	6	8	10	12	6	8	10	12
slider opening												
15 kg/ha	2,8	3,3	3,5	4,0	1,6	1,8	2,0	3,5	1,9	2,5	2,9	3,5
20 kg/ha	3,3	3,8	4,2	4,5	1,8	2,2	2,8	3,5	2,5	3,2	3,6	4,0

Schneckenlinsen
Slug lentils
Lentilles anti-limaces

working width	12,0 m			15,0 m			18,0 m			20,0 m		
rotations	5 - 6			7 - 8			8 - 9			9 - 9.		
driving speed km/h	10	15	20	10	15	20	10	15	20	10	15	20
slider opening												
3 kg/ha	2,2	2,8	3,0	2,2	3,0	3,3	2,3	2,7	3,0	2,2	2,7	3,2

Mesurol Schneckenkorn
Mesurol Slug pellets
Mesurol grains anti-limaces

working width	12,0 m			15,0 m			20,0 m			24,0 m		
rotations	5 - 6			7 - 8			8 - 9			9 - 9.		
driving speed km/h	10	15	20	10	15	20	10	15	20	10	15	20
slider opening												
5 kg/ha	3,1	4,5	5,0	3,1	3,5	4,1	3,5	4,0	4,7	3,0	4,0	5,0

Metarex INOV
Metarex INO
Metarex TDS

Slug pellets
Metarex grains anti-limaces

working width	12,0 m			15,0 m			20,0 m			24,0 m		
rotations	5 - 6			7 - 8			8 - 9			9 - 9.		
driving speed km/h	10	15	20	10	15	20	10	15	20	10	15	20
slider opening												
5 kg/ha	3,2	3,8	4,5	3,3	3,8	4,3	3,5	4,2	4,9	3,5	4,5	5,5

Allowin/Allowin Quattro												
working width	12,0 m			15,0 m			20,0 m			24,0 m		
rotations	5 - 6			7 - 8			8 - 9			9 - 9.		
driving speed km/h	10	15	20	10	15	20	10	15	20	10	15	20
slider opening												
5 kg/ha	3,4	3,9	4,5	3,2	3,6	4,5	3,3	4,1	4,8	3,6	4,5	5,5

Clartex Neo Slug-off												
working width	12,0 m			15,0 m			20,0 m			24,0 m		
rotations	5 - 6			7 - 8			8 - 9			9 - 9.		
driving speed km/h	10	15	20	10	15	20	10	15	20	10	15	20
slider opening												
5 kg/ha	2,5	4	4,5	3,2	3,8	4,2	3,5	4,1	4,9	3,7	4,5	5,5

TIP: The spread quantity should be checked from time to time. To prevent spreading errors, wind speed should be taken into consideration when working widths are large.

Note: The slider only opens when the spreading disc is running!

8 Displayed symbols and their meaning

Error message codes have been provided to monitor the correct operation of the implement and to inform the user if it can no longer be operated properly.

Problem	Cause	Possible remedy
"b" battery fault flashes in the display! **The shutter closes, and the motor switches off!** **The implement cannot be operated!**	Insufficient operating voltage, or fluctuations are too great	Check the on-board electronics and the battery.
	Caution: If the battery is being charged by a charger operating in "Start" mode, there can be voltage peaks! Voltage peaks can damage the implement!	Disconnect the charger and check the on-board electronics and the battery.
"E" error flashes in the display	Motor cable break	Check cabling and free movement of spreader disc.
	Motor jammed (=stiff)	Check cabling and free movement of spreader disc.

9 Maintenance and care

9.1 General instructions

To maintain the device in good condition after many hours of operation, please always observe the following instructions:

- ✓ Basic safety instructions for maintenance are included in the “For your safety…” enclosure.
- ✓ Original parts and accessories have been specially designed for the machines or devices.
- ✓ We draw express attention to the fact that original parts and accessories that we have not delivered have also not been checked and approved for use by us.
- ✓ Under certain circumstances, the installation and/or use of such products may therefore negatively change or impact on the stipulated design characteristics of your device. The manufacturer is not liable for damage caused by use of non-original parts and accessories.
- ✓ Unauthorised modifications, as well as the use of parts and attachments on the machines, void the liability of the manufacturer.
- ✓ Retighten all screw connections at the latest after 3 operating hours and again after approx. 20 operating hours, and check them regularly thereafter (loose screws may result in serious damage which is not subject to warranty).
- ✓ Paint damage may occur when cleaning at too high a pressure.
- ✓ During winter, protect the device from rust using an environmentally-friendly agent.
- ✓ Park the device in a weather-protected area.
- ✓ Do not clean the implement with water. We recommend cleaning the implement with compressed air.

9.2 Location of the type plate

The type plate is located (viewed from the front) on the right-hand side in front of the cover of the slide valve motor.

When asking questions or for guarantee claims, please always specify your machine's product number.

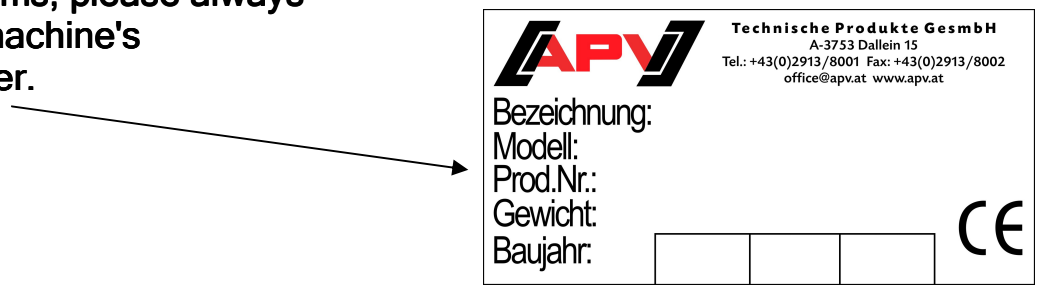


Fig.: 12

10 Technical data

Name:	ES100 M2 CLASSIC
Tank volume:	105 litres
Weight:	26 kg
Dimensions (W x H x D):	560 x 480 x 890 mm
Max. scatter width:	24m (with heavy seeds e.g. lupins, slug pellets)
Recommended scatter width:	20 m
Power supply:	12V, 20A
Motor data (power):	170 Watt
Motor power consumption:	25 amperes at startup, 14 amperes during normal operation
Max. speed range:	2600-3000 rpm
Attachment category:	Cat. II

Counter-plate mounting dimensions:

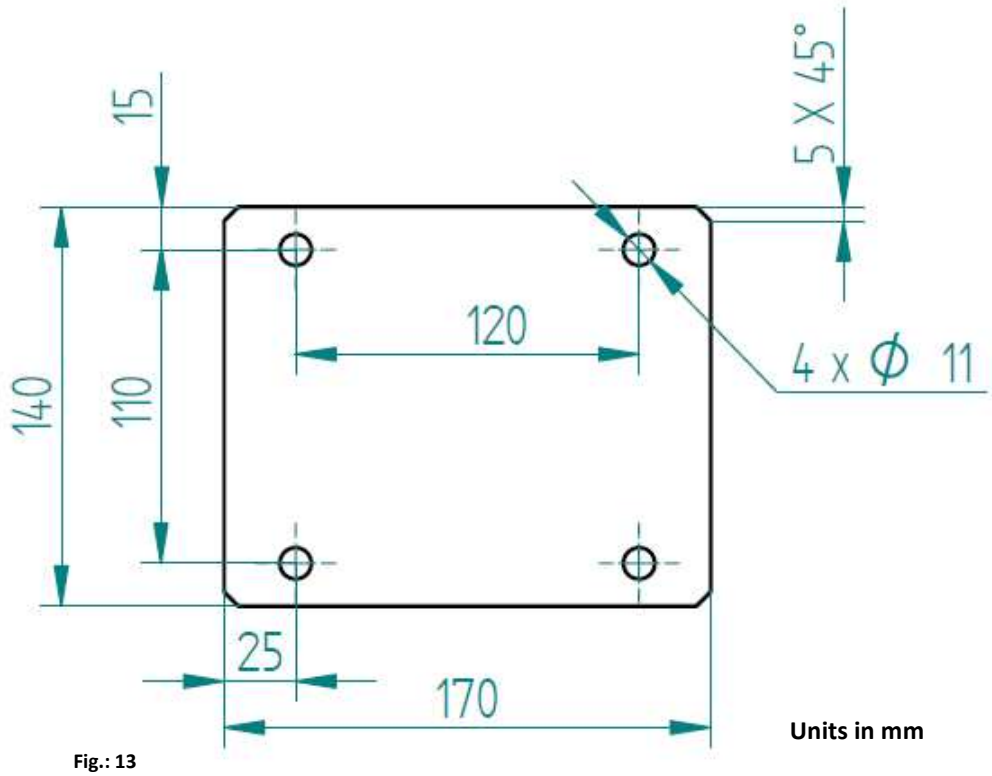


Fig.: 13

11 My idea

The ES 100 M2 Classic has been in development and testing for a long time. A lot of time passed between the initial concept and series production. This required a lot of commitment from individual staff and the whole of the development team.
We cooperated with universities and specialists from the farming industry, and commissioned research projects.

Nevertheless, practice is the most valuable experience. Our motto is:

“Inspired by farmers & realised by professionals.”

This means that YOU are also the most important person in the development of an agricultural machine that is to be used in practical applications.
Without responding to your opinions, experiences, enthusiasm, wishes and even your frustrations, and then taking them seriously, it would not be possible to continue to develop and improve our machines.

We would like to give you the opportunity right here to take an active part in the development and improvement of our machines.

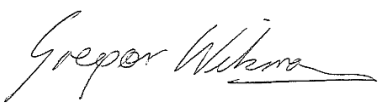
Write to us telling us about the positive and negative experiences you have had with the machine.
Write to us with your suggestions for improvements and with your requests!
Take photos or make drawings - we are open to all information and appreciate any submission, no matter what form it comes in.
Please send this information to meineidee@apv.at, fax us at +43/(0)2913/8002, or send a letter to our address. The heading/subject should be “My idea”.
The information is passed on directly to our design department, where it will be discussed and taken into consideration. Please do not forget to indicate the serial number of your machine.

Please understand that we cannot accept suggestions for improvements on the telephone because of how costly and time-consuming this is to arrange. However, if you still wish to talk to someone face-to-face then you can discuss your experiences with our sales staff at trade fairs and field days. If there are urgent problems then of course we will be right there for you. Please call us or address your query to our sales partner in your area.

Good ideas are important to us – and they will therefore be rewarded. If one of your ideas is implemented than you will receive recognition for this.

Thank you in advance for your constructive suggestions.

Kind regards,



Ing. Gregor Witzmann
Development/Engineering

12 Safety instructions

For your safety…

This enclosure to the operating instructions contains general rules of conduct on the correct use of the device as well as safety instructions which you must always observe for your own personal protection.

The list is quite exhaustive, so some of the instructions do not exclusively refer to the delivered device. However, the summarised instructions can often remind you of safety regulations that you have unintentionally forgotten in your daily work with such machinery.

12.1 Intended use

The device has been built exclusively for its customary use in agricultural work (the intended use).

Any other use of the device is deemed to be not as intended. The manufacturer is not liable for any damage occurring therefrom; the user alone assumes this risk.

Intended use also entails observance of the operating, maintenance and repair requirements stipulated by the manufacturer.

The device may only be used, maintained and repaired by persons who are acquainted with it and who have been informed of the dangers and risks. All safety instructions must be passed on to any and all other users.

The relevant accident-prevention regulations as well as other generally-recognised safety, occupational health and road traffic regulations must be observed.
Unauthorised modifications to the device preclude the manufacturer from liability for any damage resulting therefrom.

12.2 General safety instructions and accident-prevention regulations

- Every time before starting up the device and the tractor, check that they are roadworthy and safe for operation!
- Observe the generally applicable safety and accident-prevention regulations!
- Warning and instruction plates/signs attached to the device provide important instructions on safe operation; observe them for your own safety!
- Observe all appropriate regulations when using public roads!
- Before starting work, familiarise yourself with all equipment and control elements as well as with their functions. It is too late to do this when you are already using the machine/device!
- The user must wear tight-fitting clothes! Avoid loose clothing!
- Keep machines clean to avoid the risk of fire!
- Before starting up and commissioning, check the vicinity! (Children!) Make sure you have a sufficient field of view!
- Passengers are not allowed during work and the working tool should not be used for transport!
- Connect the device in accordance with the instructions and only attach it to the prescribed equipment!
- Special care must be taken when connecting and disconnecting devices to or from the tractor!
- Always attach weights in accordance with the instructions, at the prescribed fixing points!
- Observe the permitted axle load, overall weight and transport dimensions!
- Check and attach any transport equipment such as, e.g. lighting, warning equipment and any protective equipment!
- Release parts for quick-release couplings must hang loosely and must not self-actuate if positioned low down!
- Never leave the driver's cab when driving!
- Driving performance, steering and braking are also affected by devices and ballast attached or hitched to the device. Therefore, make sure that there is sufficient steering and braking ability!
- When cornering, take into account the width of the overhang and/or the centrifugal mass of the device!
- Only put the machine into operation after all protective equipment has been attached and is in its protective position!
- It is forbidden to remain within the working area!
- Do not linger within the swivel and rotating area of the device!
- Folding hydraulic frames may only be actuated when there are no persons within the swivel area.
- There are crushing and cutting zones on power-operated parts (e.g. hydraulics)!
- Make sure you have a firm footing when operating manual folding devices!
- For fast-driven devices with ground-driven tools: Danger after digging from residual inertial forces! Only approach the device after all parts are at standstill!
- Before leaving the tractor, set the device down on the ground, switch off the engine and remove the ignition key!
- No-one should be located between the tractor and the device without first having secured the vehicle against rolling with the handbrake and/or with chocks!
- Secure folded frames and digging equipment in transport position!

- Swivel in and lock grabber arms before road transport!
- Lock track marker in transport position!
- When filling the tank with slug pellets and similar poisonous compounds, only fill as much as is required for the task at hand. Wear protective clothing, protective gloves as well as face and eye protection when filling.
- Observe the warning instructions of the manufacturer on the package. The seeds used by your spreader may be poisonous!
- Never place your hands or clothes, etc. in the vicinity of rotating parts!
- Keep your distance when the machine is switched on!
- Never look into the scattering cone!
- Leftover product should be returned in their original packaging. They must not be disposed of unchecked in the environment.
- There are no known negative effects on the materials used from approved pesticides.
- Repairs, maintenance and cleaning work, as well as remedying of functional faults must always be carried out after the drive has been switched off and the engine has reached standstill!

12.3 Attached devices

- Before attaching and removing devices to the three-point support, put operating equipment into a position in which unintentional lifting or lowering is excluded!
- In order to use the three-point attachment, the attachment categories of the tractor and the device must be identical or must be adapted to each other!
- There is a hazard posed by cutting and crushing zones in the area of the three-point linkage!
- When using the external controls for the three-point attachment, do not step between the tractor and the device!
- When the device is in transport position, always make sure there is sufficient side-locking of the tractor three-point linkage!
- When driving on the road with the device lifted, the operating lever must be locked to prevent lowering!

12.4 Maintenance

- Repairs, maintenance and cleaning work, as well as remedying of malfunctions must always be carried out after the drive has been switched off and the engine has reached a standstill! – remove the ignition key! – switch off the device!
- Regularly check nuts and bolts for tight seating and retighten if necessary!
- During maintenance work when a device is lifted, always secure using suitable supporting elements!
- When replacing blades in working tools, use suitable tools and gloves!
- Dispose of oils, greases and filters correctly!
- Always disconnect the power before working on electrical systems!
- When carrying out electrical welding on the tractor and its attached devices, disconnect the cable on the generator and the battery!
- Spare parts must comply at the very least to the technical requirements stipulated by the device manufacturer! This is guaranteed by using original spare parts!
- Do not clean the implement with water. We recommend cleaning the implement with compressed air.

Attention: Printing errors reserved, all information is subject to change

13 Safety signs

Comply with the instructions specified on these stickers on the implement!
They alert you to special dangers!

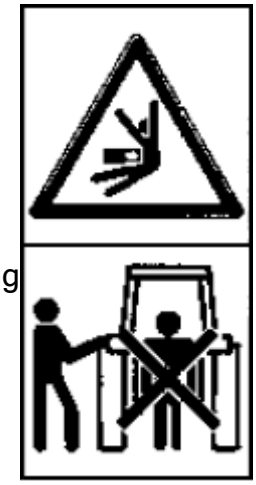
Before operating, read and take note of the operating instructions!!!

Do not stand on the machine while it is moving!!!

Before maintenance work, the engine must be switched off and the key removed!!!

Never reach into the area where there is a risk of crushing, while the parts are moving!!!

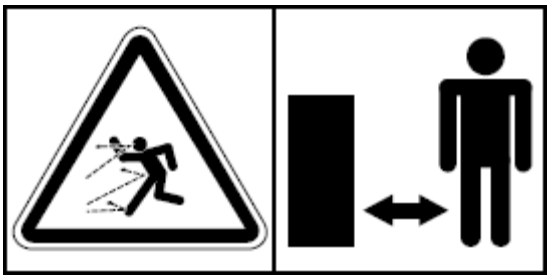
When hitching the GP300 and actuating the hydraulic system, no-one should be standing between the machines!!!



Be careful of fluid escaping at high pressure!!! Pay attention to information in the operating instructions!!!

Do not climb on rotating parts; use the ladders provided!!!

Hazard from parts being flung out; Observe safety distance!



14 Accessories

14.1 Extension cable 5m (4-pin)

This is an extension cable (5m) for the implement cable (4-pin connector).
This extension cable is necessary if the tillage machine is longer than the standard 6m cable installed in the factory or to enable practical cable installation.

Scope of delivery: 1 extension cable
Order number: Art. no.: 00410-2-035

Fig.: 14

14.2 Trailer/truck bed mounting bracket


Fig.: 15

For practical and easy attachment to flatbeds or pick-up trucks.

Scope of delivery: 1 trailer/truck bed mounting bracket
Order number: Art. no.: 00300-1-001

14.3 Quad bracket

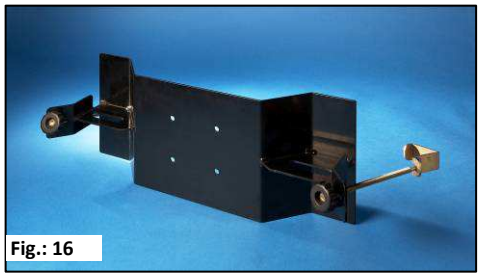


Fig.: 16

Available from us as an accessory, the quad bracket is used to fit your ES 100 M1 Classic to ATVs or quads.

Scope of delivery: 1 quad bracket
Order number: Art. no.: 00300-2-110

14.4 Precision spreader plate


Fig.: 17

Should you wish to use your ES 100 M1 Classic for small working widths, you can also purchase a precision spreader plate. It has been developed especially for small working widths (up to approx. 4m); it spreads the seed directly into the roller (or in front of it).

Scope of delivery: 1 precision spreader plate
Order number: Art. no.: 02001-1-103

14.5 Calibration bin


Fig.: 18

Another optional accessory is the calibration bin that enables precise calibration.

Scope of delivery: 1 calibration bin
Order number: Art. no.: 02001-1-101

15 Notes

Quality for professionals

Inspired by farmers & realised by professionals

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