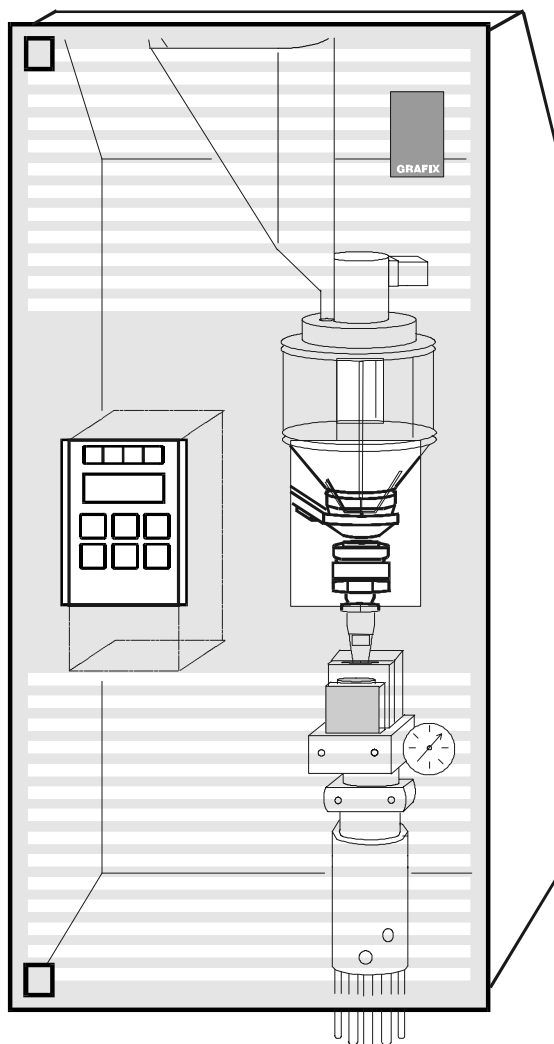


Instruction Manual

Powder Sprayer

Megatronic /- S /- Plus



Betriebsanleitung
gem. DIN EN 292-2

Diese Dokumentation ist urheberrechtlich geschützt. Alle Rechte, auch die der Übersetzung, des Nachdruckes und der Vervielfältigung der Unterlagen oder Teile daraus, sind vorbehalten. Kein Teil der Dokumentation darf ohne schriftliche Genehmigung der GRAFIX GmbH in irgendeiner Form (Fotokopie, Mikrofilm oder ein anderes Verfahren), reproduziert oder unter Verwendung elektronischer Systeme verarbeitet, vervielfältigt oder verbreitet werden.

Instruction manual
to DIN EN 292-2

This documentation is protected by copyright. All rights, including translation, reprinting and reproduction, in whole or in part, are reserved. No part of this documentation may be reproduced or electronically processed, copied or distributed in any form (photocopy, microfilm or any other means) without the written consent of GRAFIX GmbH.

Instructions d'utilisation
DIN EN 292-2

Cette documentaion est protégée par les droits de propriété intellectuelle. Tous droits, même ceux de la traduction, de la reproduction et de la duplication de ces documents, en totalité ou partiellement sont réservés. Aucune partie de cette documentation ne peut être reproduite sous quelque forme que se ce soit (photocopie, microfilm ou autre procédé), ni copiée ou dupliquée par des moyens électroniques sans l'autorisation écrite de GRAFIX GmbH.

Manual de instrucciones
DIN EN 292-2

Esta documentación se acoge al amparo del derecho de la propiedad intelectual. Quedan reservados todos los derechos, también de la traducción, de la reimpresión y de la reproducción de los documentos, aun en extracto. No está permitida la reproducción resp. el procesamiento, la duplicación o la difusión mediante la utilización de sistemas electrónicos de la documentación completa o parcial sin la autorización por escrito de la empresa GRAFIX GmbH en cualquier forma (fotocopia, microfilm u otro procedimiento).

Instruções de utilização
seg. DIN EN 292-2

Esta documentação encontra-se sob a protecção dos direitos de autor. Reservados todos os direitos, incluindo os de tradução, reimpressão e reprodução da documentação ou de partes dela. Nenhuma parte da documentação poderá ser reproduzida por qualquer forma (fotocópias, microfilme ou qualquer outro processo) nem processada, duplicada ou divulgada por meio de sistemas electrónicos, sem a autorização prévia, por escrito, da firma GRAFIX GmbH.

Manuale operativo
DIN EN 292-2

Questa documetazione è protetta da diritti d'autore con riserva di tutti i diritti, anche quelli della traduzione, della ristampa o della duplicazione della documentazione o di parti di essa. E' vietata la riproduzione o l'elaborazione, duplicazione o diffusione con impiego di sistemi elettronici di qualsiasi parte della presente documentazione senza l'approvazione scritta della GRAFIX GmbH in qualsiasi forma (fotocopia, microfilm o altri procedimenti).

Betjeningsvejledning
iht. DIN EN 292-2

Denne dokumentation er beskyttet af ophavsretsloven. Alle rettigheder forbeholdes, også for oversættelse, eftertryk og kopiering af dokumentationen eller dele deraf. Ingen del af dokumentationen må uden skriftlig tilladelse af firmaet GRAFIX GmbH reproducere i nogen form (fotokopi, mikrofilm eller anden metode), forarbejdes, kopieres eller omdeles ved hjælp af elektroniske systemer.

Handleiding
overeenkomstig DIN EN 292-2

Deze documentatie is door de auteurswet beschermd. Alle rechten, ook die van de vertaling, van nadruk en verveelvoudiging van de papieren of gedeelten ervan, voorbehouden. Geen gedeelte van de documentatie mag zonder schriftelijke toestemming van GRAFIX GmbH in welke vorm dan ook (fotokopie, microfilm of een ander procédé), gereproduceerd of met behulp van elektronische systemen verwerkt, verveelvoudigd of verspreid worden.

Bruksanvisning
enligt. DIN EN 292-2

Denna dokumentation är skyddad enligt lagen om upphovsmannarätt. Alla rättigheter, även för översättningar, eftertryck och mångfaldigande av underlag eller delar av innehållet, förbehålls. Ingen del av denna dokumentation får, utan skriftligt medgivande av GRAFIX GmbH, reproduceras eller mångfaldigas i någon form (kopia, mikrofilm eller genom användandet av annat förfarande som t.ex. elektroniska system).

Βιβλίο χειρισμού
κατά DIN EN 292-2

Η παρούσα τεκμηρίωση προστατεύεται κατά το δίκαιο πνευματικής ιδιοκτησίας. Για όλα τα δικαιώματα, εκείνο της μετάφρασης, της ανατύπωσης και της αναπαραγωγής των γραπτών στοιχείων ή αποσπασμάτων αυτής επίσης υπάρχει επιφύλαξη. Κανένα μέρος της τεκμηρίωσης δεν επιτρέπεται να αναπαράχθει ή να εκδοθεί σε οποιαδήποτε μορφή (φωτοαντιγράφοι, μικροφίλμ ή με άλλη μέθοδο) χρησιμοποιώντας ηλεκτρονικά συστήματα, χωρίς τη γραπτή συγκατάθεση της GRAFIX GmbH. GRAFIX

Käyttöohje
DIN EN 292-2

Tämä käyttöohje on tekijänoikeuslain suojaama. Kaikki oikeudet pidätetään, mukaan lukien tekstin käännös, jälkipaino sekä tekstin tai sen osien kopiointi. Tekstiä tai osia siitä ei saa missään muodossa (kopio, mikrofilmi tai muu) monistaa, työstää tietokoneella, kopioida tai levittää ilman GRAFIX GmbH -yhtiön kirjallista suostumusta.

Megatronic / -S/ -PLUS

Legend	4
Megatronic / -S/ -Plus overview illustration	5
1. Important safety information	6
2. Use of the equipment according to instructions	6
3. General powder sprayer overview	7
4. Function	8
4.1. Operating principle	8
4.2. Powder container	9
4.3. Dosage	9
4.4. Distribution unit	10
4.5. Display - Electronic Box	11
4.6. Compressor	12
4.7. Spray bar	13
5. Operation	14
5.1. Setting the desired powder quantity	14
5.2. Filling and emptying the powder container	15
5.3. Setting fluidization	16
5.4. Operating modes	16
5.5. Selecting the operating mode	17
5.6. Test mode and emergency mode	19
5.7. Setting the sheet length and width	21
5.8. Correcting the starting point of the powder	22
6. Maintenance	23
6.1 Maintenance overview	23
7. Malfunction overview	25
7.1. Malfunction overview at the Electronic Box	25
7.2. Correcting malfunctions	26
8. Technical data	27
9. Spare parts list	27

Appendix

Components list

Installation drawing

Circuit diagram

Operating Instructions for the compressor

Legend

- 1. Powder container cpl.
- 4. Test button "Test"
- 10. Dosage bolt
- 12. Distributor
- 13. Regulating bolt
- 14. Solenoid valve cpl.
- 15. Pressure gauge
- 16. Compressed air hose
- 17. Power supply
- 18. Compressor
- 19. Overpressure valve
- 20. Air filter
- 22. Compressor supply pipe
- 23. Powder run-off hose
- 24. Control line with plug
- 25. Powder hose
- 26. Nozzle
- 37. Control line to spray bar
- 38. Adjustable spray bar
- 39a. Motor (adjustable spray bar)
- 39b. Motor (nozzle shut-off)
- 40. Coupling pin
- 41. Fine pressure controller cpl.
- 44. Hand wheel
- 76. Rotor vanes
- 93. Funnel swing metering device
- 102. Electronic box cpl.
- 105. Rectifier
- 106. Transformer
- 108. Nozzle holder set
- 116. Fluorescent tube
- 117. Agitator motor
- 120. Agitator arm
- 137. "Emergency mode" On / Off button
- 138. Potentiometer (on spray bar)
- 145. Fuses
- 191b. Anti-kinking spring
- 207. Powder quantity sensor (receiver)
- 208. Powder quantity sensor (transmitter)
- 209. Deflection valve
- 211a. Spray bar micro switches (S10 and S11)
- 211c. Metering gap adjustment micro switches (S12 and S13)
- 213. Cog belt (metering gap adjustment)

Megatronic / -S/ -Plus overview illustration

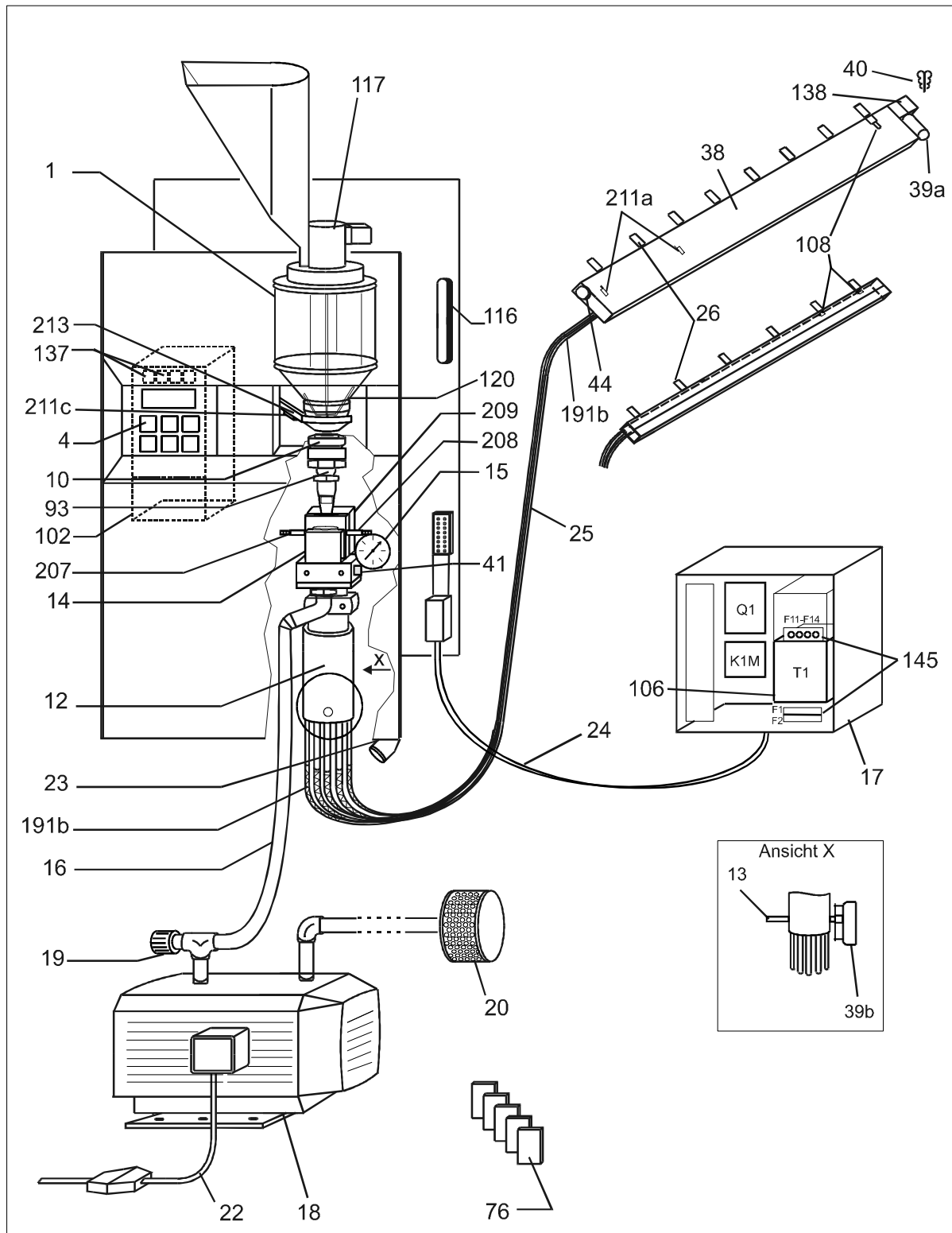


Fig. 1: Overview illustration of powder sprayer

1. Important safety information

- ! Caution - in order to ensure problem-free functioning of the equipment, please observe the following instructions.**

If these instructions are not followed, this could lead to injury to the operating personnel or damage to the machine and sprayer.

- Only use powder types which are not injurious to health or to the environment. Do not use any toxic substances in the sprayer. Please contact the powder manufacturer for information on hazards presented by the powder used.
- If some additional units have to be set up at unprotected locations, please ensure that there is no danger of injury!
- Do not use soluble powder (e.g. sugar derivatives) in connection with dryers.
- Take care when refilling the powder container not to damage the mesh guard (No. 43 / page 5) in the filler funnel.
- Do not insert hard objects into the outlet or the agitator may be damaged.

- As a basic rule, all screw connections must be provided with a mechanical retainer and must be tightened to the specified tightening torque. If no mechanical screw retaining devices can be installed, they must be secured by being permanently glued in place. This also applies to screw connections in hazardous areas (for example in the delivery or near to movable parts). Screw heads must be provided with color-coding (yellow).



Warning - connections carry electrical current!

Improper handling can lead to electric shock and serious accidents.

- When working on the powder sprayer, take care that no voltage is present and that the press is out of operation.
- Power supply covers are only to be opened by qualified personnel.

2. Use of the equipment according to instructions

GRAFIX powder sprayers are high quality machines and were developed for installation in the press.

They should not be used outside the press.

3. General powder sprayer overview

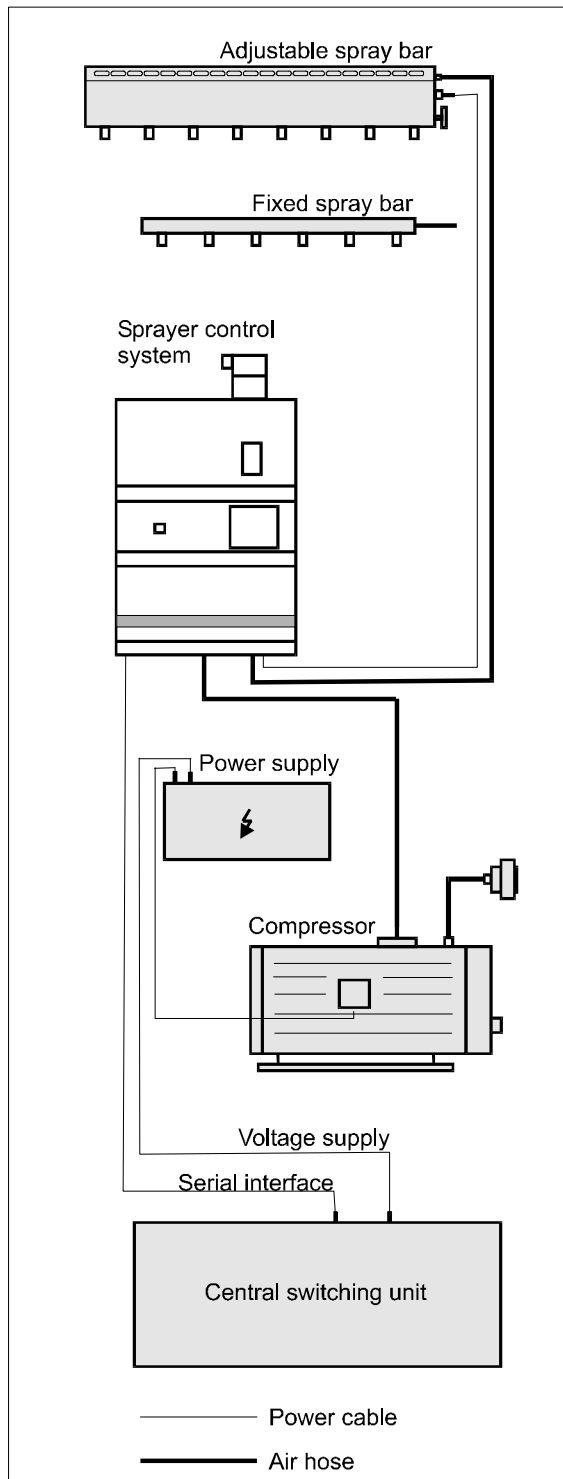


Fig. 2: Overview

The Megatronic / -S/ -Plus powder sprayer consists out of the following components:

- Powder sprayer control unit
- Spray bar
- Compressor
- Power supply

Fixed or adjustable spray bar:

- Sprays the powder/air mixture through individual nozzles onto the printed sheet.

Sprayer control system:

- With integrated electronic box.
- Communicates with the Press control via a serial interface.
- Recognizes malfunctions and passes these on to the Press control as warning signals.
- Receives signals from the Press control to start or stop the powder flow.
- Controls the motor-driven nozzle spacing setting (for the adjustable spray bar only).
- Controls the quantity of powder by comparing the percentage setting for the powder quantity at the Press control with a powder quantity measurement that has been performed.

Power supply:

- This supplies the control system with the requisite voltages.

Compressor:

- Prepares a compressed air flow which is mixed with the powder in the powder sprayer.

4. Function

4.1. Operating principle

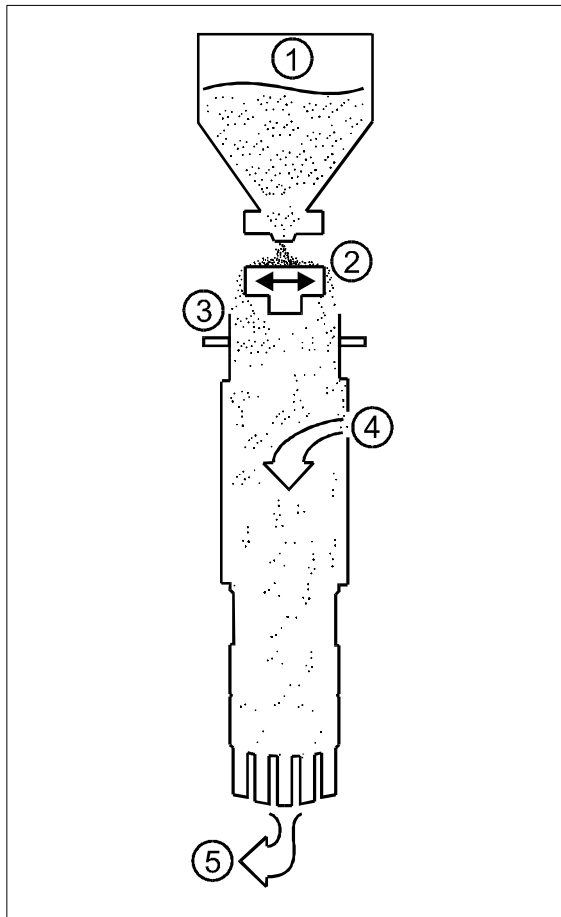


Fig. 3: Operating principle

The Megatronic / -S/ -Plus powder sprayer works with an agitator and a vibration system.

- ① Powder container
- ② Vibratory metering unit
- ③ Measuring head
- ④ Air connection
- ⑤ Powder outlet nozzles

The powder in the powder container ① is in a free-flowing state. The powder flows from the powder container through a vibratory metering unit ②, where it can be observed. The metered quantity of powder is measured in the measuring head ③ and is then readjusted according to the quantity of powder set on the Press control (in %) by means of the vibration or the metering gap.

To dispense fine amounts, the electronic system first increases the vibration of the dosing plate (No. 93), keeping the metering gap as low as possible. If the amounts dispensed are insufficient at maximum vibration, the metering gap is increased.

The dispensed powder is sucked downwards and mixed with air.

This powder/air mixture is then evenly distributed to the nozzles on the spray bar ⑤.

4.2. Powder container

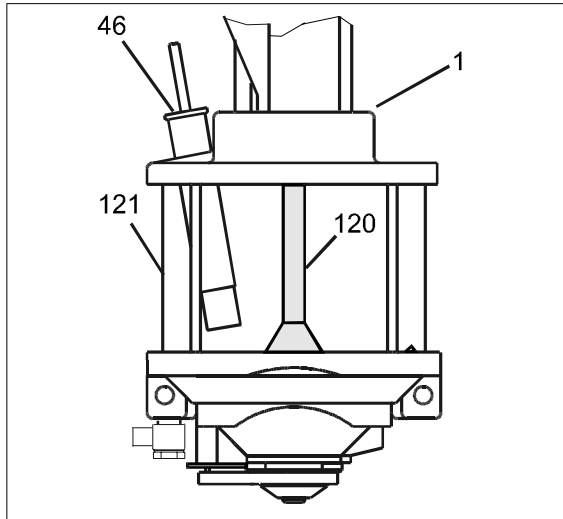


Fig. 4: Powder container

- 1- Powder container
- 46- Filling level detector
- 120- Agitator arm
- 121- Plexiglass cylinder

The spray powder is contained in the powder container (No. 1). The agitator arm (No. 120) runs during operation and powder flows from the powder container via the vibratory metering device.

4.3. Dosage

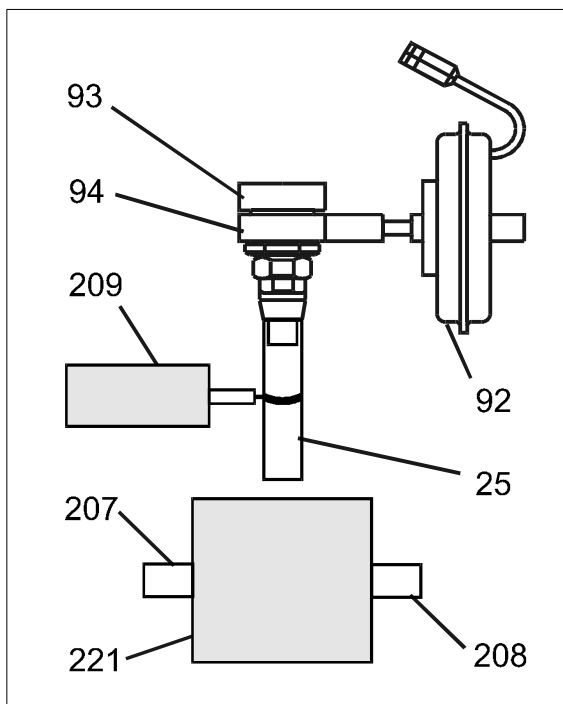


Fig. 5: Dosage

- 25- Powder hose
- 92- Electro vibrator
- 93- Funnel swing metering device
- 94- Swing plate holder
- 207, 208- Powder quantity sensors
- 209- Deflection valve
- 221- Measuring head

The powder is metered into the measuring zone by the vibration of the metering plate (No. 93).

The quantity of powder that is falling in the measuring zone is measured with the powder quantity sensors (No. 207 and 208). The transmitter sends out light beams for optical powder quantity measurement. The receiver receives the light and converts it into an electrical value. About once a minute the deflection valve (No. 209) pulls the powder hose (No. 25) out of the measuring zone in order to check the level of contamination of the diodes. By comparing between the measured value and a set value, which is derived from the machine's speed, percentage setting and format, the vibration of the plate (No. 93) is re-adjusted using corresponding control by the electronic system. If this is insufficient, the dosage gap is automatically adjusted.

4.4. Distribution unit

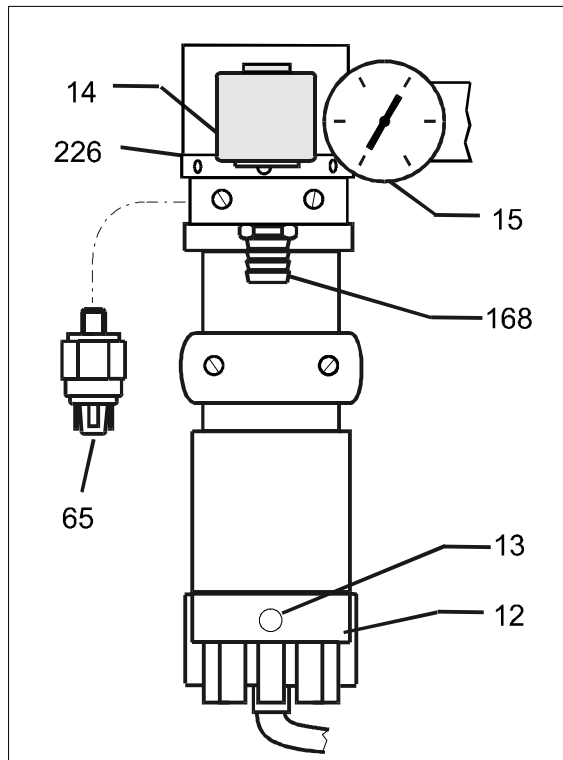


Fig. 6: Distribution unit

- 12- Distributor
- 13- Regulating bolt (only for fixed spray bar)
- 14- Solenoid valve
- 15- Pressure gauge
- 65- Pressure transducer
- 168- Air connection
- 226- Bypass control disc

The warm, dry compressed air is taken to the distributors (No. 12) via the solenoid valve (No. 14). The solenoid valve (No. 14) works synchronously with the sheet that is running through and is controlled by the Press control. In the distribution process, the powder is mixed with air and distributed appropriately.

Sprayers with fix spray bar: It is possible to shut one resp. two nozzles on each side with the regulating bolts (No. 13) by aid of a motor if the sprayed width is smaller than 86 cm resp. 56 cm.

For presses with adjustable spray bars (Chapter 5.7), the powdering width is adjusted automatically on the spray bar by changing the distances between the nozzles.

The aperture of the bypass air inlet can be reduced by turning the bypass control disc (No. 226). Powder content can be increased by around 30-40% by closing the disc (Chapter 5.1). The distributor (No. 12) distributes the powder/air mixture evenly to the nozzles.

4.5. Display - Electronic Box

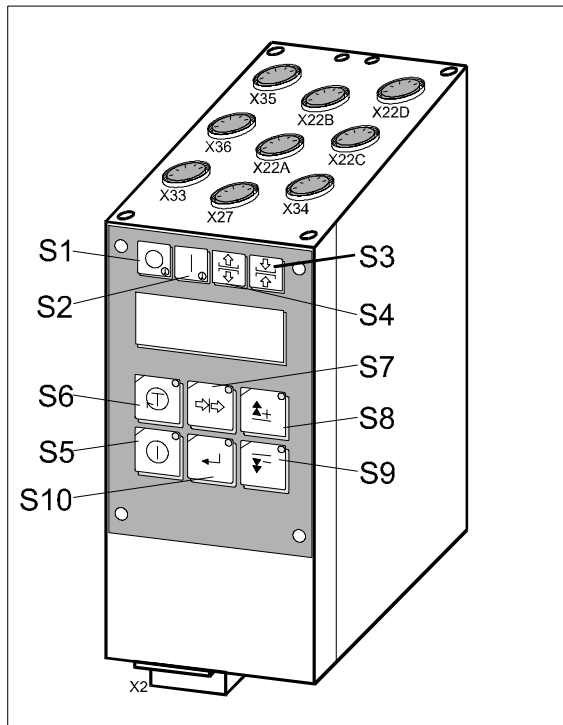


Fig. 7: Display - Electronic Box

- X2- Plug connection central unit (interface)
- X22A- Plug connection servo drive spray bar
- X22B- Free plug connection.
- X22C- Plug connection servo drive distribution (Nozzle shut off for powder sprayers with fixed spray bar)
- X22D- Free plug connection
- X27- Plug connection emitter (B4) and receiver (B5)
- X33- Plug connection pressure switch (B3) and cleaning of powder quantity sensors (Y3)
- X34- Plug connection dosage gap adjustment (M4)
- X35- Free plug connection
- X36- Free plug connection
- S1- Key „Emergency mode off“
- S2- Key and LED „Emergency mode on“
- S3- Key „Dosage gap closed“ (on emergency mode)
- S4- Key „Dosage gap open“ (on emergency mode)
- S5- Key (no function)
- S6- Key „TEST“
- S7- Key „scroll between the different menus“
- S8- Increase the value
- S9- Decrease the value
- S10- Enter key

The adjustments concerning the dosage gap and the operating modes will be done over the keys S1 to S10.

4.5.1. Display Electronic Box

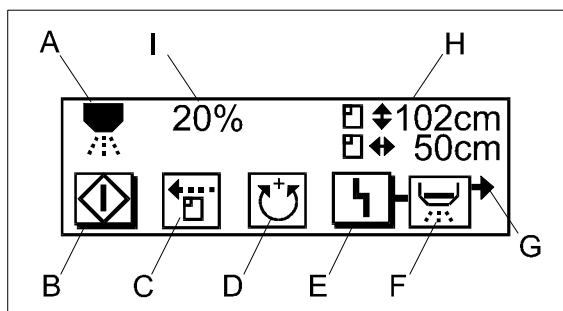























Fig. 8: Example: Display

- A- Symbol - Spraying On / Off
- B- Symbol - Sprayer pre-selection
- C- Symbol - Intermittent / Continuous spray
- D- Symbol - regulation / control mode
- E- General malfunction
- F- Single error (message)
- G- Further malfunctions
- H- Set value sheet length resp. width
- I- Set powder quantity in % (interface)

4.5.2. Symbols at the display of the Electronic Box

A-		Spraying on	E-		General malfunction
		Spraying off	F-		Error: Powder reservoir empty
B-		Pre-selection powder sprayer			Error: Pressure at compressor
		Test mode			Error: Motor protection at compressor
		Emergency mode			Error: Optical measuring device
C-		Intermittent spray			Error: Sheet width
		Continuous spray			Error: EPROM
D-		Regulation mode			Error: Dosage gap
		Control mode			Error: Hardware
			G-		Further malfunctions
			H-		Set sheet length
					Set sheet width
			I-	xx%	Set powder quantity in % (interface)

4.6. Compressor

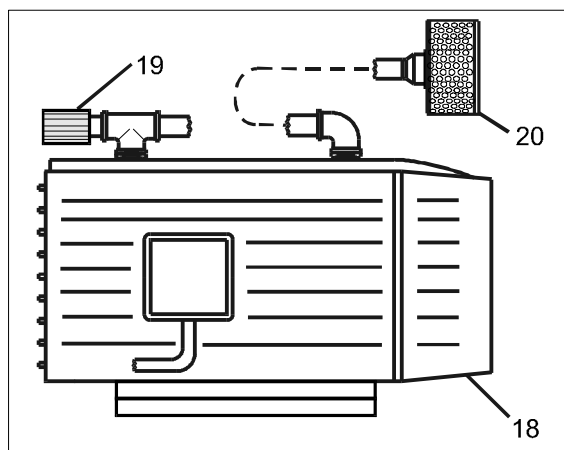


Fig. 9: Compressor

- 18- Compressor
- 19- Overpressure valve
- 20- Air filter

The oilless high performance compressor supplies warm, dry compressed air which is taken to the GRAFIX Venturi jet distributor (Chapter 4.4 – Distribution unit).

4.7. Spray bar

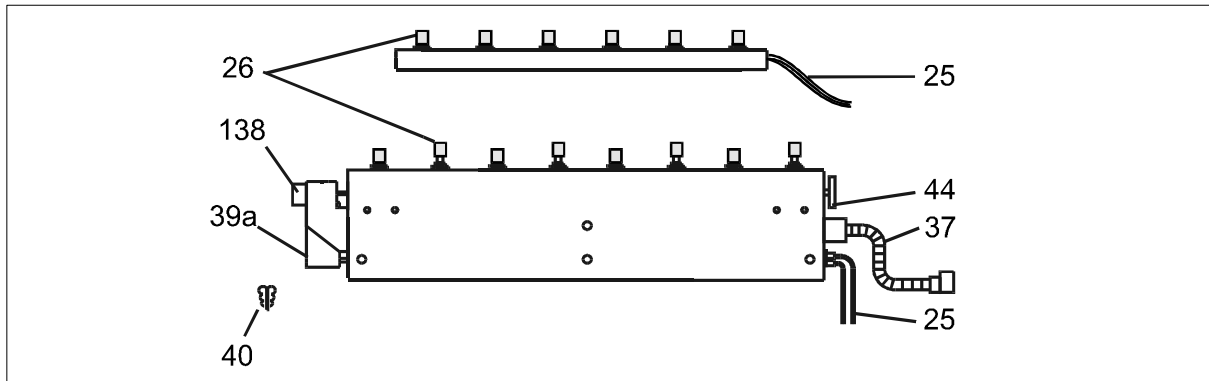


Fig. 10: Fixed and adjustable spray bar

- 25- Powder hoses
- 26- Nozzles
- 37- Control line to spray bar
- 39a- Motor
- 40- Coupling pin
- 44- Hand wheel
- 138- Potentiometer

The Megatronic-S powder sprayer is equipped with an adjustable spray bar.

The adjustable spray bar automatically sets itself to the spray width specified by the Press control. The correct powdering length is automatically transferred from the Press control to the powder sprayer.

The outer nozzles can be shut by aid of a motor if the Sprayer is equipped with a fix spray bar, i.e. an adjustment of the spray width along to the sheet width is possible (Chapter 5.7).

The correct spray length will be automatically adjusted by the Press Control resp. the mechanical sheet length control of the Powder Sprayer.

► Note

- Size 102 – Spray bar with 8 nozzles
- Size 74 – Spray bar with 6 nozzles

5. Operation

5.1. Setting the desired powder quantity

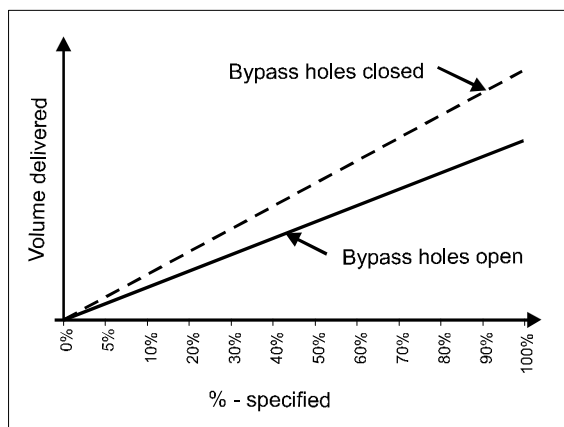


Fig. 11: Setting the desired powder quantity

- Switch on the powder sprayer at the Press.
- Set the quantity of powder to 0% on the Press control.
- Fill the powder container (Chapter 5.2).
- Press the test button "Test" (Chapter 5.6). The compressor runs and so does the agitator arm in the powder supply container.
- Run the print machine at 3000 pr./h or more and set the desired quantity of powder on the Press control (see illustration).

The metering gap setting of 0.0 corresponds to the basic setting. The quantity of powder is first controlled by increasing the vibration voltage. Only if this is insufficient then increase the dosage gap beyond 0.0. The size of the metering gap is thus not directly proportional to the setting for the powder quantity at the Press control; instead the powder sprayer selects the settings according to requirements.

The automatic speed compensation automatically increases quantity of powder with the speed of the machine.

The distributed quantity depends on the size and the type of powder.

The aperture of the bypass air inlet can be reduced by turning the bypass control disc (No. 226). This means that powder content can be increased by around 30-40% by closing the disc.

► Note

The characteristic curve describing powder quantity runs linear to the percentage setting (Fig. 11).

The powder can be metered even more finely if the bypass drill holes on the set ring are open (Chapter 5.4 basic setting).

5.2. Filling and emptying the powder container

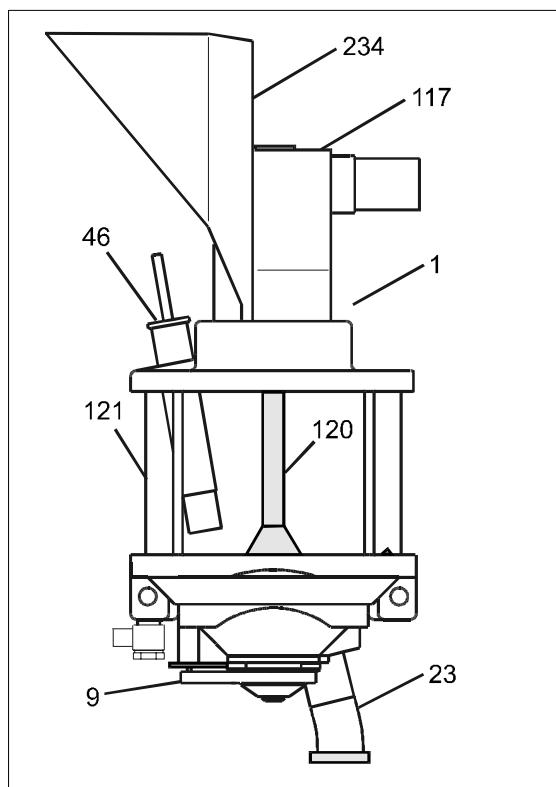


Fig. 12: Filling and emptying the powder container

- 1- Powder container
- 9- Automatic metering gap adjustment
- 23- Powder outlet
- 41- Precision pressure regulator
- 46- Level detector
- 117- Agitator motor
- 120- Agitator arm
- 121- Plexiglass cylinder
- 234- Refill funnel

Filling the powder container

- The powder container (No. 1) is not under pressure and can be refilled even during operation.
- It should not be **filled** any higher than the top edge of the plexiglass cylinder (No. 121).
- It is most convenient to refill the unit when the powder level has reached the lower quarter of the view window or if the error message "powder fill level too low" is displayed on the Press control. There is then a reserve in the container of approximately 10 minutes spray time at maximum powder quantity.

Emptying the powder container

- The powder supply container (No. 1) need only be emptied if the type of powder is to be changed. For this there is a run-off device (No. 23) in the lower part of the container.
- Pull out the powder outlet stopper (No. 23). The powder will then flow from the outlet by aid of the running agitator (test button).

! Caution - when filling the powder container avoid contamination with dirt particles.

Otherwise the agitator can be damaged! Take care that no dirt particles or other solid objects are put in the powder container (No. 1).

5.3. Setting fluidization

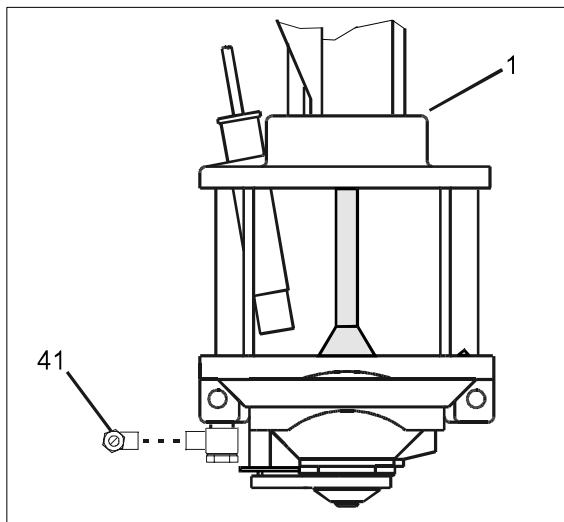


Fig. 13: Setting fluidization

- 1- Powder container
41- Precision pressure regulator

- Hot air is blown into the powder container to dehumidify the powder and allow it to flow evenly. Fluidization is set at the factory for the commonly available powder types, but can be optimized for the powder type being used as follows.
- Fill the cone of the powder container with powder (up to the lower edge of the viewing glass) and either reduce fluidization by turning the set screw on the precision pressure regulator (No. 41) outward or increase it by turning the screw inward.
- The powder should bubble slightly but should not blow out of the container. The correct setting for fluidization is particularly important for distributing large quantities of powder, as then the powder will flow evenly.

5.4. Operating modes

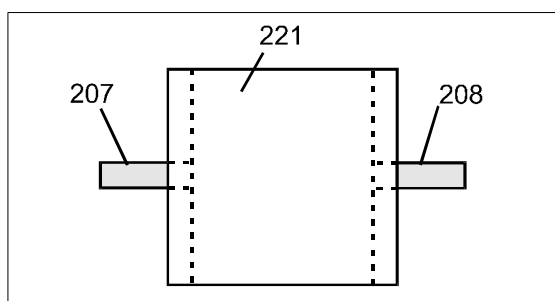


Fig. 14: Measuring head

- 207- Powder quantity sensor transmitter
208- Powder quantity sensor receiver
221- Measuring head

► Note

The metering gap must be set manually in control mode. For smaller powder quantities choose a metering gap of 0.1 - 0.2 mm, and for larger powder quantities 0.7 - 0.8 mm.

Regulation mode

- In the regulation mode the powder quantity in the measuring zone is measured by the powder quantity sensors (No. 207 and 208) and brought up to the required powder quantity value by the regulating electronics.

Control mode

- If the powder sprayer is working in control mode, the measuring range or the powder quantity sensors (No. 207 and 208) has no effect on quantity of powder distributed. Contamination in the system is not compensated for, as no comparison between the desired powder quantity and the quantity distributed occurs.
- The vibration of the powder metering device is in direct relation to the specified powder quantity.
- The important factor is that despite the control mode the speed and sheet width compensation is carried out as hitherto.

5.5. Selecting the operating mode

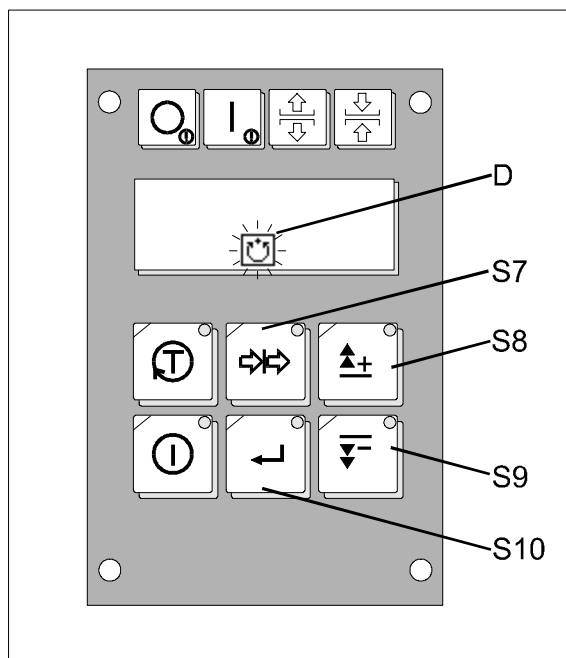


Fig. 15: Operation modes

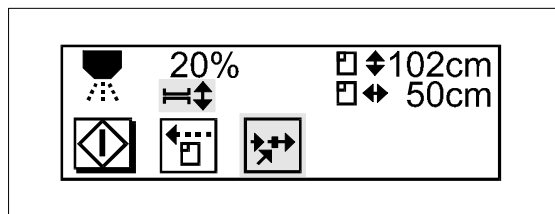


Fig. 16: Example: Control mode

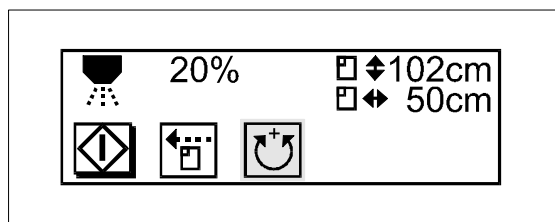


Fig. 17: Example: Regulation mode

Switching manually between standard operating and control mode

After the powder sprayer is turned on, the device will be in the last operating state that was selected (see memory option).

To switch the powder sprayer from manual mode to control mode, proceed as follows:

- Press button S10 on the sprayer's operating panel until the symbol D (operating or control mode) lightens resp. is active (Fig. 15). Each time a button is pressed means that the next symbol is active. Switch over between the two operating modes by pressing buttons S8 and S9.
⇒ Control mode will be indicated by a red LED lighting on the operating panel.
⇒ The metering gap automatically sets itself to the lowest setting.
- The symbol for adjustment of dosage gap lightens (Fig. 16) if the symbol for control mode is confirmed by pressing button S10.
- Select the desired metering gap by pressing button S8 or S9.
- To return to standard operating mode from control mode, press button S10 until the symbol for control mode lightens. You can then switch over to the regulating mode by pressing buttons S8 or S9. The selected operating mode (regulating mode) will be confirmed by pressing button S10 (Fig. 17).

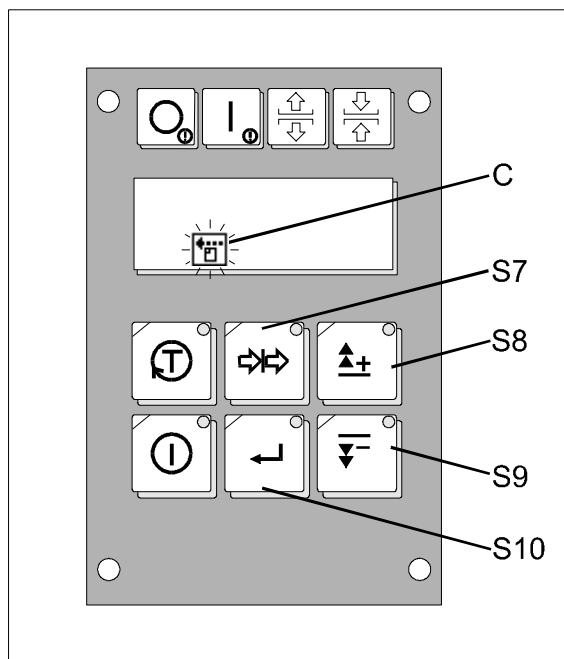


Fig. 18: Operation mode

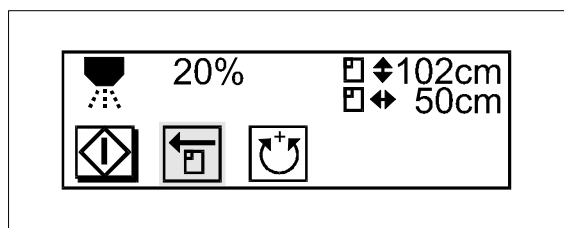


Fig. 19: Example: Continuous mode

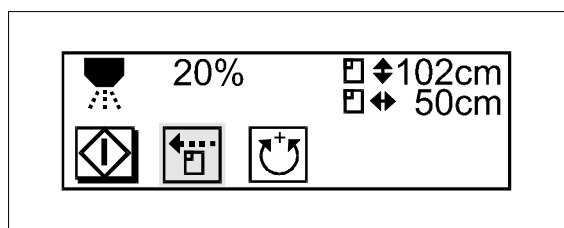


Fig. 20: Example: Intermittent mode

Intermittent/continuous mode

To switch the powder sprayer manually to continuous mode, proceed as follows:

- Press button S10 on the sprayer's operating panel until the symbol C (intermittent or continuous mode) lightens resp. is active (Fig. 18). Each time a button is pressed means that the next symbol is active. Switch over between the two operating modes by pressing buttons S8 and S9.
⇒ Continuous mode will be indicated by a lighting of the symbol for continuous mode (Fig. 19).
- To return to intermittent mode from continuous mode, press button S10 until the symbol for continuous mode lightens. You can then switch over to intermittent mode by pressing buttons S8 or S9. The selected operating mode (intermittent mode) will be confirmed by pressing button S10 (Fig. 20).

► Note

Check (by hearing) the Intermittent/Continuous mode.

Memory option

The status of the feedback and control mode and intermittent/continuous mode is retained after the powder sprayer is shut off. It is thus stored without any power being supplied to the unit, and is restored when the machine is turned back on.

5.6. Test mode and emergency mode

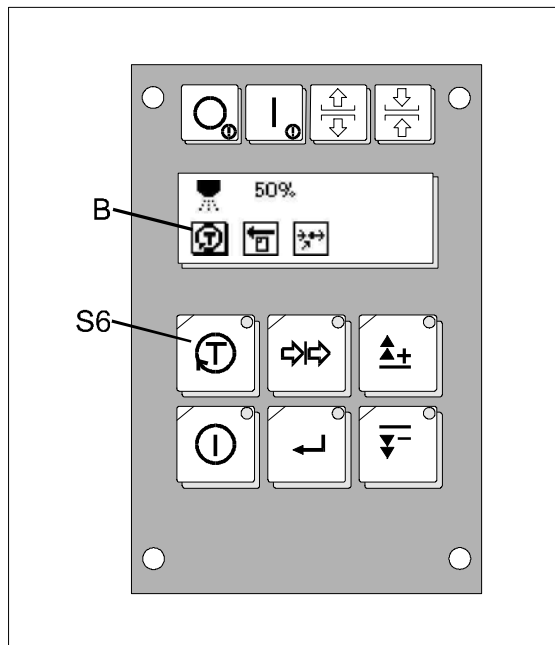


Fig. 21: Test mode

Test mode

The **"Test"** key is used to test the functional capability of the powder sprayer. All the components are controlled independently by the printer when the test button is pressed.

Press the button S6. A red LED lightens in the button and the symbol "B" for test mode is at the display. The status of the powder sprayer in test mode is shown:

- Continuous spray
- 50% powder quantity
- Regulation mode (values are pre-adjusted at the manufacturer)

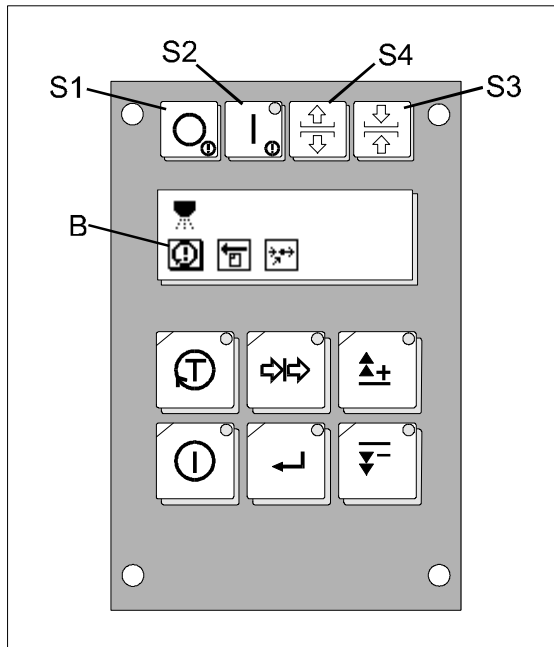


Fig. 22: Emergency mode

Emergency mode

- If the electronics is defective, continuous spraying is possible by pressing the **"S2 Emergency mode on"** button.
- The following components must be functional for emergency mode:
 - Compressor (Chapter 4.6)
 - Agitator motor (see overview drawing)
 - Electro vibrator (Chapter 4.3)
- To spray the wished paper size, adjust the nozzles electronically resp. with the hand wheel No. 44 (Chap. 6.7).
- Press the button S2. A LED lightens in the button and the symbol "B" for emergency mode is at the display. The status of the powder sprayer in emergency mode is shown:
 - Continuous spray
 - Control mode (values are pre-adjusted at the manufacturer)
 - The dosage gap (resp. the powder quantity) can be adjusted with the buttons S3 and S4.

► Note

The vibration of the metering plate is constant in emergency mode. The powder quantity is influenced solely by the setting of the metering gap (buttons S3 and S4).



Caution - the format setting has been changed

If the format has been modified manually (with the hand wheel and regulating bolt), the spray bar or the nozzle shut off device must be recalibrated before putting powder sprayer in operation again. To do this, please contact the service department.

5.7. Setting the sheet length and width

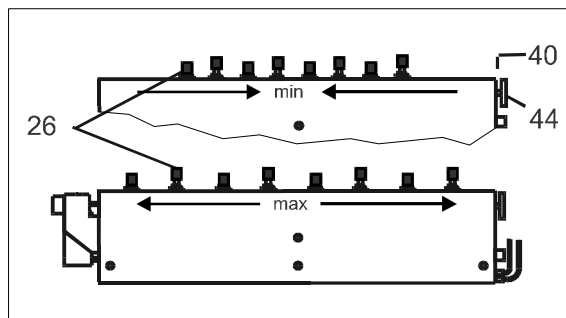


Fig. 23: Sheet width Megatronic Plus

- 12- Distributor
- 26- Powder nozzles
- 40- Coupling pin
- 44- Hand wheel
- 13- Regulating bolt
- 216- Lock screw
- A - Shut off powder nozzles

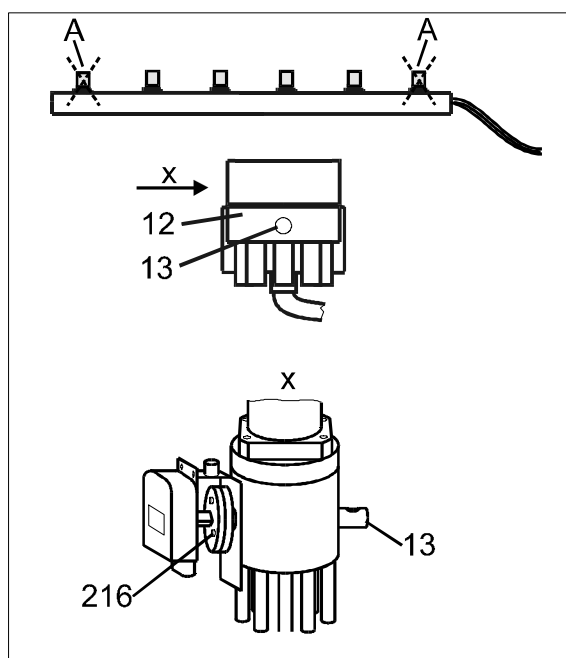


Fig. 24: Sheet width Megatronic

The pre-settings for sheet length are transferred to the powdering unit by the Press control.

The sheet width is set as follows:

Megatronic Plus

For the Megatronic Plus, the values set at the Press control are transferred to the powder sprayer. The adjustable spray bar automatically moves the nozzles (No. 26) to the specified format width.

In **emergency mode**, the format can be adjusted mechanically. To do this, remove the coupling pin (No. 40) and set the desired format with the hand wheel (No. 44).

Megatronic

The setting for sheet width is made automatically for sheet size smaller than 86 cm resp. 56 cm.

In emergency mode, turn manually the regulating bolt (No. 13). To do this, loosen the lock screws (No. 216) between the regulating bolt (No. 13) and the nozzle shut off motor.

► Note

- Size 102 - Spray bar with 8 nozzles
- Size 74 - Spray bar with 6 nozzles



Caution - format setting has been changed

If the format has been modified manually (with the hand wheel or regulating bolt), the spray bar or the nozzle shut off device must be recalibrated before putting powder sprayer in operation again. To do this, please contact the service department.

5.8. Correcting the starting point of the powder

The setting or change in the beginning of the powder is described in the Operating Instructions for the respective print machine.

6. Maintenance

6.1 Maintenance overview

Weekly	• Clean air filter cartridge
Monthly	• Check nozzles • Check fluidization resp. re-adjust it • Clean the adjustment screw for dosage gap monthly and check its function
Every 6 months	• Clean powder hoses
Yearly	• Clean powder quantity sensors

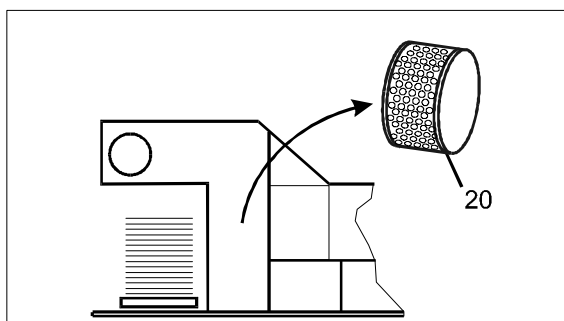


Fig. 25: Filter replacement

Clean the air filter cartridges weekly

Knock the dust out of the air filter cartridge (No. 20) once a week and replace it twice a year.

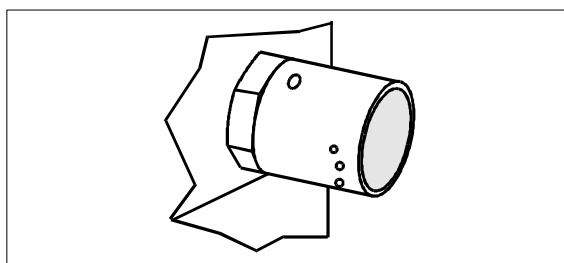


Fig. 26: Nozzle replacement

Check the nozzles once a month

Depending on the level of contamination of the powder, unscrew the powder nozzles and remove any dirt particles adhering to the nozzles. When fastening on the nozzles, take care that the powder nozzle bores are pointing in the direction of the printed sheet.

Check fluidization monthly

The fluidization must get checked once a month (Chapter 6.3) to ensure free-flowing powder. Too less powder will flow -even if the dosage gap is complete open - in case the fluidization is too low.

► Note

Always check fluidization after every change of powder type resp. re-adjust it.

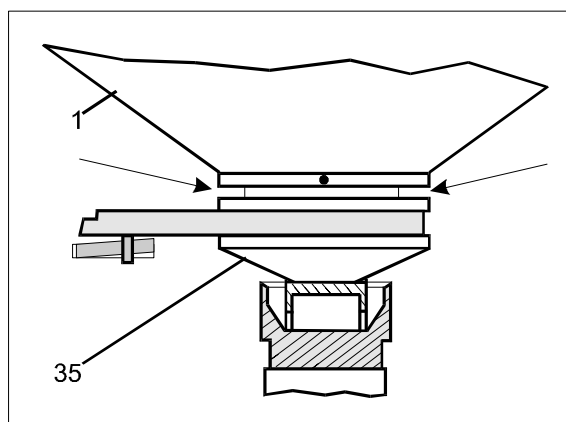


Fig. 27: Adjustment screw dosage gap

Clean the adjustment screw for dosage gap monthly (by using soluble powder twice a month) and check the function.

Clean the area between screw of dosage gap (No. 35) and powder reservoir (No. 1) with a dry brush. The powder can settle in this area and eventually hinder a good running of the screw resp. stop it.

Check how the adjustment screw of the dosage gap (No. 35) runs after cleaning. Switch the powder sprayer to emergency mode and change the dosage gap manually (Chapter 5.6).

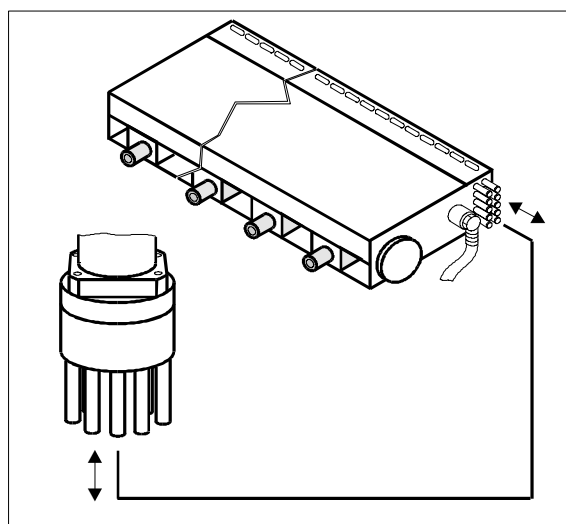


Fig. 28: Connection on the spray bar and distributor

Clean and check the powder hoses twice a year



Caution - Remove the powder hoses for cleaning

If this is not done, malfunctions may occur. When cleaning the powder hoses (blow dirt out with air), take care that both ends of the hoses are not attached to the distributor and spray bar.

Safety goggles should be worn during cleaning.



Note

We recommend that you replace the powder hoses every year.

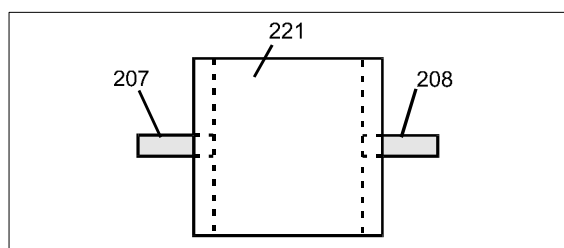


Fig. 29: Measuring head

207- Powder quantity sensor, transmitter (B4)

208- Powder quantity sensor, receiver (B5)

221- Measuring head











Clean the B4 and B5 powder quantity sensors

If the error message "Measuring optics dirty" appears on the Press control, the powder quantity sensors B4 and B5 must be cleaned.

Carefully remove the B4 and B5 sensors from the measuring head, clean their front surface with a soft cloth and then reinsert them into the measuring head until they lock in place.

7. Malfunction overview

7.1. Malfunction overview at the Electronic Box

Symbol at the Electronic Box	Malfunction
	General malfunction
	Pressure at compressor too low (See Pt. 1)
	Powder level in reservoir too low (See Pt. 2)
	Optical measuring device dirty (See Pt. 3)
	Spray width not reached (See Pt. 5)
	Emergency mode (See Pt. 6)
	Error at EPROM
	Error at dosage gap (See Pt. 4.2)
	Error at Hardware
	Motor protection switch released (See Pt. 7)

7.2. Correcting malfunctions

Malfunction	Cause	Remedy
1. Compressor pressure too low:	1.1 Air filter at the compressor is dirty.	- Clean or replace the air filter (No. 20) (Chapter 7).
2. Powder level too low	2.1 Powder container empty.	- Add powder (Chapter 6.2).
3. Optical measuring device dirty	3.1 Contamination.	- Clean face of transmitter B4 and receiver B5 (No. 207, 208) (Chapter 5.3 and 7).
4. Set powder quantity not achieved	4.1 Contamination.	- Test whether there is an obstacle to the powder flow.
	4.2 Metering gap setting defective.	- Switch powder sprayer to emergency mode (Chapter 6.6).
5. Format width not achieved with nozzle automatic setting	5.1 Automatic nozzle adjustment defective.	- Inform Service.
6. Emergency mode	6.1 The powder sprayer was set to emergency mode.	- Check the powder sprayer for warning notes on the Press control. - Set powder sprayer to normal mode (Chapter 6.6).
7. Motor protective switch released	7.1 Excessive current. 7.2 Compressor defective.	- Inform Service.
8. Crooked sheet positioning between A.S. and B.S.	8.1 Powder hoses are blocked or are kinked.	- Lay the powder hoses (No. 25) without kinks and clean if required (Chapter 7).
	8.2 Powder hoses are blocked.	- Clean or replace the powder hoses (Chapter 7).
	8.3 Incorrect connection of powder hoses to the distributor system.	- The powder hoses and nozzles in the distributor system are numbered. Create the correct connection.

8. Technical data

Power supply:

Voltage:		400 V AC / 230 V AC +/- 10% / 3-phase
Nominal current:	60 cyc 50 cyc	2.25 A 2.2 A
Frequency:		60 cyc / 50 cyc
Output:	60 cyc 50 cyc	0.7 KW / 0.92 KVA 0,55 KW / 0,72 KVA
Construction-side protection (fuse):		10 A
Control voltage:		24 V DC
Protection type:		IP 54
Airborne noise:		82 db A
Capacity:		1.5 Liter

Ambient conditions:

Temperature:	5° C - 40° C during operation
	-25° C - 60° C during storage
Relative humidity:	10% - 90% during operation (non-condensing)
	10% - 90% during storage (non-condensing)

9. Spare parts list

Pos.	Part	GRAFIX-No.
15.	Pressure gauge	6160002
19.	Overpressure valve	6140003
20.	Air filter cpl	3620019
25a.	Rubber powder hose (m)	6040001
25c.	Silicon powder hose (m) spray bar	6040039
25d.	Silicon powder hose (m) metering system	6040029
73.	Set of spare parts, solenoid valve	3230022
74.	Coil 24V	2080036
116.	Fluorescent tube	2140009

Stammhaus und Service



GRAFIX GmbH
Zerstäubungstechnik
Kupferstr. 40-44
D-70565 Stuttgart
Telefon (0711) 7869-00
Telefax (0711) 7869-252