



Version: 1.3 EN / Item no.: 00601-3-684

Operating manual UDW 100 M1, UDW 250 M1

Please read carefully before initial operation!

ORIGINAL OPERATING MANUAL



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EC Declaration of Conformity

In compliance with Directive 2006/42/EC

The manufacturer APV - Technische Produkte GmbH
Dallein 15, AT-3753 Hötzelsdorf hereby declares that the product

Universal metering unit UDW 100 M1
Universal metering unit UDW 250 M1

Implement type designation / serial no. (see handover declaration and title page)

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

2006/42/EC Machinery Directive
2004/108/EC EMC Directive

If applicable: Title / Number / Current version of the other EC Directives

For proper implementation of the safety and health requirements mentioned in the EC Directives, the following standards and / or technical specifications were taken into account:

EN 14018 Agricultural and forestry machinery – Seed drills – Safety
EN 349 Safety of machinery – Minimum gaps to avoid crushing of parts of the human body
EN 60204-1 Safety of machinery – Electrical equipment
EN 953 Safety of machinery – Guards
ISO 12100 Safety of machinery; General principles for design; Risk assessment and risk reduction
ISO 13857 Safety of machinery – Safety distances
ISO 14982 Agricultural and forestry machinery — Electromagnetic compatibility — Test methods and acceptance criteria

If applicable: Title / Number / Current version

Your CE contact person at APV is Mr. Jürgen Schöls.
He can be reached at the telephone number +43(0) 2913-8001.

Dallein, 10/2019
City, Date



Signature

Ing. Jürgen Schöls
Management

1 Identification of the implement

Clear identification

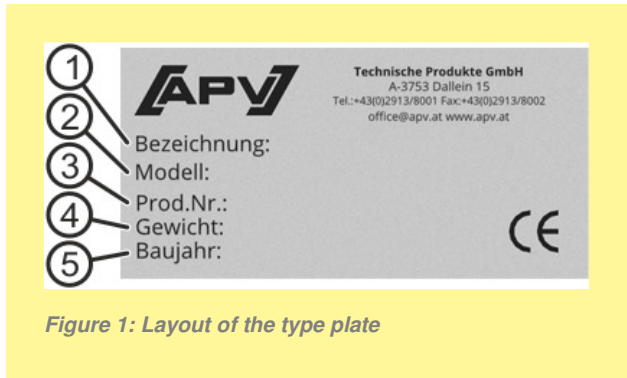
The spreader can be clearly identified by the following information on the type plate:

- Designation
- Model
- Production number

Position of the type plate

The type plate is located on the right side of the steel rack.

Figure with the type plate



The data on the type plate have the following meaning:

No.	Meaning
1	Designation
2	Model
3	Production number
4	Weight
5	Year of manufacture

2 Service

Please contact our service address in the following cases:

- If you still have questions regarding the handling of the spreader despite the information provided in this operating manual
- For spare parts orders
- To order maintenance and repair work

APV - Technische Produkte GmbH
HEADQUARTERS
Dallein 15
A-3753 Hötzelstdorf
AUSTRIA

Telephone: +43 (0) 2913 8001
Fax: +43 (0) 2913 8002
Email: service@apv.at
Web: www.apv.at

3 Warranty

Please check the implement for any transport damage immediately upon receipt. Later claims regarding transport damage can no longer be considered.

We provide a **one-year factory warranty** as of the date of delivery (your invoice or the delivery slip serve as a warranty certificate).

This warranty is applicable for cases of material or construction faults and does not include parts that are damaged by normal or excessive wear.

The warranty expires

- if damage is caused by external forces.
- in cases of operating errors.
- if the prescribed requirements are not met.
- if the implement is modified, expanded or equipped with third-party spare parts without our permission.
- if the implement is cleaned with water.

4 Accident prevention safety instructions

Before starting work, get to know all of the equipment and operating elements as well as their functions.

The general accident prevention regulations of the respective countries must be observed.

The implement may only be used by persons who are informed of the hazards.

Check the hazard area before starting up and operating the implement! (Children!) Ensure sufficient visibility!

The warning and information stickers applied to the implement provide important instructions for safe operation: observe them for the sake of your own safety!

4.1 Intended use

The implement is designed solely for normal use in agricultural operations (intended use).

Any other use is considered to be non-intended. The manufacturer is not liable for any resulting damage, the operator alone bears the associated risk.

Intended use also includes compliance with the conditions for operation, maintenance, and repairs prescribed by the manufacturer.

The implement may only be used, maintained and repaired by persons who have relevant experience and were instructed on the risks. The safety instructions must also be handed over to other users.

The applicable accident prevention regulations as well as the other generally safety-related, occupational health and road traffic regulations must also be observed.

The manufacturer is not liable for any damage resulting from unauthorised modifications and the use of components and auxiliary parts.

4.2 General safety-related instructions and accident prevention regulations

- Before operating the implement and the tractor, always check for traffic and operational safety (like fractures, cracks, chafe marks, leaks, loose bolts and connections, vibrations and unusual sounds).
- The implements must be checked regularly by the operator (before every use) for any fractures and cracks, chafe marks, leaks, loose bolts and connections, vibrations, unusual sounds, and to ensure they function correctly.
- The implements should be cleaned regularly using compressed air. While doing this, personal protective equipment should be worn if necessary.
- Maintenance and cleaning work must be carried out with the implement lowered, shut down and secured to prevent it being switched on again.
- Working under the implement is forbidden.
- Observe the generally applicable safety and accident prevention regulations!

- Use additional lighting (e.g., flashlight) for repair or maintenance work!
- The warning and information signs applied to the implement provide important instructions for safe operation, observe them for the sake of your own safety!
- Observe the respective regulations when using public roads!
- Before starting work, get to know all of the equipment and operating elements as well as their functions. It is too late to do so during operation!
- Hearing protection must be worn when using the implement.
- The spread rate may only be adjusted exactly according to the operating instructions and by trained personnel!
- The user should wear close-fitting clothing. Avoid wearing loose clothes!
- Please always wear safety shoes with non-slip soles!
- To reduce the risk of fire, keep the machines clean. It is also recommended to carry a fire extinguisher on the tractor.
- Check the surrounding area before starting up and operating the implement! (Children!) Ensure sufficient visibility!
- It is not allowed to carry passengers on the implement during operation and transport!
- It is strictly forbidden to carry persons on any implement used to mount the universal metering unit.
- The implement must be coupled according to the instructions and only onto the specified devices!
- Special care must be taken when coupling and uncoupling implement to and from the tractor! Use only self-locking attachments (nuts) as well as high-tensile bolts.
- Check the stability of the tractor and the implement when mounting, operating, and performing maintenance / filling. Depending on the soil tillage implement on which the spreader is mounted, use a step according to EN 14018 and according to the operating manual.
- When mounting the implement, the hydraulic connections to the tractor hydraulic system must be connected carefully according to the operating manual.
- Always attach ballast weights at the intended attachment points according to the specifications!
- The instructions concerning mounting as well as the requirements for the tractor or agricultural implement as specified in the operating manual are to be observed.
- Observe the permissible axle load, total weight and transport dimensions!
- Transport equipment, e.g. lighting, warning signs and any protective equipment, must be checked and mounted!
- Triggers for fast couplers must be hanging loosely and must not trigger themselves when lowered.
- Never leave the driver's platform while driving!
- The driving behaviour, steering and braking capacity are also affected by mounted or towed implements and ballast weights. For this reason, always ensure sufficient steering and braking capacity!
- When driving in curves, take account of the wide radius and/or the centrifugal mass of the implement!
- The implement may only be operated when all of the protective devices are installed and in safety position!
- It is forbidden to stand in the working area of the implement!
- Do not stand near rotating and swivelling parts of the implement!
- Hydraulic folding frames may only be actuated when nobody is standing in the swivelling range.
- There are pinch and shear points on externally powered (e.g. hydraulic) parts!
- On implements with manual folding, always ensure that the implement is stable!
- For implements that are driven rapidly with soil-driven tools: Danger after lifting due to the still rotating centrifugal mass! Only approach the implement when it has come to a standstill!
- Before exiting the tractor, lower the implement onto the ground, switch off the motor and remove the ignition key!
- Standing between the tractor and the implement is forbidden unless the vehicle is secured against rolling away using the parking brake and/or with wheel chocks!
- Folded frames and lifting devices must be locked in transport position!
- Packer catch arms must be swivelled in and locked before road transport!
- Lock the track markers in transport position!

- When filling the hopper with slug pellets or similar toxic agents, only fill as much as is needed in the near future. Protective clothing, safety gloves, and face and eye protection must be worn during the filling procedure.
- Observe the warning information provided by the manufacturer on the packaging. The seed grains used in your spreader can be toxic!
- Always keep hands, clothing etc. away from rotating parts!
- Keep your distance when the implement is switched on!
- No other persons may be in the hazard area of the universal metering unit with spreading disc.
- Visual check by the driver!
- Never look into the spreading cone!
- Product remains should be returned to the original packaging. Residues must not be released into the environment.
- Authorised crop protection products are not known to have negative effects on the materials of the implement.
- Maintenance, repair, and cleaning work as well as the elimination of malfunctions should always be performed when the drive is switched off and the motor is at a standstill!
- When mounting the spreading device, the operator must connect it to the tractor or vehicle with a metal connection and if necessary, a grounding cable.
- Never look into the radar sensor!
- The operating manual calls for the use of CE-marked exchangeable universal joint shafts as well as their covers!
- Some parts have stickers warning about high temperatures. When working on these parts when they are hot, safety gloves must be worn. Dust deposits on the hydraulic motor must be prevented. Clean.
- The motors of the rotary valve / seeding shaft and spreading plate can get hot. Warning stickers are applied on the motors. The operator must check the motors regularly for changes in temperature and remove any accumulated dust.
- The operator must ensure that no one is in the vicinity of the universal metering unit when it is being moved by the tractor's hydraulic system for use of the spreading disc. Visual check by the driver. When driving on roads, the operator must ensure that the raised universal metering unit cannot be lowered (stop valve in the tractor hydraulic system or similar). Moreover, when driving on roads, the controller must be switched off by the user (no accidental starting up of e.g. the spreading disc).

4.3 Mounted implements

- Before mounting and dismounting implements on the three-point linkage, move the operating devices into the position that excludes unintentional lifting or lowering!
- When mounting, the operator must ensure that the requirements for the tractor or agricultural implement specified in the operating manual are met and that the connections specified in the operating manual are made correctly.
- When mounting the universal metering unit, the operator must ensure that there is a metallic connection made to the tractor or agricultural implement.
- For three-point mounting, the mounting categories of the tractor and the implement must match or be adapted!
- There is a risk of injury due to crushing and shearing points in the area of the three-point linkage!
- Do not stand between the tractor and the implement when actuating the external controls for the three-point mounting!
- When the implement is in transport position, always ensure that the tractor three-point linkage is sufficiently locked to the sides!
- When driving on roads with the implement lifted, the operating lever must be locked against lowering!
- To check the procedure, the operator must have a view on the mounted universal metering unit or on the agricultural implement on which it is mounted, as well as hazardous movement zones.
- When performing work procedures and when the spreading disc is used, the tractor's speed must be maintained between 1 and 20 km/h, as specified in the operating instructions and depending on the seed.

4.4 Maintenance

- Maintenance, repair, and cleaning work as well as the elimination of malfunctions should always be performed when the drive is switched off and the motor is at a standstill! – Remove the ignition key! – Switch off the implement!
- Check the nuts and bolts regularly for tight fit and retighten if necessary!
- When performing maintenance on the lifted implement, always ensure safety through suitable support elements!
- When changing work tools with sharp edges, always use suitable tools and gloves!
- Properly dispose of oils, grease and filters!
- Always cut the power supply when working on the electrical system!
- When performing electrical welding work on the tractor and mounted implement, disconnect the cable on the generator and the battery!
- Spare parts must at least comply with the technical requirements specified by the implement manufacturer! This is ensured with original parts!
- Do not clean the implement with water. It is recommended to clean the implement with compressed air.
- Use additional lighting (e.g. flashlight) if necessary for repair or maintenance work!

5 Mounting of the spreader

5.1 Layout and mode of operation

The UDW 100 M1/UDW 250 M1 is a universal spreader with a capacity of 105 litres or 250 litres. The spread rate is regulated by the seeding shaft, which is driven by a 12V gear motor. The working width is regulated comfortably from the driver's seat via the speed of the spreading plate. As an option, there is the possibility of adjusting the speed of the seeding shaft to the speed of the tractor by using various speed sensors (available as an accessory). Furthermore, tractor linkage sensors are also available as an option. Power can be supplied to the control box either through the 3-pin standard socket or optionally directly from the battery.

5.2 Mounting the implement

The spreader should be attached to the vehicle, either "facing" towards the front or the rear. A steel plate is riveted onto the frame, which you can bolt on with the standard supplied counter plate on different parts of the machine.

To mount the implement on the three-point linkage of the tractor, bolt the tractor linkage drawbar between your spreader and the supplied counter plate (Figure 2). To attach the spreader, you should use at least 8 bolts with a diameter of 10 mm and the required length to ensure secure and firm attachment of the implement. Then install the supplies top link bracket onto the frame of the spreader.

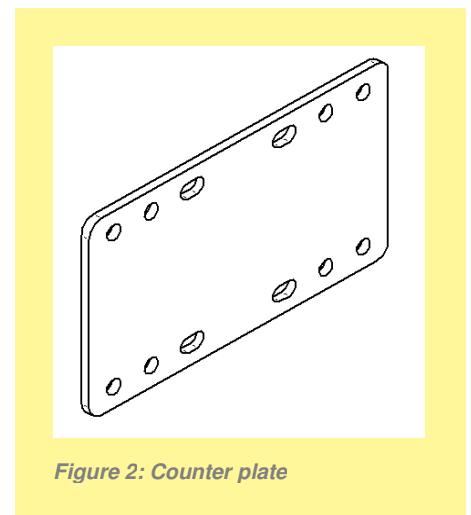


Figure 2: Counter plate



CAUTION!

APV is not liable for improper mounting or faulty use of the implement.

5.3 Mounting the control box

To fasten your control box:

- Fasten the standard supplied bracket in the tractor cab with two bolts. Stow the excess cable in the driver's cab to avoid pinching.



CAUTION!

If possible, do not roll up the cable into a coil!

- On the bottom side of the control box, there is a 3-pin plug (= connection to the power supply of the tractor), a 6-pin plug (= connection of the spreader to the control box), and a 12-pin plug for the sensors (speed sensor and/or linkage sensor).



TIP!

Pay attention to the angle at which you look at the control box to be able to read the display optimally. If necessary, bend the bracket slightly to adjust the angle as required.

- The standard supplied cable can be directly connected to the 3-pin standard socket of the tractor in the cab. The other end is connected to the control box. If your tractor does not have a standard socket, it can be retrofitted with the cable set included with the accessories.
- The fuse (30 A) is located on the right side of the control box.



Figure 3



CAUTION!

The 12 volt power supply must NOT be connected to the socket for the cigarette lighter.



CAUTION!

For safety-related reasons, disconnect the controls after using the implement and for road transport.



CAUTION!

If your battery is charged by a charger that is in "Start" operating mode, there can be voltage peaks! These can cause damage to the electrical system of the control box if it is also connected when the battery is being charged.



CAUTION!

If these instructions are not observed, damage may be caused to the control box.

6 Settings and operation

6.1 Spreading width

The spreading width depends on the density of the de-icing product/salt/grit, on the delivery rate of the seeding shaft, and the speed of the spreading disc. The spreader is designed such that it can spread the spreading material evenly across a spreading width of up to 6 m. The precise settings for the spread rate, working width etc. can be taken from the setting chart (point 6.2). We recommend that the spreader be mounted at least 1 m above the ground to achieve a certain degree of spreading density.



CAUTION!

Make sure that the salt or de-icing product is STORED IN A DRY PLACE, otherwise the spreading material can form clumps in the hopper!

It flows optimally with fine and completely dry salt quality.

6.2 Setting charts

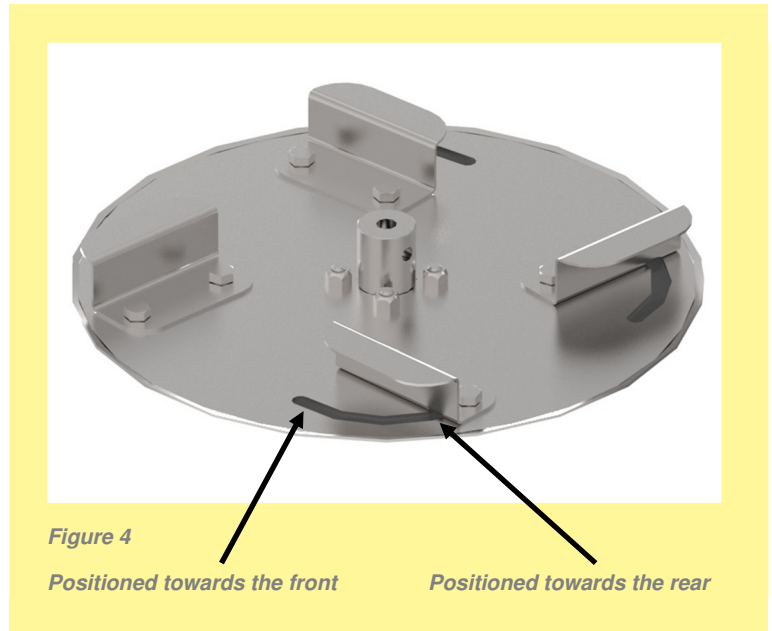
These tables can be used as reference values. However, they cannot be used in the same way everywhere as many factors play a role or strong changes can occur (such as the density, spreading material moisture content, changes in flow behaviour, and much more).

Spreading width [m]	1.5	2.5	3	4.5	5	6
Speed for the spreading disc	100 - 300	300 - 600	600 - 900	900 - 1200	1200 - 1400	1400 - 1500

Seeding shaft [%]	Calibration quantity [kg/min]	
	Salt	Grit (grain size 4/8)
2	0.53	0.47
5	1.04	0.92
10	1.89	1.67
15	2.74	2.42
20	3.62	3.20
25	4.44	3.92
30	5.29	4.67
35	6.14	5.42
40	7.08	6.25
45	7.84	6.92
50	8.74	7.72
55	9.54	8.42
60	10.26	9.06
65	11.24	9.92
70	12.02	10.61
75	12.94	11.42
80	13.86	12.24
85	14.54	12.84
90	15.22	13.44
95	16.15	14.26
99	17.01	15.02
100	21.24	18.75

6.3 Spreading disc, throwing vanes

With the variable throwing vanes (Figure 4) attached to the spreading disc, the spread pattern can be adapted to the specific weight of the spreading material. This results in uniform lateral distribution. When the throwing vanes are moved forward, the spreading material exits the spreading disc a little later and the implement spreads a little more to the right (when standing in front of the spreader). When the throwing vanes are moved back, the spreading material exits the spreading disc a little earlier and the implement spreads a little more to the left (when standing in front of the spreader).



PLEASE NOTE!

The seeding shaft can only be switched on when the spreading plate is rotating!

6.4 Deflector (guide plate)

The deflector is required when the spreading material is flung towards the front onto the vehicle. It is installed on the left side in the direction of travel of the spreader.

Installing the deflector:

- Remove the M6x16 flange screw.
- Install the deflector with the supplied star knob screw.

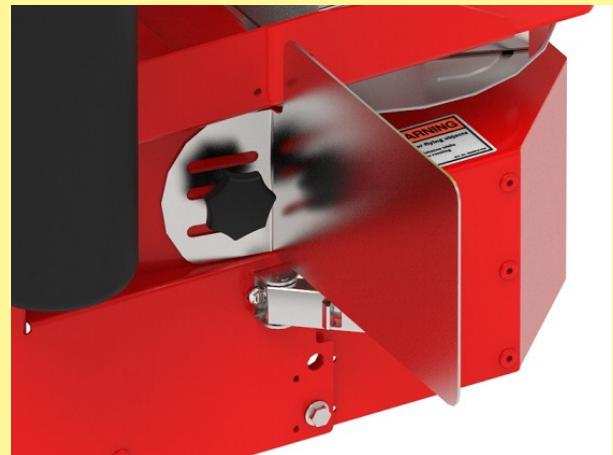


Figure 5: Deflector on the UDW 100 M1

6.5 Dismounting the seeding shaft

To dismount the seeding shaft, proceed as follows:



PLEASE NOTE!

When changing the seeding shaft, ensure that the hopper is completely empty. After installing the seeding shaft, check the implement for smooth running.

1. Empty the hopper completely.
2. Loosen the two locking nuts (WAF 10) marked in Figure 6 and take off the bearing flange.



Figure 6

3. Loosen the star knob screws marked in Figure 7 and fasten them on the marked position.
4. Pull the seeding shaft out of the metering unit in the direction shown by the arrow (Figure 7).
5. To install the seeding shaft, proceed in the reverse sequence.

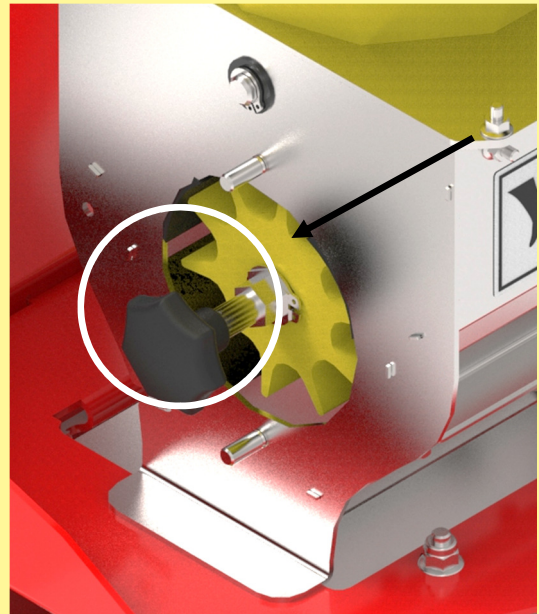
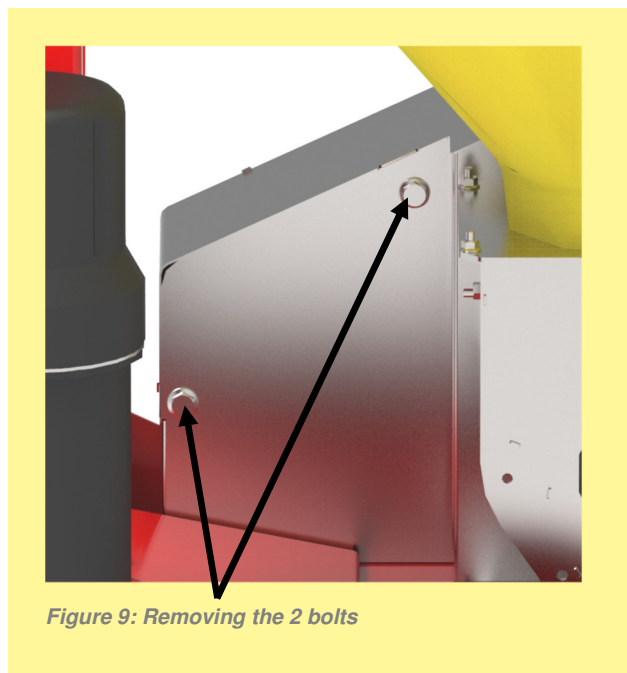
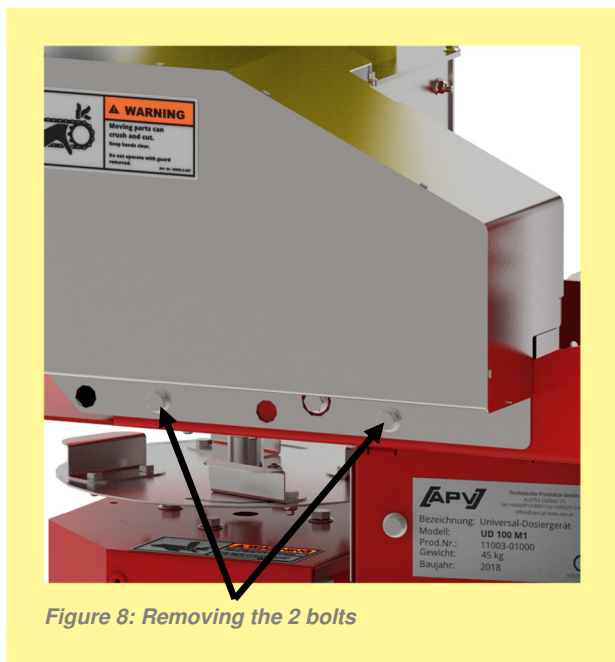


Figure 7

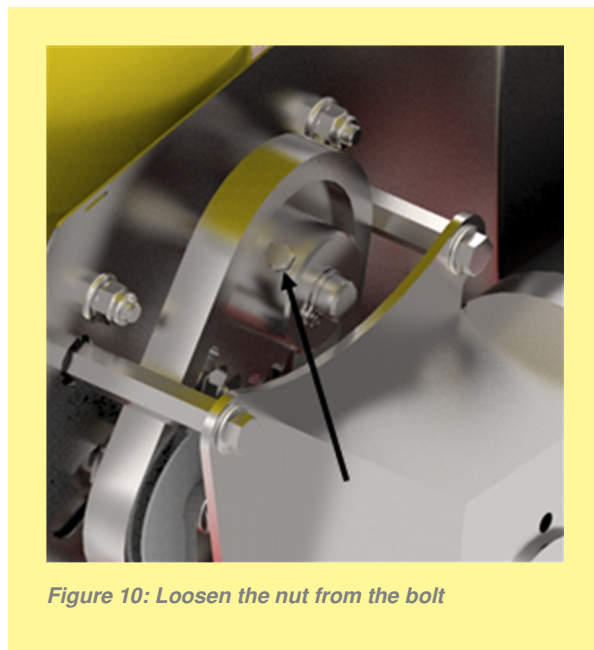
6.6 Agitator

If the agitator is not needed, then proceed as follows:

1. To remove the motor cover, remove the 4 bolts marked in Figure 8 and Figure 9 (width across flats 10).



2. Loosen the nut marked in Figure 10 from the bolt (width across flats 7) and pull out the bolt.
3. Reinstall the motor cover on the spreader.



6.7 Calibration test / Regulation of the seed rate

The speed of the seeding shaft depends on the spread rate and the forward speed when operating with sensors. To determine the desired spread rate, you should perform a calibration test before beginning work.

The spread rate is calculated with the following formula:

$$\frac{\text{Desired spread rate [kg/ha]} \times \text{forward speed [km/h]} \times \text{working width [m]}}{600} = \text{weight [kg/min]}$$

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

Proceed as follows to perform the calibration test:

1. Fold down the spreading plate by opening the quick-release fasteners (Figure 11).
2. For the calibration test, use the supplied sack or a different hopper that can be attached to the metering unit to collect the spreading material (Figure 12). A calibration slide is also available as an accessory for this (see Chapter 10 Accessories).
3. The description of how to perform the calibration test can be found in the operating manual of your control box.
4. After beginning operation, you should verify the spread rate.
5. In particular, check the forward speed, the spread rate, and distribution of the spreading material.



Figure 11: Quick-release fastener



CAUTION!

For safety reasons, it is imperative to ensure that the spreading plate is not switched on as long as the spreading plate unit is folded down.

6.8 Operation on the road

When you start spreading, proceed as follows:

- Start the implement on which the spreading is mounted.
- Switch on the control box using the "On/Off" button.
- Start the spreading plate using the "Spreading plate" button.
- To start the spreading material delivery, now press the "Seeding shaft" button.



Figure 12

- When the work is finished, first switch off the seeding shaft, then the spreading plate, and finally the entire control box with the "On/Off" button.

The following points must be observed during operation:

- The spreading plate must always be switched on during operation.
- Verify the required spread rate!

6.9 Emptying the hopper

- To empty the hopper, unscrew the screw plug on the emptying nozzle at the front of the hopper, and hold a container, sack or other vessel underneath.
- To ensure complete emptying, open the fastener and fold down the spreading plate.
- Now attach a sack or a suitable hopper to collect the residual quantity (Figure 12).
- Then actuate the menu point "Emptying" on the control box. Now let the seeding shaft rotate until the hopper is completely empty, and the seed wheels no longer deliver spreading material.



TIP!

To remove even the last spreading material residues, clean out the hopper with compressed air. Alternatively, you can suck out the remaining spreading material with an industrial vacuum cleaner.

7 Cleaning, care, maintenance, and repairs

7.1 General information

To maintain the implement in good condition even after a long service life, the following instructions must be observed:

- Original parts and accessories are designed especially for the machines or implements.
- Please note that parts and accessories not supplied by us have also not been tested and approved by us.
- The installation or use of such products can therefore possibly negatively change or impede the constructional properties of your implement. The manufacturer rules out any liability for damages resulting from the use of non-original parts and accessories.
- The manufacturer is not liable for any unauthorised modifications and the use of components and auxiliary parts.
- All bolted connections should be re-tightened at the latest after 3 operating hours and again after 20 hours, and then checked regularly. Loose bolts can cause significant consequential damage, which is not covered by the warranty.

7.2 Cleaning the spreader

The spreader must be cleaned inside and out on a regular basis to ensure long-term proper functioning. If not cleaned properly, clumps can form inside the spreader due to spreading material residues.



CAUTION!

Salt residues can form clumps when they come into contact with moisture in the hopper.

To clean the spreader:

1. Empty the spreading material hopper (see Emptying the hopper, Point 6.9).

2. Disconnecting the spreader from the power supply.
3. Remove the seeding shaft (see Dismounting the seeding shaft for this, Point 6.5).
4. Fold back the cover of the spreading material hopper to open it.
5. Clean the inside of the spreader and the spreading material paths with compressed air.
6. Clean the outside of the spreader with a moist cloth.

**CAUTION!**

Ensure that **NO WATER** enters the hopper or the implement. The inside of the implement can only be cleaned with compressed air.

The paint can be damaged by cleaning with excessive pressure.

7.3 Repairs and service

In case of failure or damage to the spreader, please contact the manufacturer. The contact data can be found on the last page of this operating manual as well as in Chapter 2 Service.

8 Decommissioning, storage and disposal

8.1 Decommissioning the implement

To ensure that the implement remains fully functional even if it is out of operation for longer periods of time, it is important to take precautions for storage:

1. Completely remove all spreading material from the spreader.
2. Clean the spreader inside and out (see Cleaning the spreader, Point 7.2).
3. Store the spreader in a dry place to prevent the formation of clumps or germs inside the implement.

8.2 Storage of the implement

The spreader must be stored in a dry place protected from weather conditions to ensure that it remains functional even if it is stored for a longer period of time.

8.3 Disposal

Disposal of the implement must be performed according to the local disposal regulations for machines.

9 Technical data

Designation:	UDW 100 M1	UDW 250 M1
Hopper content:	105 litres	250 litres
Weight:	45 kg	80 kg
Dimensions (H x W x D):	1100 x 550 x 550 mm	1300 x 1000 x 850 mm
Max. spreading width:	6 m with salt	6 m with salt
Recommended spreading width:	5 m	5 m
Min. spread rate:	0.5 kg salt per minute	0.5 kg salt per minute
Max. spread rate:	20 kg salt per minute	20 kg salt per minute
Power supply:	12 V, 30 A	12 V, 30 A
Spreading plate motor data (nominal power):	170 watts	170 watts
Power consumption of the spreading plate motor:	25 amps when starting, 14 amps during normal operation	25 amps when starting, 14 amps during normal operation
Speed range max.:	1500 rpm	1500 rpm
Mounting category:	Cat. I & II (top link)	Cat. I & II (top link)

9.1 Counter plate

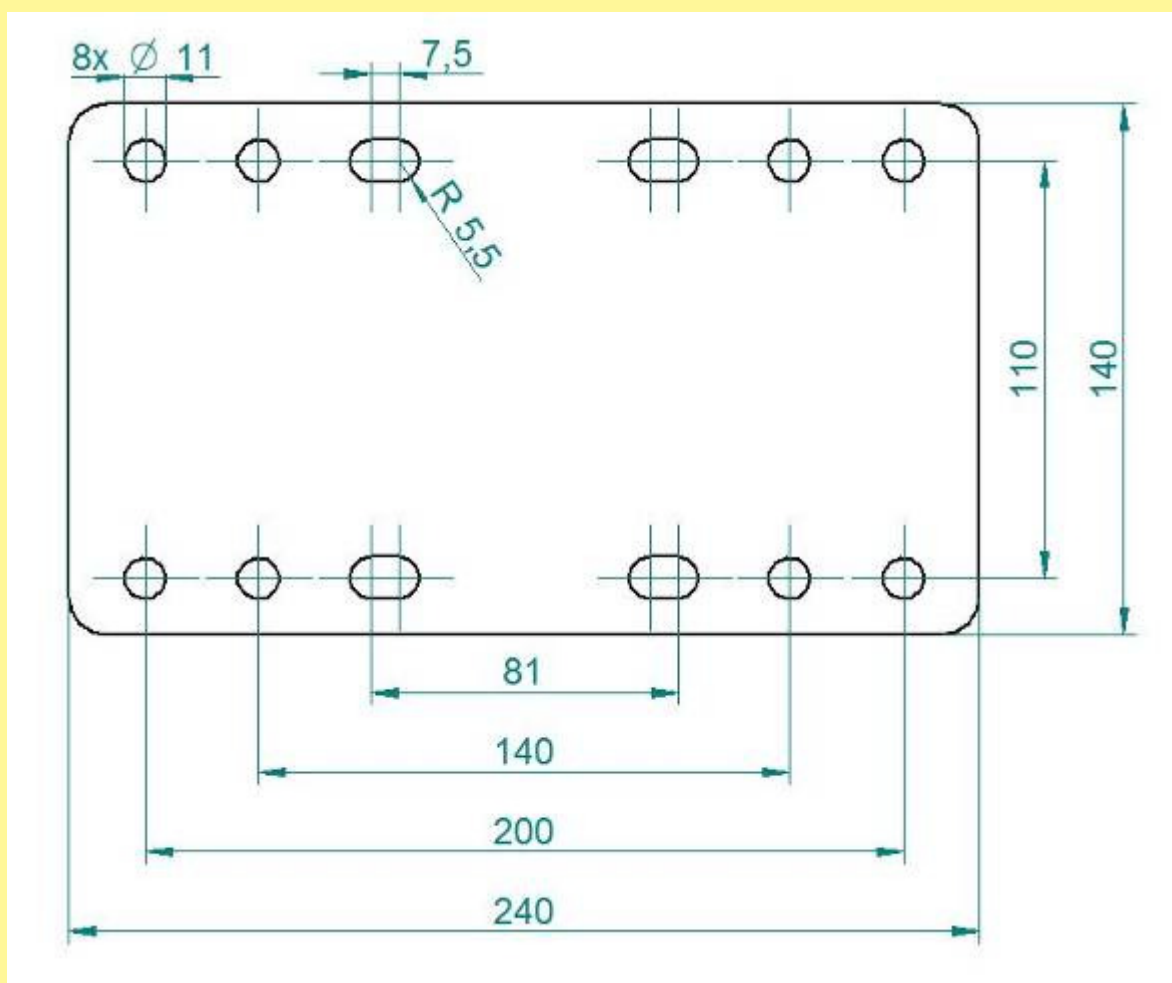


Figure 13: Pattern of holes on the counter plate

Units in mm

The contact area must have a minimum dimension of 240 x 140 mm.

10 Accessories

- **Calibration button**

The calibration button is integrated directly in the wiring harness of the universal metering unit. Therefore, the calibration test can be performed directly from the spreader.

Items included: Calibration button

Cable length: 1 m

Item number: 00410-2-094



Figure 14: Calibration button

- **Calibration slide**

The calibration slide is hooked onto the frame. The parking position for the calibration slide is the inside of the cover. Here it is firmly held in place with the rubber clamp (which together with the necessary attachment parts is included in the scope of delivery).

Items included: Calibration slide incl. rubber strap

Item number: 11003-2-028



Figure 15: Calibration slide

- **Pick-up mounting bracket**

For practical and easy attachment of the UDW 100 M1 to flatbeds or pick-up trucks.

Items included: Pick-up mounting bracket

Item number: 00300-1-001

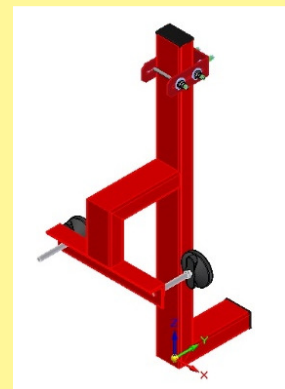


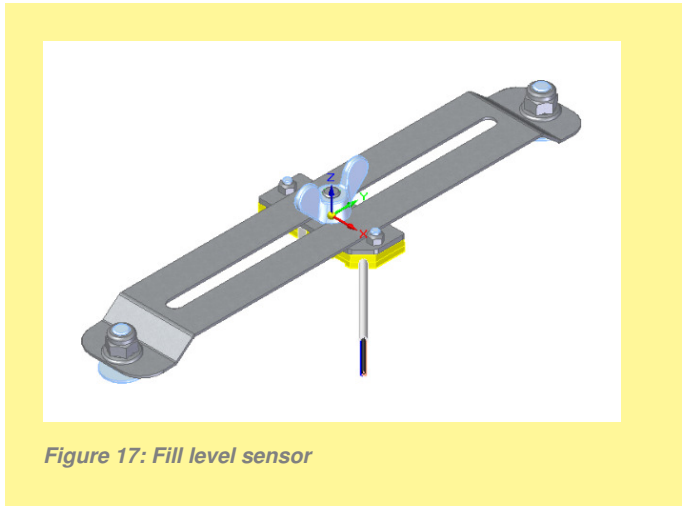
Figure 16: Pick-up mounting bracket

- **Fill level sensor**

This sensor can be retrofitted on the UDW 100 M1.

It measures the fill level in the hopper and triggers an alarm on the control box when the set level is undercut. It measures the fill level in the hopper and triggers an alarm on the control box when falling below the set level.

The sensitivity of the sensor can be adjusted for the respective seed type. It is adjusted using the small slotted screw at the rear of the sensor. Connect the sensor cable according to the connection diagram (point 11).



Items included: Fill level sensor including installation material

Item number: 11000-2-060

- **Shovel bracket**

The shovel bracket can be retrofitted to carry a snow shovel or a broom.

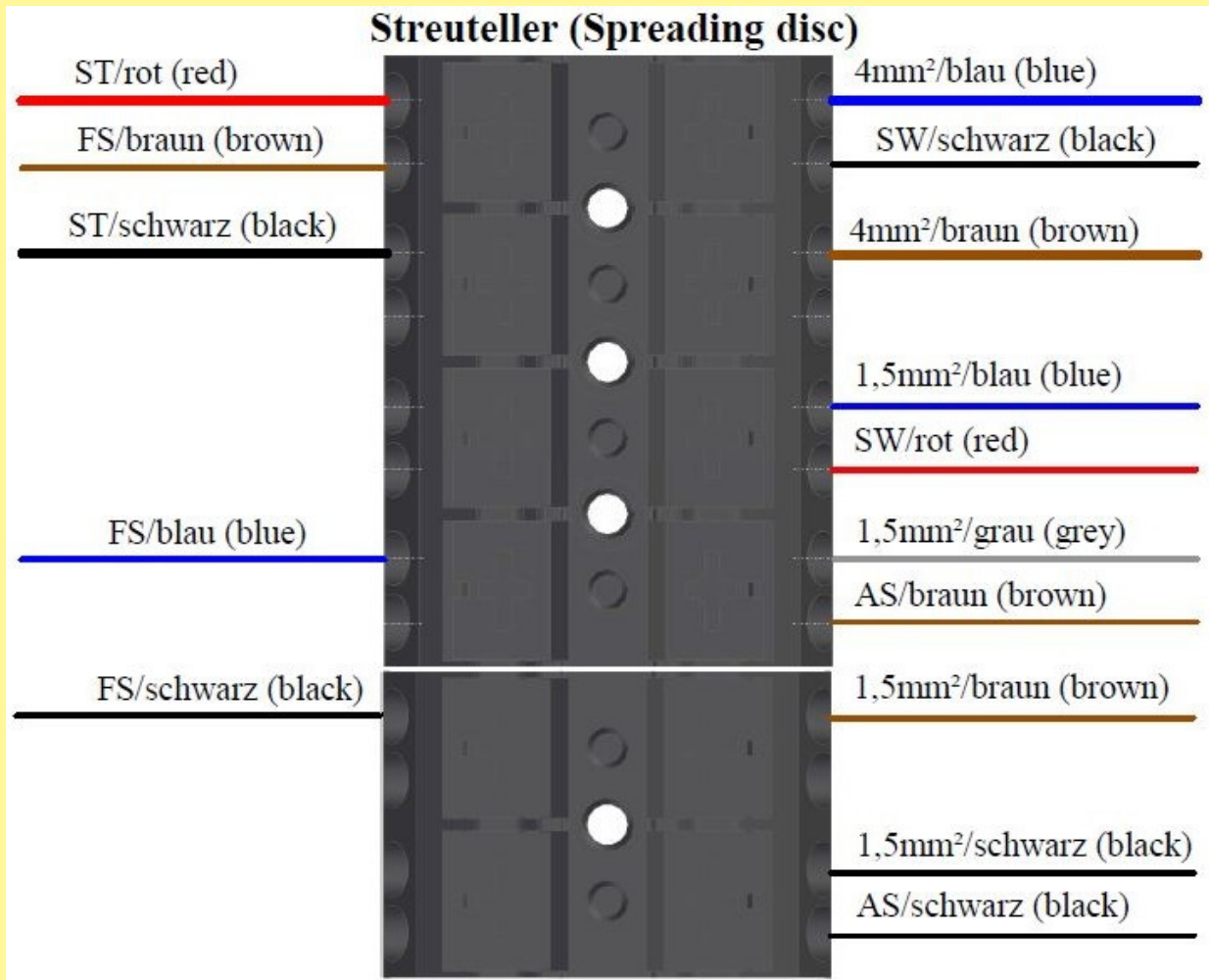
Attention: The snow shovel must not have a handle on the shaft; if it does it will not fit into the bracket. The thickness of the shaft must not exceed 41 mm.

Items included: Brackets incl. rubber grommets

Item number 11003-2-025



11 Connection diagram



Stecker-PIN (plug-pin)	Geräte-kabel (machine cable)	Streuteller ST (spreading disc)	Säwellenmotor (SW) (sowing shaft motor)	Füllstands-sensor (FS) (fill level sensor)	Abdrehschalter (AS) (calibration button)
1	4 mm ² / blau (blue)	2,5 mm ² / rot (red)	1,5 mm ² / schwarz (black)	0,75 mm ² / braun (brown)	
2	4 mm ² / braun (brown)	2,5 mm ² / schwarz (black)			
3	1,5 mm ² / blau (blue)		1,5 mm ² / rot (red)		
4	1,5 mm ² / grau (grey)			0,75 mm ² / blau (blue)	0,75 mm ² / braun (brown)
5	1,5 mm ² / braun (brown)			0,75 mm ² / schwarz (black)	
6	1,5 mm ² schwarz (black)				0,75 mm ² / schwarz (black)

Figure 19

12 My idea

The **universal metering unit UDW 100 M1 / UDW 250 M1** was extensively developed and tested. It took a long time from the initial idea to serial production. It required lots of commitment from the entire development team.

Nonetheless, the most valuable experience is gained in practice. Our motto:

"Inspired by Farmers & realized by Professionals."

This is how customer proximity of the development department creates a leading edge for you and APV.

Tell us about the positive and negative experiences you have had with the machine.

Share your suggestions for improvement and your ideas with us:

meineidee@apv.at

Take pictures or make hand-drawn sketches! We are open and grateful for any information, no matter in what form.

Your information goes directly to the leading developers at APV.

I would like to thank you in advance for your involvement and wish you lots of fun with your APV product!

Sincerely yours,

Your Head of Development & Technology



Ing. Gregor Witzmann, MSc MBA

13 Safety signs

Observe this sticker on the implement! It informs you of special dangers!



Read and observe the operating manual before commissioning or maintenance!



Operating errors can lead to serious injuries.



Danger due to thrown parts; observe the safety distance!



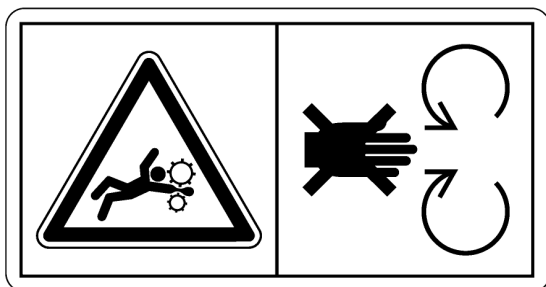
Do not reach into rotating parts.
Switch off the implement and disconnect the power supply when handling!



Risk of injury due to moving parts.
Switch off the implement and disconnect the power supply when handling!



Risk of injury due to rotating parts. Only work with mounted covers!



Maintain a safe distance from rotating implement parts!



Risk of burns!
Hot surface!
Do not touch!



CAUTION!
Misprints, errors and omissions excepted.

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Qualität für Profis

- seit 1997 -



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