Operating manual

AMAZONE

Control terminal

AmaLog+



MG3828 BAH0017.7 05.2020 Please read and observe this operating manual before initial operation of the implement! Keep it in a safe place for future use!





Identification data

Control terminal AMALOG+

Manufacturer's address

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Spare part orders

Spare parts lists are freely accessible in the spare parts portal at www.amazone.de.

Please send orders to your AMAZONE dealer.

Formalities of the operating manual

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Foreword

Dear Customer,

You have chosen one of the quality products from the wide product range of AMAZONEN-WERKE, H. DREYER SE & Co. KG. We thank you for your trust in our products

Before initial operation, read and observe this operating manual, and particularly the safety information.



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1 User information

The User Information section provides information on use of the operating manual.

1.1 Purpose of the document

This operating manual

- describes the operation of the control terminal
- provides important information on safe and efficient handling
- is a component of the control terminal and must always kept with the implement or carried in the towing vehicle
- must be kept in a safe place for future use.

1.2 Locations in the operating manual

All the directions specified in the operating manual are always seen in the direction of travel.

1.1 Diagrams

Instructions and responses

Activities to be carried out by the user are given as numbered instructions. Always keep to the order of the instructions. The reaction to the handling instructions is given by an arrow.

Example:

- 1. Instruction 1
- \rightarrow Implement response to instruction 1
- 2. Instruction 2

Lists

Lists without an essential order are shown as a list with bullets.

Example:

- Point 1
- Point 2

Item numbers in diagrams

Numbers in round brackets refer to the item numbers in the diagrams. The first number refers to the diagram and the second number to the item.

Example: (Fig. 3/6)

- Figure 3
- Item 6



2 General safety instructions

This section contains important instructions for operating the control terminal safely.

2.1 Obligations and liability

Comply with the instructions in the operating manual

Knowledge of the basic safety instructions and safety regulations is a basic prerequisite for safe handling and fault-free operation of the control terminal.

Guarantee and liability

Our "General conditions of sales and delivery" are always applicable. These shall be available to the operator, at the latest on conclusion of the contract.

Guarantee and liability claims for damage to people or property will be excluded if they can be traced back to one or more of the following causes:

- Non-intended use of the control terminal
- Improper installation, commissioning and operation of the control terminal
- Non-compliance with the instructions in the operating manual regarding commissioning, operation and maintenance
- Unauthorised structural changes of the control terminal.

2.2 Informal safety measures

As well as all the safety information in this operating manual, comply with the general, national regulations pertaining to accident prevention and environmental protection.

2.3 User workstation

The control terminal must only be operated by one person sitting in the driver's seat of the tractor.



2.4 Safety-conscious working

Besides the safety information in this operating manual, the generally applicable national workplace safety and accident prevention regulations are binding.

2.5 Handling the product

Do not subject the control terminal to any mechanical vibrations or impact.

Do not allow the control terminal to fall.

Do not touch the display of the control terminal with sharp objects, as this could damage the display.

Protect the control terminal from wetness and moisture.

Do not place the control terminal near heat sources such as radiators or ovens.

Never open the housing of the control terminal. If repairs are necessary, contact a specialist workshop.



2.6 Representation of safety symbols

Safety instructions are marked with the triangular safety symbol and the preceding signal word. The signal word (DANGER, WARNING, CAUTION) describes the severity of the risk, and carries the following meaning:



DANGER

Indicates a direct threat at high risk which will result in death or most serious bodily harm (loss of limbs or long-term harm), should it not be prevented.

If the instructions are not followed, then this will result in immediate death or serious physical injury.



WARNING

Indicates a medium risk, which could result in death or (serious) physical injury if not avoided.

If the instructions are not followed, then this may result in death or serious physical injury.



CAUTION

Indicates a low risk which could cause minor or medium level physical injury or damage to property if not avoided.



IMPORTANT

Indicates an obligation to special behaviour or an activity required for proper machine handling.

Non-compliance with these instructions can cause faults on the machine or disturbance to the environment.



NOTE

Indicates handling tips and particularly useful information.

These instructions will help you to use all the functions of your machine in the best way possible.



3 Product description





Standard equipment Fig. 1/...

- (1) Control terminal with fastening bracket
- (2) Socket connection, 12V
- (3) Wiring harness with 20-pin connector

Special equipment Fig. 1/...

(4) Bracket with battery cable choice of one or two sockets



3.1 Intended use

The control terminal is intended exclusively for conventional use as a display and monitoring device in agricultural applications.

Intended use also includes observing all instructions in this operating manual.

Other uses to those specified above are forbidden and shall be considered as improper.

For any damage resulting from improper use

- the operator bears the sole responsibility
- AMAZONEN-WERKE accepts no liability.

3.2 CE marking

The CE marking (Fig. 2) signalises compliance with the stipulations of the valid EU directives.





Electrical equipment

Battery voltage:

12 V (volts)



4 Layout and function

The following section provides information on the structure of the control terminal and the functions of the individual components.

The control terminal has 6-digit display (Fig. 3/1).

The control terminal is equipped with an EEPROM (memory chip) for storing data.

The data are again available for the next use, even after a long period of deactivation of the onboard power supply.



Fig. 3

4.1 Operation with DMC Primera direct seed drills

The control terminal issues an alarm when the set minimum fertiliser quantity is reached in the fertiliser hopper.

4.2 Rotary cultivator operation

The control terminal monitors the function of the overload clutch. Acoustic alarm in event of tool carrier standstill.



4.3 Operation with seed drills

The AmaLog+

- measures the covered part area [ha].
- stores the cultivated total area [ha].
- indicates the forward speed [km/h].
- controls the tramline control and the tramline marker
- indicates the position of the hydraulically operated track markers
- initiates an alarm when the set minimum quantity is reached in the tank (fill level sensor required).

4.3.1 Operation with cam wheel seed drill

For seed drills with tramline control, AmaLog+ monitors the drive of the lay shaft (Fig. 4/1).



Fig. 4



4.3.2 Operation with pneumatic seed drills

AmaLog+ monitors the tramline control in the distributor head (Fig. 5/1). An acoustic alarm sounds in the event of incorrect shutter position.





Fig. 6

AmaLog+ monitors the fan speed.

If the actual speed deviates by more than 10 % from the target speed, an acoustic signal is initiated and in the display the control lamp (Fig. 6/1) above the speed symbol (Fig. 6/2) flashes.

The speed monitoring is only active when the seed drill is working.



4.4 Work display

The work display (Fig. 7) appears with the first pulse from the distance sensor.

The flashing circle symbol (Fig. 7/1) during work indicates that

- The control terminal receives pulses from the distance sensor
- The control terminal is working correctly.

The work display depends on the working situation [see table (Fig. 8)].



Fig. 7



	3	6.9	3 25c159-1			
Fig. 8/	Display and/or c	ontrol symbol	sensor			
1	Forward speed [k	m/h]	pulses from the distance sensor			
2	Tramline counter	position	Control terminal data			
3	Control symbol	Left track marker in working position	pulse,			
4	Control symbol	Right track marker in working position	e.g. from track marker sensor			
Display a	ppears automatica	ally in event of faults:				
5	Control symbol	Refill hopper	pulses from level sensor			
6	Control symbol	Blower fan speed deviation above 10%	pulses from fan sensor (pneumatic seed drills)			
Displays	called up via func	tion keys:				
7	Control symbol	Worked area [ha]	pulses from the distance sensor			
8	Control symbol	Blocking the tramline counter	Manual entry			

Fig. 8



4.5 Button assignment

Button	Button assignment	Button	Button assignment
1/0	Switching on/off		Correction button
	Data input confirmation		
	Reduction of the value displayed		Increasing of the value displayed
	Input/display of working width [m]	Imp. 100m	Input/display of a soil-dependent number of pulses of a 100 m-long calibration distance
[Yellow but- ton]	Input/display of fan nominal speed [rpm.]		Input of tramline rhythm
Stop	Block the tramline counter	+1	Shift on the tramline counter
[Blue button]	Display of fan speed	ha Σha	Alternative via button actuation Display of the cultivated • part area [ha] • total area [ha] and back to the the work display





4.6 Creation of tramlines

As described in the operating manual for the seed drill, the tramline control allows the creation of tramlines at pre-selected intervals on the field.

When creating the tramlines

- the tramline counter shows the number "0" on the control terminal
- the tramline coulters do not deposit any seeds on the ground.

The required tramline rhythm is obtained from the desired tramline spacing and the seed drill working width (see seed drill operating manual). All adjustable tramline rhythms can be found in the section "Table for adjustable tramline rhythms", Seite 39. The tramline rhythm must be entered on the control terminal (see section "Displaying / altering the tramline rhythm", Seite 26).

The control terminal counts up the tramlines in the tramline counter

- after actuation of the track markers, e.g. before turning at the end of the field
- after the machine is raised (without track markers), e.g. for turning at the end of the field.

The tramline counter can be blocked (see section "Block the tramline counter", Seite 31)

- before raising the track marker, e.g. before an obstacle
- before machine standstill (without track markers), e.g. in the event of a work interruption on the field.



Before resuming work

- activate the tramline counter
- check the tramline counter display.



Layout and function

The creation of tramlines is shown in Figure (Fig. 10) using various examples:

- A = Working width of the seed drill
- B = Tramline spacing (= working width fertiliser spreader/field sprayer)
- C = Tramline rhythm (entered on the control terminal)
- D = Tramline counter (during operation, the field passes are numbered consecutively and displayed on the control terminal).



Α	В	С	D
			START DÉPART
3,0 m 4,0 m 6,0 m 8,0 m 9,0 m	9 m 12 m 18 m 24 m 27 m	3	
2,5 m 3,0 m 4,0 m 4,5 m 6,0 m 8,0 m 9,0 m	10 m 12 m 16 m 18 m 24 m 32 m 36 m	2	
2,5 m 3,0 m 4,0 m 4,5 m 6,0 m 8,0 m 9,0 m	10 m 12 m 16 m 18 m 24 m 32 m 36 m	4	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
3,0 m 3,5 m 4,0 m 6,0 m 8,0 m	15 m 17,5 m 20 m 30 m 40 m	5	
2,5 m 3,0 m 3,5 m 4,0 m 4,5 m 6,0 m 8,0 m	15 m 18 m 21 m 24 m 27 m 36 m 48 m	6	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
3,00 m 3,43 m 4,00 m 6,00 m	21 m 24 m 28 m 42 m	7	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
2,5 m 3,0 m 3,5 m 4,0 m	20 m 24 m 28 m 32 m	8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
3,0 m 4,0 m	27 m 36 m	9	
2,5 m 3,0 m 3,5 m 4,0 m 4,5 m 6,0 m 8,0 m	15 m 18 m 21 m 24 m 27 m 36 m 48 m	21	

Fig. 10



5 Commissioning

5.1 Installing the control terminal

1. Screw the bracket (Fig. 11/1) so that is free from vibrations and electrically connected to the right of the driver's position in the tractor cab, within visual range and easy to access (Fig. 11/2).

The distance from the radio unit or aerial must be at least 1 m.



The control terminal must have a conductive connection via the bracket to the tractor chassis!

Remove the paint at the installation points before installing the bracket!

2. Equip the control terminal with the counterpart (Fig. 11/3).

5.2 Connecting the control terminal

1. Fit the counterpart (Fig. 12/1) onto the bracket and clamp it in place with the wing screw (Fig. 12/2).



Fig. 12



- 2. Insert the power cable (Fig. 13/1) into the bracket and the 12V tractor socket.
- 3. Connect the bracket and the control terminal with the power cable (Fig. 13/2).
- 4. Couple the seed drill or soil tillage implement to the tractor vehicle (see operating manual for seed drill or soil tillage implement).
- 5. Route the implement cable (Fig. 13/3) into the tractor cab and insert the implement plug in the control terminal.

The implement plug is protected with a spring-loaded lever against accidental removal from the control terminal. Actuate the lever before releasing the implement plug.





5.3 Switching the control terminal on/off

Switch the control terminal on and off by pressing the utton.

Enter the implement-specific data (see section "Settings", Seite 24). When the control terminal is switched back on, the data is available again.

Before using a seed drill of a different type, enter the implement-specific data on the control terminal.

When switching on the control terminal, the software version of the control terminal briefly appears.

If the supply voltage, e.g. when starting the tractor, drops below 10 volts, the control terminal is switched off.



6 Settings

6.1 Enter implement data

The control terminal requires input of the implement data in coded form (see Fig. 14). Refer to the machine data in the table (see section "Machine data table", Seite 37).



Fig. 14

Open the necessary modes (1, 2, 3, etc.) and enter the machine data in coded form:

1. Press and hold the button.



 \rightarrow Open mode 1 (see Fig. 14).



- \rightarrow Select the desired mode [see table (Machine data table), Seite 37].
- 4. Set the code [see table (Machine data table), Seite 37] using the and keys.



 \rightarrow Save the code.



6.2 Displaying / altering the working width





 \rightarrow Store the selected value.

6.3 Displaying / altering the target blower fan speed (during standstill)

This setting is only possible for pneumatic seed drills.



- \rightarrow Display: Target blower fan speed [rpm.].
- 2. Change the target blower fan speed with







- 3. Press
- \rightarrow Store the selected value.



Switch off the blower fan speed monitoring

Set the target blower fan speed to "0".



6.4 Displaying / altering the target blower fan speed (during operation)

This setting is only possible for pneumatic seed drills.



 \rightarrow Store the selected value.

6.4.1 Displaying / altering the tramline rhythm



 \rightarrow Store the selected value.



6.5 Calibration value (pulses per 100 m)

The control terminal requires the calibration value "Pulses per 100 m" to

- determine the forward speed [km/h]
- determine the worked area [ha].

If the calibration value is unknown, determine the "pulses per 100 m" calibration value by means of a calibration run (see section "Determining / storing the calibration value (pulses per 100 m)", unterhalb). The calibration value must be determined under the predominating operating conditions on the field.

If the "pulses per 100 m" calibration value is known, it can be entered manually (see section "Displaying / editing the stored calibration value (pulses per 100 m)", Seite 28).

Determine the calibration value

- before initial use.
- when changing from heavy to light soil and vice versa. The slippage of the measuring or driving wheel may alter on different soils, thereby affecting the calibration value (imp./100 m).
- when connecting the control terminal to a different implement type
- if there is a difference between the indicated and actual travel speed
- if there are differences between the measured and actual worked area.

6.5.1 Determining / storing the calibration value (pulses per 100 m)

- On the field, measure out a calibration distance of exactly 100 m. Mark the start and end point of the calibration distance.
- Move tractor to starting position (Fig. 19) and seed drill to working position (if necessary, interrupt seed metering).



Fig. 19

3. Press and hold the **button**.



- \rightarrow The display shows "0".
- 5. Start.
- \rightarrow The display shows the pulses.



Do not press a button during the calibration run.



Settings

- 6. Stop after exactly 100 m.
- → The display (Fig. 20) shows the calibration value (e.g. 1005 imp./100 m).
- 7. The determined calibration value can be entered in the table, Seite 43.



 \rightarrow Store the calibration value (imp./100 m).





The calibration value (imp./100 m) must not be less than 250. Otherwise the control terminal will not work properly.

6.5.2 Displaying / editing the stored calibration value (pulses per 100 m)

buttons.

1. Bring the implement to a standstill.



→ Display: stored calibration value (imp./100 m) e.g. 1053 (Fig. 21).

and

3. Alter the stored calibration value (imp./100 m)_____





4. Press

by using the

 \rightarrow Store the selected value.



6.5.3 Calculating the number of crank turns for the calibration test

If the calibration value differs from the table values (see section 9.3, page 40),

- recalculate the number of crank turns for the calibration test (see below)
- enter the number of crank turns in the table, page 43
- carry out a calibration test with the calculated number of crank turns (see seed drill operating manual).

Crank turns	_	Crank turns (from table)	v	Determined calibration value [pul./100 m]
	-		•	Calibration value from the table [pul./100 m]

Afterwards, perform the calibration test with the calculated number of crank turns.

Example:

Seed drill:	Cataya 3000
Working width:	3.0 m
Crank turns (table value, see section 9.3):	18.5
Calibration value pul./100 m (table value, see section 9.3):	636 (pul./100 m)
Calibration value pul./100 m (determined):	688 (pul./100 m)

Crank turns = 18.5 x $\frac{688 \text{ [pul./100 m]}}{636 \text{ [imp./100 m]}}$ = 20.0

Perform the calibration test in our example with 20.0 crank turns.



7 Work commencement

1. Place machine in starting position (standstill).

Display at standstill:

Digit 1 (Fig. 22/1) shows the travel speed (0 km/h).

Digit 2 (Fig. 22/2) shows the tramline counter 4.



2. Lower the correct track marker (see seed drill operating manual).



The tramline control can be coupled with the track marker control. The tramline counter can continue counting when the track marker is actuated.

- 3. Set the tramline counter (see Chap. "Setting the tramline counter", Seite 31).
- 4. Delete the part area memory (see Chap. "Erasing the part area memory", Seite 32).



It is not mandatory to delete the part area memory.

5. Start.



7.1 Tramline counter

7.1.1 Setting the tramline counter



Press the button several times until the right tramline counter is displayed [e.g.: Tramline counter 2, see Seite 21, Fig. 10, under the lettering "START"].

7.1.2 Block the tramline counter



- → The further shifting of the tramline counter is blocked.
- \rightarrow The number (Fig. 23/1) of the tramline counter flashes in the display.
- → The control symbol (Fig. 23/2) marks the stop symbol.



 \rightarrow The tramline counter is again active.







7.2 Worked area

7.2.1 Displaying the worked part area



→ Display (Fig. 24): worked part area (e.g. 10.5 ha).



7.2.2 Erasing the part area memory

- 1. Press and hold the button.
- 2. Press
- \rightarrow The part area memory is set to 0 [ha].



 \rightarrow Back to the work display (Fig. 26).

7.2.3 Display the total area





Fig. 25

 \rightarrow Back to the work display (Fig. 26).



7.3 Display during work

During operation, the AmaLog+ shows

- the travel speed (Fig. 26/1), e.g. 6.9 km/h
- the setting of the tramline counter (Fig. 26/2), e.g. Switching position 3
- the left track marker (Fig. 26/3) is in the working position
- the right track marker (Fig. 26/4) is raised.





The counting process of the tramline counter is supported by an acoustic signal.

7.4 Function keys

Data can be displayed for approx. 10 seconds during seeding by actuating the function keys.

7.4.1 Display of the current blower fan speed

This display is only possible for pneumatic seed drills.

Press button (blue)

→ Display (Fig. 27): current blower fan speed (e.g. 3600 [rpm]).



Fig. 27



If the Primera DMC large area seed drill has two fans, the two fan speeds are shown alternately every 10 seconds.



8 Faults

8.1 Fault display A3

Tramline fault message

The occurrence of a tramline fault activates

- the display (Fig. 28)
- an acoustic signal.



Fig. 28

8.2 Fault display A4

Alarm message

at standstill of the universal joint shaft of the active soil tillage implement (e.g. of the rotary cultivator)

The control terminal issues an alarm as soon as the overload clutch of the universal joint shaft of the soil tillage implement is activated.

When the universal joint shaft is at standstill the following appears:

- the display (Fig. 29)
- an acoustic signal.



Fig. 29



8.3 Fault display A5

Alarm message

- in the event of insufficient seed quantity
 - o for machines with fill level sensor
- in the event of a malfunction of the seed seeding shaft
 - o only on DMC Primera, Condor and Citan 01
 - o only on machines
 with combined seed level and seeding
 shaft monitoring

In the event of an alarm

- the display (Fig. 30) appears
- an acoustic signal (triple signal tone) is emitted.

The display switches in the event of insufficient seed quantity.

The control symbol (Fig. 31/1) marks the fill level symbol.

The alarm is repeated when the machine is used again, e.g. after turning at the end of the field.





Fig. 31



Faults

8.4 Fault display A6 (DMC Primera, Condor and Citan 01 only)

Alarm message

- in the event of insufficient fertiliser
- in the event of a malfunction of the fertiliser seeding shaft

In the event of an alarm

- the display (Fig. 32) appears
- an acoustic signal (triple signal tone) is emitted.

The display switches in the event of insufficient fertiliser.

The control symbol (Fig. 33/1) marks the fill level symbol.

The alarm is repeated when the machine is used again, e.g. after turning at the end of the field.



Fig. 32



Fig. 33

Switching off the alarm message



- 2. Press
- \rightarrow The warning message is switched off.



The alarm message can only be switched off after the alarm has been triggered.

Alarm deactivation only applies until the control terminal is switched off.



9 Tables

9.1 Machine data table

Mode 1	Code	Activating functions of the control terminal								
	1	Activate all functions of the control terminal								
	2	Only activate the hectare counter of the control terminal								
Mode 2	Code	Number of track marker sensors								
	0	Machine with 2 track marker sensors, e.g. front tank seeding combination with 2 track marker sensors (Fig. 34/1).	Fig. 34							
		Machine with 1 track marker sensor on hydraulic valve (Fig. 35/1)	Fig. 35							
	1	Machine with 1 track marker sensor on marker changeovers (Fig. 36/1)	Fig. 36							
		For machine								
		with track marker but without track marker sensor								
		without track marker and without track marker sensor								
	2 to 99	the numbers 2 to 99 correspond to the time (seconds) between stopping (gearbox standstill) and continued counting of the tramline counter.								
	2 to 99	For seed drills without track marker sensor, the tramline counter shifts on as soon as the set time expires after gearbox standstill, e.g. after the seed drill is raised for turning at the end of the field.								
		In event of a brief pause within the set time, the tramline counter does not con- tinue to count.								



Mode 3	Code	Implement type							
	0	Cam wheel seed drills	D9 Super/Special D9 6000 TC AD Cataya Special						
	3	Cam wheel seed drills with seed shaft monitoring	D9 Super/Special D9 6000 TC AD Cataya Special						
	1	Pneumatic seed drills	AD-P Citan 6000						
	2	Pneumatic seed drills With 2 separate hoppers and with seed shaft monitoring	Citan 01 Condor DMC Primera						
	4	Pneumatic seed drills With seed shaft monitoring	AD-P DMC Primera						
Mode 4	Code	Fhe period between occurrence of the error in tramline control and trig- gering of the alarm							
	00	Narm is switched off							
	10	Setting for pneumatic seed drills (10 se	econds)						
	22	Setting for cam wheel seed drills (22 se	econds)						
Mode 5	Code	The period in which no alarm must	be triggered						
		between the command to create	tramlines and standstill of the lay shaft						
		 for pneumatic seed drills between the command to create the distributor head. 	• for pneumatic seed drills between the command to create tramlines and closing of the outlets in the distributor head.						
	00	Do not make this setting (0 seconds)							
	10	Setting for pneumatic seed drills (10 se	econds)						
	22	Setting for cam wheel seed drills (22 se	econds)						
Mode 6	Code	Rotary cultivator monitoring							
	0	Setting without rotary cultivator monito	ring						
	1	Setting with rotary cultivator monitoring]						



9.2 Table for adjustable tramline rhythms

	Tramline rhythms													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ter-	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1	0	1	1	1	1	1	1	1	2	0	1	1	1
tro		1	2	2	2	2	2	2	2	3	3	2	2	2
puo		2		3	3	3	3	3	3	0	4	3	3	3
Je c					4	4	4	4	4	5	5	4	4	4
oy tl						5	5	5	5	6	6	5	5	5
h be							6	6	6	0	7	6	6	6
laye								7	7	8	8	7	7	7
er, disp									8	9	0	8	8	8
unte Dd o										10	10	9	9	9
cou d ar												10	10	10
olle												11	11	11
aml ntrc nal													12	12
12 8 E														13

Fig. 37

	Tramline rhythms												
	15*	16	17	20	21	22	23	26	32				
	1	0	0	0	0	0	0	0	0				
		1	1	1	0	0	0	1	0				
		2	2	2	1	1	1	2	1				
al		3	3	3	2	2	2	3	2				
mir		4	4	4	3	3	3	4	3				
he control ter		5	5	5	4	4	4	5	4				
		6	6	6		5	5	6	5				
		7	7	7		6	6	7	6				
		8	8	8			7	8	7				
by t		9	9	9			8	9	8				
,ed		10	10					10	9				
olay		11	11						10				
ër, disj		12	12										
nd		13	13										
ramline co ontrolled a		14	14										
		15	15										
			16										
ν													
* No tra	mlines	are cre	eated										





9.3 Tables: calibration values / crank turns (guide values)



The table values in the Chapter are guide values.

If the actual calibration value (imp./100 m) deviates from the table value, the number of crank turns for the calibration test will also change.

You can enter your determined calibration values in the table (Fig. 39).

Mechanical seeding technology

Mounted seed drills D9 Super / Special	Working width	2.5 m	3.0 m	3.5 m	4.0 m	6.0 m
Tyres	Calibration value (imp./100 m)	Crank turns on 1/40 ha				
6.00 – 16 180/90 – 16	740	46.0	38.5	33.0		
10.0/75 - 15	711				28.0	18.5

Towad	Working width	6.0 m
seed drills	Calibration value (imp./100 m)	Crank turns on 1/40 ha
D9 6000 TC	648	17.0

	Working width	2.5 m	3.0 m	3.5 m	4.0 m
Pack top seed drills (mechanical)	Calibration value (imp./100 m)		Crank turns	s on 1/40 ha	
AD 25/3000 Special AD 30/35/4000 Super	617	27.0	22.5	19.0	17.0

Pack top seed drill Cataya 3000 Special with star wheel drive	Working width	3.0 m
Roller chain hooked on at	Calibration value (imp./100 m)	Crank turns on 1/40 ha
Z = 16	299	18,5
Z = 34	636	18,5
Z = 50	935	18,5



Pneumatic seeding technology

	Working width	2.5 m	3.0 m	3.5 m	4.0 m
Pack top seed drills (pneumatic)	Calibration value (imp./100 m)		Crank turns	s on 1/40 ha	
AD-P 03 Special with star wheel drive	1409		38.5	33.0	29.0
AD-P 03 Super with star wheel drive	1575		29.5	_	22.0

Large-area seed drill	Citan 8000	Citan 9000	Citan 12000	
Crank turns on 1/40 ha	14.5	13.0	9.5	
Calibration value (imp./100 m)	1187			

Large-area seed drill	Citan 12001	Citan 15001	
Crank turns on 1/40 ha	9.5	7.7	
Calibration value (imp./100 m)	1410		

Large-area seed drill	Condor 12001	Condor 15001
Crank turns on 1/40 ha	9.5	7.7
Calibration value (imp./100 m)	1410	

DMC large-area seed drills	Primera 3000	Primera 4500	Primera 602	Primera 9000	Primera 12000
Crank turns on 1/40 ha	68.0	45.3	34.0	22.7	16.8
Calibration value (imp./100 m)			1023		



Predecessor machines

Pack top good drills	Working width	th 2.5 m 3.		4.0 m
(mechanical)	Calibration value (imp./100 m)	Crank turns on 1/40 ha		40 ha
AD 03	617	27.0	22.5	17.0
RP-AD 03	672	59.0	49.0	37.0

Pack top soud drills	Working width	Working width 2.5 m		4.0 m	
(pneumatic)	Calibration value (imp./100 m)	Crank turns on 1/40 ha			
AD-P 02 with star wheel Ø 1.18	1053	27.0	22.5	17.0	
RPAD-P 02	1175	59.0	49.0	37.0	



9.4 Table for calibration values / crank turns for the calibration test

Field	Calibration value pul./100 m	Crank rotations

Fig. 39



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