

# Operating instructions



**A 20 left**  
**B 36 left**



**E 24 right**



**C 13 left**

## **Stapling heads**

**Type A 20, B 36, C 13, E 24**

### **IMPORTANT**

Read these instructions thoroughly and completely before the first use and keep them in a safe place. Observe and follow the safety instructions and use the equipment, only if you are sure that you have understood all the instructions. Failure to comply can lead to injury!

If you have any questions, please contact the manufacturer

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**Germany**  
**+49 (0) 911 984 94 0**

## Stapling head model

Type/Description:  
Serial number:  
Matching coiled staple:  
Year:

**See the staple head  
machine number plate**

## Preface

The skills, that are conveyed by these **ORIGINAL OPERATING INSTRUCTIONS** are necessary for a safe operation of the stapling heads. The information is presented in a short and concise form. The chapters are arranged according to numbers

## Copyright

The copyright for these operating instructions remains with **MEZGER Heftsysteme**

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## 1 Conformity

This incomplete machine was built in accordance with the following European directives:  
**Machinery Directive 2006/42/EC**





The declaration of incorporation has been filed with the manufacturer and included in the attachment.

The installation guide is annexed hereto and is included with every unit!

The affixing of a CE mark and therefore the declaration of conformity may only occur after the installation into a complete machine has been made and the final inspection has concluded.

## 2 Safety Tips

Important safety information and statements are characterized by the following pictograms. The symbols used in the operating instructions and which are mounted on the stapling heads, have the following meanings:

Symbol	Signal word	Significance
	Warning notice	Warning of possible injuries to personnel or possible damage to property  Warnings of potential defects or destruction of the device
	Prohibition	Informs about general prohibitions!
	Warning notice	Risk that fingers can be crushed!
	Prohibition	Protect from moisture!

Read all of these instructions before using the stapling heads and store these safety instructions in a safe place.

The operating personnel must be adequately trained in the handling of the stapling heads and must have fully read and understood the instructions.

To avoid injury or damage, the operator must also observe the in-house safety rules!

In addition, we want to point out further national regulations and accident prevention rules, which are unaffected by this manual.



**Keep uninstructed persons, especially children, away from the facility and from your work area!**

If damages to the stapling head are determined by the operator during the production, the device may no longer be used and must be repaired by a skilled person!

Only original spare parts may be used!

### 3 Warranty and liability

**Our “General Terms of Sale and Delivery” shall generally apply”** These terms were made available to the operator by the time of contract award at the latest.

Any warranty and liability claims in the case of personal and material damage shall be excluded, if such damage occurred as a result of:

- Improper use of the tool (not in compliance with intended use).
- Non-compliance with the specification provided in the operating instructions as regards transport, storage, assembly, commissioning, operation, maintenance and setup of the equipment.
- Operation of the tool with defective safety equipment or improperly installed or non-functional safety and protection facilities.
- Improper monitoring of tool parts which are subject to wear and improperly executed repair work.
- Any type of manipulation of the tool.

### 4 Proper use

The stapling head is **only** intended for the applications it was designed for. It must be used, operated and maintained according to the information in this manual.

**The stapling heads are complete and ready to install, precision pneumatic staplers. From pieces of wire (up to 7,500 units) that are wound into coils, U-shaped brackets are formed in the stapling heads, and are then mainly used for stapling cardboard and other materials, or for stapling these materials onto wood.**

**Only materials defined for this stapler and MG<sup>®</sup> coiled staples may be used, because otherwise malfunctions may occur. The stapler may only be used for applications specified in this manual. Other applications are permitted only with prior consent and written permission of the manufacturer.**

Any other use is not intended and can lead to damage to persons or damage to property. The liability for the resulting damages of non-designated use rests solely with the operator.

The operator must ensure that the machine is operated only as intended and that all kinds of hazards to life and health of the user or third parties are avoided. In addition, the compliance with safety regulations and other safety rules and laws must be ensured.



**If the stapling head is misused for a purpose other than the prescribed applications, this can lead to accidents**

***The commissioning of the stapling head is not permitted until it is determined that the stapling device or stapling machine, into which the stapling head will be incorporated, is in accordance with the provisions of the EU Machinery Directive 2006/42/EG and the occupational safety regulations.***

Each stapling head is available in a left-sided (li) and in a right-sided (re) version.

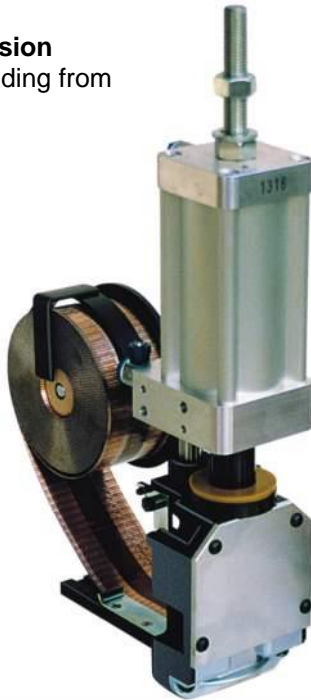
The coiled staple-holder is mounted so that the staple coil can be introduced either

- from the right side (left version, standard) or
- from the left side (right-side version).

By default, the stapling heads are supplied in the left-sided version.

**Right version**

Staple loading from  
the left

**Left version**

Staple loading  
from the right

**4.1 Application Scope/Purpose**

The stapling heads may only be used for stapling or nailing full, single and double corrugated cardboard or for the materials listed in the **technical specifications**.

Do not nail/staple onto hard (e.g. metal pieces, nails etc.) and brittle materials. (this could damage the stapling head)

**4.2 Ambient conditions**

The device should be operated at room temperature and protected against environmental influences. A use within an explosive atmosphere is permitted only with prior consent and written permission of the manufacturer.

#### 4.3 Operator personnel

To operate the device only properly trained, knowledgeable staff is permitted.

**Note:** Someone is Knowledgeable, if he has attained sufficient knowledge in the field of staplers based on his training and experience, and is proficient with relevant governmental and industrial safety regulations, accident prevention regulations, guidelines and generally accepted rules of technology (e.g. DIN standards, VDE-regulations) to the point, that he can assess the safe state of machines, and in particular stapling machines.

## 5 Transport and initial commissioning

The stapling heads are supplied pre-assembled and can be transported as a whole. Transport equipment can also be used to ferry the devices.

### Installation and initial commissioning

To make the stapling heads ready for operation after delivery, the following activities must be performed:

- Equipment check for completeness
- Assess the suitability of the installation location
- Installation of the stapling heads according to the installation manual

Before the stapling head is put into operation, please read all the instructions in this manual. This stapling head may only be put into operation by **properly instructed** personnel.

The stapling head should only be operated with a filter regulator (filter, water separator and pressure gauge), because dirt and water in the pressurized air could cause damage!

The stapling head is immediately operational in the factory setting.



**When the stapling head is in the operable state, no one may reach into the stapling area, the clamp outlet, or into/on the running stapling head! DANGER of injury!**



**Oxygen or combustible gasses may not be used as a propellant for compressed air operated equipment.**

## 6 Unit configuration and functional description

The stapling heads are complete and ready to install, precision pneumatic staplers. From pieces of wire (up to 7,500 units) that are wound into coils, U-shaped brackets are formed in the stapling heads, and are then mainly used for stapling cardboard and other materials, or for stapling these materials onto wood.

The special feature of the staple and nailing heads is that they only have one cylinder and therefore only one piston, but still travel the entire insertion path, before the actual stapling process, which is the penetration of the staple into the stapled matter.



The following insertion paths are possible:

Type	A 20	B 36	C 13	E 24
Standard	0-40 mm	0-40 mm	0-25 mm	0-40 mm
Optional	0-80 mm	0-80 mm	0-80 mm	0-80 mm
Other	Further insertion paths upon request			

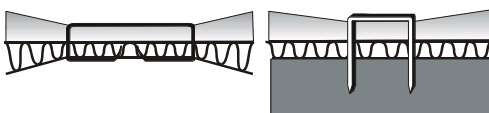
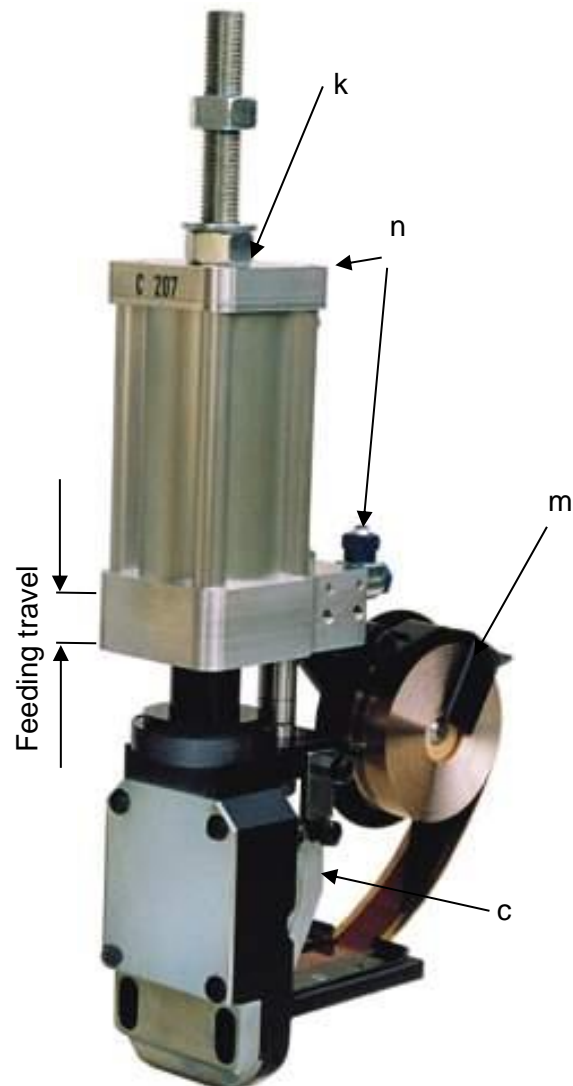
About 2 mm must be deducted from the maximum insertion path as a safety reserve.

If the entire stroke is required, then in order to avoid damage to the staple head, the "small damping ring" (Item No.: 551/20) or two disc springs must be inserted into the guide pin.

The guides of the insertion movement and the rotation protection are integral components of the stapling heads. During feeding travel only the lower part, which provides the actual stapling operation of the stapling head, is in motion and not the entire stapling head (s. sketch). The cylinder with its two line connections (n), the mount and primarily the stapling coil will remain stationary. This means that only low masses must be accelerated and braked. This has a positive effect on the operating speed to be obtained (cycle time up to 90 stitchings/minute dependent on material to be stapled and feed), the wear and the noise production.

For mounting of the stapling head you can use the thread M 16 (k) which is centered in reference to the staple outlet. Further mounting possibilities see installation instructions.

In every mounting position it is ensured, that when the cylinder is filled with compressed air (4 - 6 bar), the movable part of the stapling head is delivered to the material to be stapled first and that it is this pressed together accordingly. With the same piston movement, after the delivery motion, the staple is pressed into the material - mostly wood - to be stapled (nailing). After the staple has left the injection chamber of the movable part of the stapling head, the piston applies pressure to the part and presses the staple into the material with full pressure.



**Stapling**

**Nailing**

#### Control

It is recommended to control every stapling head with its own work valve, so that a separate controlling for empty stapling is possible.

The feature of empty stapling should be provided, since a fully emptied stapling head (no staples are in the stapling head) only ejects a staple during the second stapling, since the staples must be bent first.

If several stapling heads are controlled with a single valve, it must be observed that the full air pressure (4-6 bar) can build up in all parts during the stapling or nailing (staple in time).

Recommended:	Pressure tube: D = 8 mm
Work valve:	1/8" for 1 head 1/4" for 1-3 heads 1/2" more than 3 heads
Pressure boiler:	To avoid the drop in air pressure, use a pressure boiler if necessary

The control of the stapling head is carried out the same way as with a double effect cylinder. So for instance one single 5/2-directional control valve can effect the feeding as well as the reset of the movable part of the stapling head.

When stapling is initiated e.g. by means of a foot valve, the lower part of the stapling head is driven out far enough to reach the material to be stapled. Once this feeding travel is finished, the actual stapling is performed automatically without any additional control.

Feeding and stapling are performed with one single cylinder.

#### 6.1 Compressed air supply

- For A 20, B 36, E 22, E 24 and E 26: R 1/4
- For C 13: R 1/8.

It is recommended to regulate the air inlet and / or outlet via restrictor check valves (recommended are exhaust throttles), which can be used to control the piston speed in the flow and return. C-stapling heads are equipped with corresponding valves as standard. This throttle Check valves are integrated in the air connections. By turning the slotted screw clockwise with a suitable screwdriver, the stroke can be slowed down.

The stapling heads are operated with an air pressure of 4 - 6 bars.

It is necessary to use a pneumatic operating unit consisting of a filter, moisture trap and pressure regulator.

The automatic reset of the stapling heads to the zero position must be executed time controlled (approx. 1-2 seconds, depending on the application), since this is the only possible way - as opposed to the travel path dependent control - of permitting different thickness of the material or variable feeding travels.

Stapling time: Take care that the staple has sufficient time to leave the stapling head, since experience shows the required stapling time is at approx. 1.0 to 1.5 sec. depending on the application and the piston stroke of the stapling head as well as the air flow of the pneumatic control.



### 6.2 Example of a control

A nailing station for wooden pallets with 9 stapling heads type C 13-30 installed. Eight stapling heads are used for nailing plastic foil and cardboard onto the pallet, the ninth one is used for nailing labels onto the side of the pallet. After activating the stapling heads, e.g. with an SPS or with a pneumatic swivel lever valve, the lower part of the stapling head extends and nails plastic foil or cardboard onto the wooden pallet. The time required for nailing including feeding travel is approx. 2 sec. depending on path of feeding travel. The path of feeding travel levels out unevennesses and altitude differences of the pallets. After nailing, the stapling heads return to their initial position and the next pallet can be inserted.

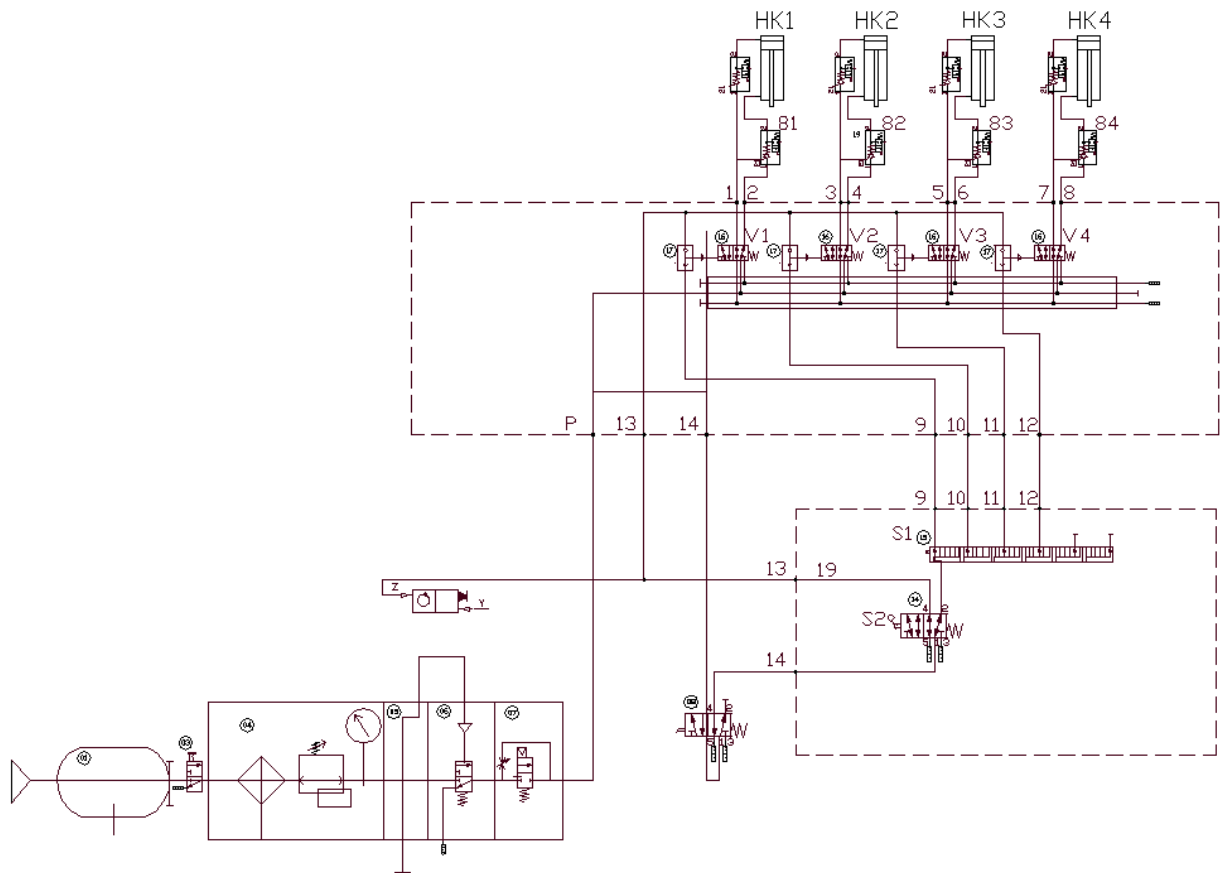
The following sensors supervise the process:

1.	Sensor <b>staple added zero position</b> reports:	Stapling head in zero position (e.g. visualised by green lamp)
2.	Sensor <b>staple reserve</b> reports:	Staple heads must be refilled as soon as possible (e.g. visualised by a blinking yellow lamp)
3.	Sensor <b>staple ejection control</b> reports:	Staple has been set (e.g. visualised by green lamp)
4.	Sensor <b>staple end</b> reports:	No more staples in the stapling head, the system will stop operation (e.g. visualised by yellow lamp)

Example of a pallet nailing station with 3 stapling heads C 13-30



Pneumatic wiring diagram e.g.



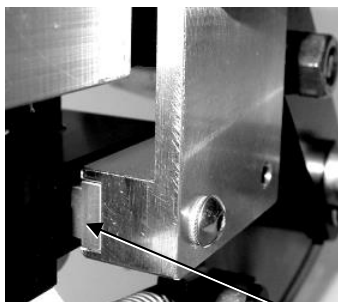
### 6.3 Sensors

The following sensors are available for the stapling heads:

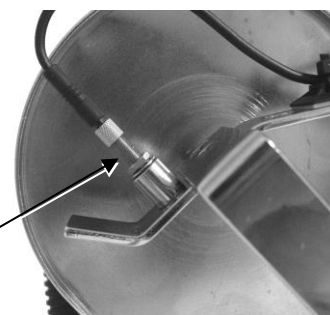
Sensors	Function (closer)	Position of Sensors	Sensor
<b>Stapling head normal position</b>	Signal 1, when the stapling head as finished the operation and has returned to the zero position	Guide tube (A20/B36/E24) Distance plate (C13)	Inductive sensor
<b>Staple reserve</b>	Signal 0 as of approx. 200 remaining staples on the roll	Brake arm	Inductive sensor
<b>Staple ejection control</b>	Signal 1, if staple is ejected by driver Not for stainless steel or aluminum staples	anvil	Inductive sensor
<b>Staple end</b>	Signal 0, if 5-10 remaining staples	Staple guide plate	Inductive sensor
<b>Driver blade end position</b>	Sensor indicates, when driver blade reaches end position within stapling head.	Cover Plate	Inductive sensor

Signal 0: Signal not available; Signal 1: Signal available.

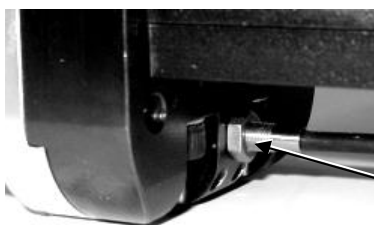
The wiring of the sensors has to be established as described in the attached description.



1) Sensor Grundstellung  
 Normal position  
 Pos. initiale tête agrafeuse



2) Sensor Klammernreserve  
 Staple reserve  
 Réserve d'agrafes



3) Sensor Klammernautrittskontrolle  
 Staple ejection control  
 Contrôle sortie d'agrafes

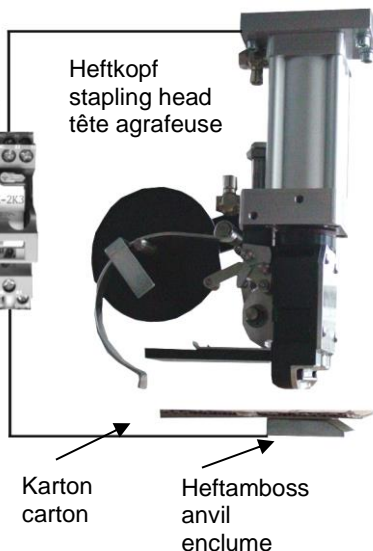


4) Sensor Klammernende  
 Staple end  
 Fin d'agrafes

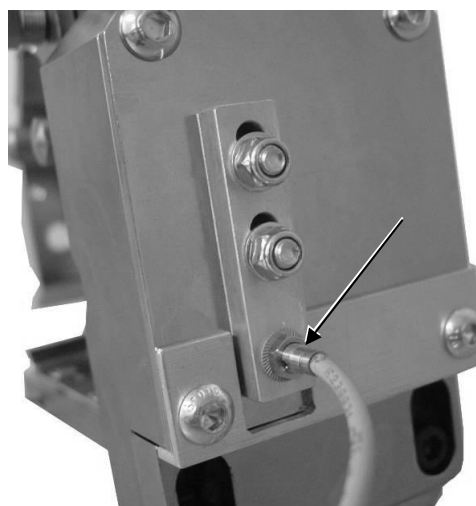
5) Heftkontrolle/ Staple control/ Contrôle d'agrafage

Zur Steuerung  
 To control unit  
 En direction  
 commande  
 automatique




Relais  
 Relay



6) Sensor Treiber Endkontrolle/ Sensor Driver  
 Blade end position/ Contrôle fin de poussoir



Bezeichnung/ Description/ Designation	Funktion/ Function/ Fonction	Bemerkung/ Remark/ Remarque
<b>1) Grundstellung Heftkopf</b>  <b>Normal position stapling head</b>  <b>Position initiale têteagrafeuse</b>	Signal 1, wenn Heftkopf den Heftvorgang beendet hat und in Grundstellung steht. A sensor signals the normal position of the stapling head (signal=1). Stapling has been finished. Signal 1, quand têteagrafeuse a terminé l'agrafage et se trouve en pos. initiale.	
<b>2) Klammerreserve</b>  <b>Staple reserve</b>  <b>Réserve d'agrafes</b>	Signal 0, bei Klammernreserve. Bald nachladen.  Signal=0 signals the coming end of the coil. A new coil is requested soon. Signal 0, annonce la réserve des agrafes, un nouveau rouleau sera nécessaire sous peu	Ca. 200 verbleibenden Klammern.  Approx. 200 remaining staples.  à partir d'env. 200 agrafes restantes sur rouleau.
<b>3) Klammeraustrittskontrolle</b>  <b>Staple ejection control</b>  <b>Contrôle sortie d'agrafes</b>	Signal 1, wenn Klammer von Treiber ausgestoßen wird.  A sensor signals a staple coming out of the stapling head. (signal=1)  Signal 1, indique si une agrafe a été expulsée par entraîneur.	Sehr kurzes Signal, Auswertung über SPS, bzw. Speicherbaustein*, empfohlen. This is a very short signal. A special electronic device* is requested for detection. Signal très court, évaluation par automate (API) recommandée resp. par module de mémoire.
<b>4) Klammerende</b>  <b>Staple end</b>  <b>Fin d'agrafes</b>	Signal 0 bei Klammernende. Eine neue Rolle muss eingesetzt werden. Signal=0. A sensor signals the end of the coil. A new coil is requested at once. Signal 0, un nouveau rouleau doit être installé	Ca. < 20 verbleibenden Klammern.  Appr. < 20 remaining staples.  à partir d'env. < 20 agrafes restantes.
<b>5) Heftkontrolle</b>  <b>Staple control</b>  <b>Contrôle d'agrafage</b>	Signal 1, wenn Klammer gesetzt wird, d.h. auf dem Heftamboss auftritt A sensor signals a staple coming out of the stapling head. (signal=1) Signal 1, indique si l'agrafe a été posée, c.à.d. a été éjectée par entraîneur.	Nur möglich beim Heften auf isolierenden Materialien! Only available for isolating materials for stapling! Seulement possible en agrafant des matériaux isolants !
<b>6) Treiber Endposition</b>  <b>Driver blade end position</b>  <b>Contrôle fin de poussoir</b>	Signal 1, wenn der Treiber seine Endposition im Heftkopf erreicht. Sensor indicates, when driver blade reaches end position within stapling head. Signal 1, indique que le poussoir a reçu la position finale dans la tête d'agrafeuse	

 *Anmerkung:	 *Remark:	 *Remarque:
Zur Auswertung des Signals „Klammeraustrittskontrolle“ wird u.U. eine Signalverlängerung benötigt: z.B. Impulswandler, Fa IFM Elektronik, E80110 oder TKHM 19107.	To check the signal 3 “Staple control“ a signal extension might be needed: for example a pulse stretcher E80110, Messrs. IFM Elektronik or TKHM 19107.	pour évaluer le signal « contrôle sortie d'agrafes » peut-être il faudrait une prolongation de signal : p.ex. un transformateur d'impulsion art. No. E80110, STE IFM Elektronik ou TKHM 19107.

All Sensors are closer

#### 6.3.1 Connection plan/assignment

##### **Sensor No. 1 Normal position stapling head, Sensor No. 4 staple end**

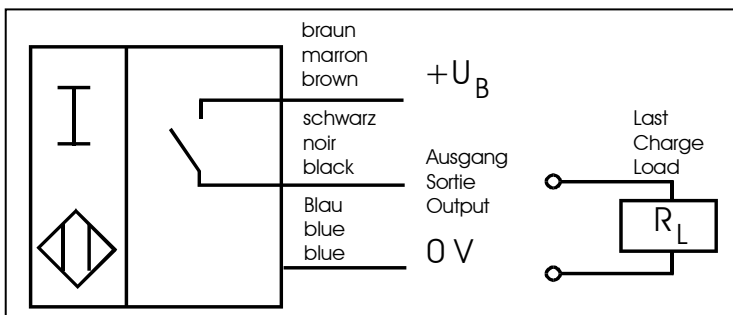
(KJ2-Q9,9-DPS-L0,52-RM8)

Induktiver Näherungsschalter

Détecteur de proximité inductif

Inductive proximity switch

$U_b = 24 \text{ VDC} \pm 10\%$  ;  $I_a = 200 \text{ mA}$



Schaltabstand/  
 Distance de détection/  
 Switching distance:  $s_n = 2 \text{ mm}$

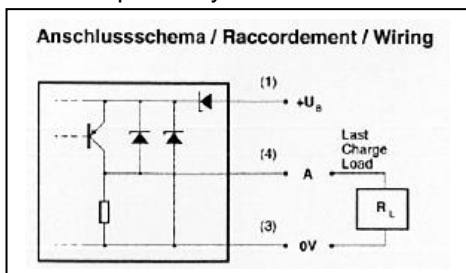
##### **Sensor No. 2 Staple reserve, Sensor No. 6 Driver blade end position** (DW-AV-503-M5-282)

Induktiver Näherungsschalter

Détecteur de proximité inductif

Inductive proximity switch

$U_b = 10 \dots 30 \text{ VDC}$ ;  $I_A = 200 \text{ Ma max.}$



Schaltabstand/  
 Distance de détection/  
 Switching distance:  $s_n = 2,5 \text{ mm}$

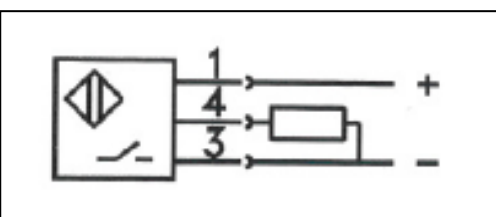
##### **Sensor No. 3: Staple ejection control** (BES M05EC-PSC08B-S26G)

Induktiver Näherungsschalter

Détecteur de proximité inductif

Inductive proximity switch

$U_b = 10-30 \text{ VDC}$ ;  $I_A = 100 \text{ mA}$



Schaltabstand/  
 Distance de détection/  
 Switching distance:  $s_n = 0,8 \text{ mm}$



**Achtung:** Bei allen Sensoren Stirnseite nicht beschädigen!  
**Attention:** Ne pas abimer la face avant!  
**Caution:** Do not damage sensing face!





## 7 Fundamental working techniques and handling

### "Working with the stapling heads"

Before the operator uses the stapling heads, he must inform himself about the respective application case, and check whether the machine and tools are placed correctly. Follow all safety labelings exactly!



**Make sure that the stapling heads do not show any damages and that they can be safely operated.**

The safe operating condition of the stapling heads must always be checked before beginning the work!

System security features may be not avoided or made ineffective!

Keep your work area in a proper condition.  
 Disorder in the work area can cause accidents.

#### 7.1 Stapling

As soon as the stapling head is fastened and attached to the air supply, it is ready to be used as a nailing facility. The staple penetrates the material without bending. Through this, it is possible to nail cardboard or wood.

If the nailing device is expanded with a stapling anvil, then a stapling device is created, with which cardboards of any kind as well as other materials, e.g. synthetic materials, thin metals etc., can be stapled together. Contrary to nailing, the staple is hereby bent behind the material to be stapled or in the case of blind stapling within the material to be stapled.

When using several stapling heads with a high cycle frequency, it must be ensured that that the required pressure and air volume is available to the stapling heads. Perhaps a pressure tank must be used as a compensation for pressure variations. The stapling heads require the following air volume with an operating pressure of, for example, 6 bar (approx. 87 psi):

Stapling head	A 20		B 36		C 13		E 24	
Feeding travel (mm)	40	80	40	80	25	80	40	80
Air consumption (l) per stapling cycle	4,6	6,0	4,6	6,0	2,3	3,5	5,0	6,4

#### 7.2 Stapling heads A 20 and B 36

When stapling cardboard, a blind stapling (only with MG® staples) as well as a fully penetrating stapling (see illustration) can be achieved. Blind stapling can be accomplished on every flat and hard surface (0.5 –1.0 mm casehardening, 60-64 HRc) used as anvil. For a continuous stapling, the anvil will be supplemented with a groove, so that the staple is able to bend outside of the cardboard.



#### Penetrating stapling

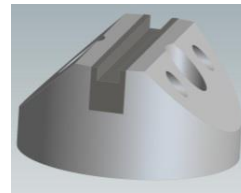


staple legs are firmly set – the tips re-penetrate the cardboard again. Therefore there is no injury hazard or danger of damage to the packaged goods.

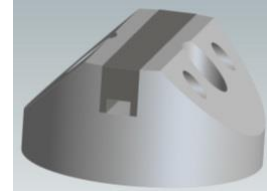


Staple legs bend within the cardboard. No injury hazard or danger of damage to the packaged goods.

Clinching anvil with removable plate (only MG®-staples) for:



Penetrating stapling  
 Groove depth: 1.5 mm  
 Groove width: 4-5 mm  
 Smooth, hardened surface

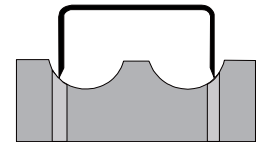


Blind stapling  
 Smooth, hardened surface

### 7.3 Stapling heads C 13

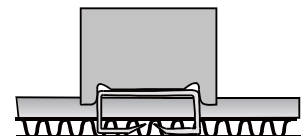
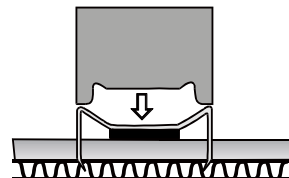
When stapling with the stapling head C 13 (and for example also with M A 42 for stapling head A 20, M B 78 for stapling head B 36, etc.) a clinching anvil with a semicircular bending groove is required. The staple ejection must hereby be aligned exactly to the clinching anvil, so that the staple tips fall into the radius of the bending groove. Only then is it ensured that the staple bends correctly in the radius of the bending groove.

A flat stapling of very thin materials can be performed by optimizing the semi circular extended staple legs with a suitable clinching anvil. This effects that the legs are relatively flat and only extend a little.



### 7.4 Staple heads E 22, E 24, E 26

No anvil is required to perform a blind stapling. The staple bands by itself without a bending guide. Contrary to other stapling heads, the feed travel (0 - 40 mm to max. 80 mm) must be definitively set here.



### 7.5 Staple coils

The single wire pieces, which will be U-formed inside the stapling head, are glued together and additionally connected with an adhesive tape.

They are wound on a wooden reel (up to 7.500 pcs.)

The adhesive tape is mainly used to prevent the coil from tearing, and also for feeding the staples into the stapling head. One end is connected with a plastic role. The adhesive tape is wound round the plastic roll and provides the feeding of the staples into the stapling head.

The coiled staples should be stored at normal storage conditions (e.g. not outside, normal humidity). Please ensure that the staples will be consumed within one year. Replacement of a new coil of staples takes about 1/2 minute.

Do not reload during stapling!

For each type of coiled staples a special stapling head is required. The stapling head cannot work with different coiled staples - this also applies to different leg lengths. The required stapling head and staples will be defined according to the present material to be processed.

### 7.6 Installation and control notes summary

- 1) Recommended: Control every stapling head with its own work valve, so that a separate controlling for empty stapling is possible. (see item 4).
- 2) If more than one stapling head is operated with only one valve, pay attention that the full pressure (4-6 bar) is available during stapling or nailing process (stapling time).  
  
Recommended:    Pressure tube:    D = 8 mm  
                          Work valve:    1/8" for 1 head  
  1/4" for 1-3 heads  
  1/2" more than 3 heads  
                          Pressure boiler: To avoid the drop in air pressure,  
  use a pressure tank if necessary
- 3) Stapling time:  
Take care that the staple has sufficient time to leave the stapling head,  
As experience shows, the required stapling time is at approx. 1.0 to 1.5 sec. depending on the application and the piston stroke of the stapling head as well as the air flow of the pneumatic control. (see item 2)
- 4) Provide possibility of "empty stapling", means at stapling head emptied completely (there are no more staples in the stapling head) a staple leaves the stapling head only during the second stapling process, because the staples must be bent first.
- 5) Do not nail/staple onto hard (e.g. metal pieces, nails etc.) and brittle materials.  
(The stapling head can be damaged)
- 6) Pay attention to a correct installation of the front plate. Don't jam the driver blade.
- 7) Clean the stapling head in regular intervals.
- 8) Never exceed the max. feed travel.
- 9) The mounting of the stapling head has to be stabile, since each movement during stapling process can effect the stapling result negatively.
- 10) Stapling head must be adjusted accurately to the anvil (centred), when using straight staple legs.
- 11) Follow the operating instructions at all times



**Note:**

If these notes are not taken into account, the result of the stapling process can be influence negatively or/and the stapling head can be damaged.

## 8 Removal from service

If the device is not operated or dismantled for a prolonged period of time, the pressurized air supplies must be disconnected and all staples must be removed from the equipment/magazine.

## 9 Reference to the rest risks



**Protect the device against moisture!**  
**Do not operate the device in a damp or wet environment!**  
**Operate only within buildings!**

Compressed air connections must be checked regularly.



**During work on the compressed air connections and tubes as well as on the subsystems, the complete facility must be depressurized.**

## 10 Maintenance and care

The staple head is easy to maintain, but should be cleaned and serviced regularly. Soiling must be removed directly by the operator after concluding the operations. Soiling on the workpieces can be blown off.



**Any alterations to the stapling heads - and particularly to the system security features - is forbidden!**

Before the beginning of major maintenance works and cleaning work, all safety measures must be executed, i.e. the pressure air supplies must be switched off or removed.

The following actions/inspections have to be regularly accomplished by specially advised and trained persons:

- Clean stapling head regularly
- Oil all movable parts weekly (no oil containing graphite!)
- Check the filter regulator for condense water. Remove water if necessary.
- Clean stapling head from carton dust

**Any kind of alteration to the device (e.g. drillings) are only permitted with a previous consent and written approval from the manufacturer.**

**Only original spare parts may be used. (see "spare parts list.")**

**By nonobservance every right to claim under the guarantee or every liability is excluded!**

Only original spare parts are subject to our quality controls. To ensure a safe and reliable operation, only spare parts from the manufacturer may be used.

All technological facilities, particularly the system security features, have to be checked by qualified personnel after alterations or repair.

### 10.1 Service

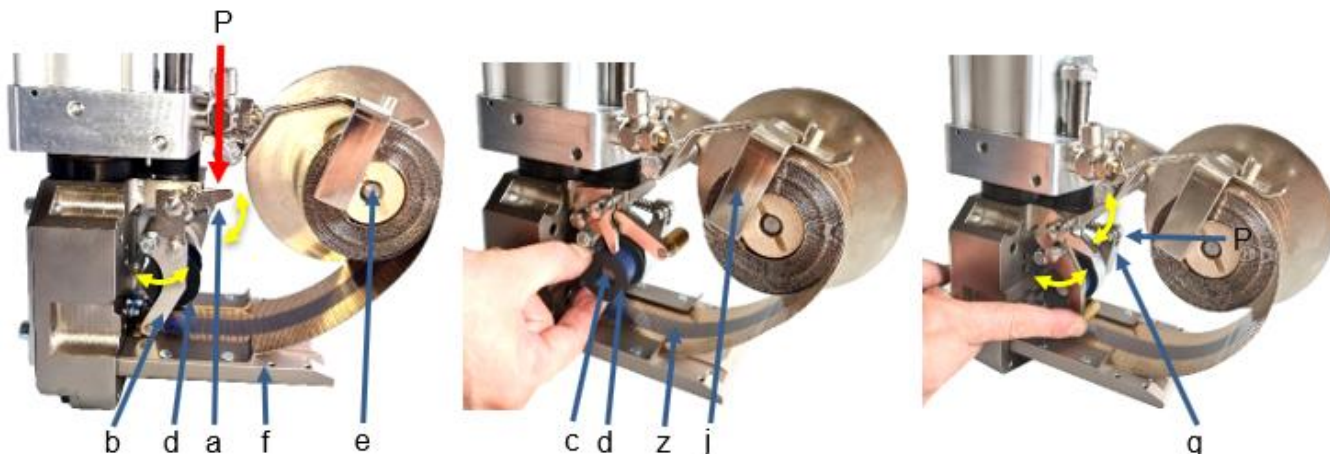
Service-Video s. chap 10.1.5!

a = safety catch  
 e = plate shaft  
 i = front plate

b = angle lever  
 f = guide plate  
 J = coil break

c = winding pin  
 g = swivel bearing  
 P = direction of power

d = feed reel  
 h = screws on the front plate  
 Z = feeding tape



#### 10.1.1 Inserting of staple coils

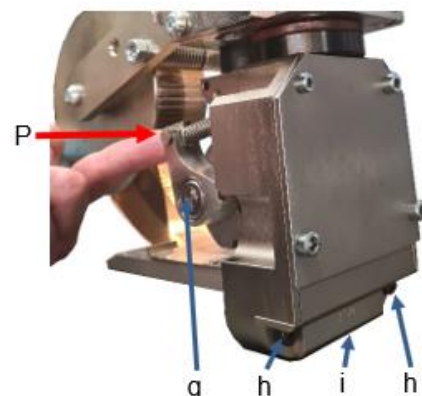
- 1) Press safety catch **a**. Angle lever **b** will swivel back.
- 2) Remove old plastic feed reel **d**.
- 3) From the beginning of the new coil, remove fixing adhesive strip.
- 4) Place the coil over the mounting pin **e** on the staple plate. Hereby lifting the coil break **j**.
- 5) Place plastic feed reel **d** onto the hexagonal winding pin **c**.
- 6) Place the staples into the guide plate **f**. Move the angle lever **b** forward until it catches.
- 7) Tighten feeding tape by pressing down on the swivel bearing **g** several times. Enough tension has been achieved if swivel bearing **g** does not return to its initial position.



#### 10.1.2 Removing jammed staples

**Disconnect air supply first to prevent injuries!**

- 1) Release the tension from the feeding tape, by swivelling back angle lever **b** (see chapter 10.1.1.).
- 2) Loosen the two screws **h** on front plate **i** and remove front plate **i**.
- 3) Remove both jammed and prebent staples and replace front plate **i** and tighten screws.
- 4) Tighten feeding tape as described in chapter 10.1.1.



#### 10.1.3 Torn feeding tape

- 1) Release tension (see chapter 9.1.1.).
- 2) Remove as many staples from the staple belt as necessary, until enough length of feeding tape remains.
- 3) Wind this piece around the plastic feed reel **d**, then proceed as described in chapter 10.1.1.

#### 10.1.4 Shut down of stapling head



Before longer breaks (e.g. over night) the tension on the feeding tape should be released on all stapling heads by swivelling back angle lever **b**. Before, safety catch **a** must be pressed (see chapter 10.1.1.).

#### 10.1.5 Service-Video-Links

Tool:

**A 20; B 36, E24**

**C 13**

QR-  
Code:



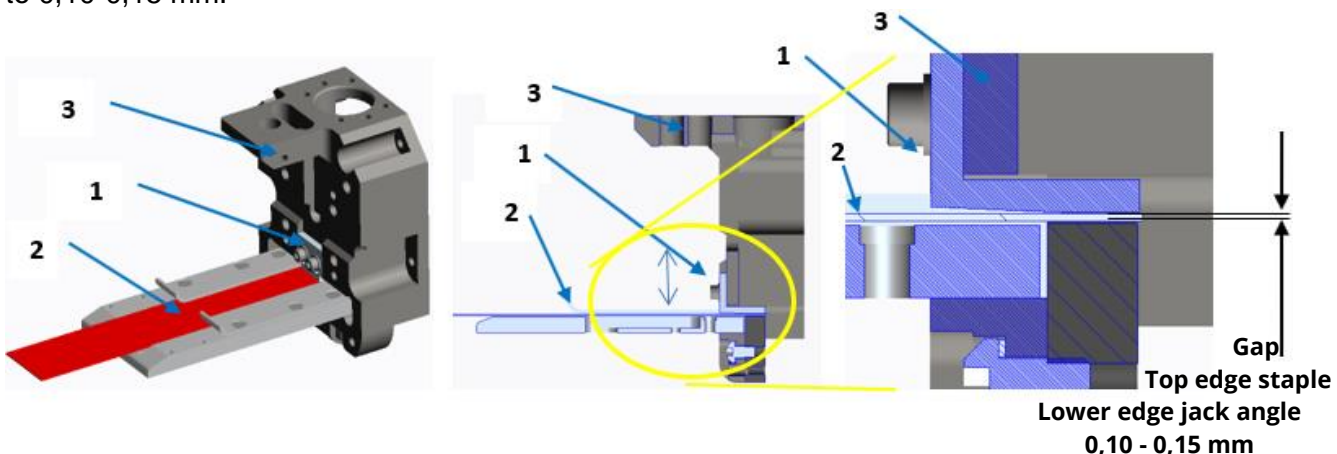
Link:

[https://mezger.eu/files/video\\_anleitungen/ngagkj64es.mp4](https://mezger.eu/files/video_anleitungen/ngagkj64es.mp4)

[https://mezger.eu/files/video\\_anleitungen/ih8zt0up13.mp4](https://mezger.eu/files/video_anleitungen/ih8zt0up13.mp4)

#### 10.2 Gap between staple and hold down angle

Adjustment of gap between hold-down jack angle (1) and clamps (2) in the housing (3) to 0,10-0,15 mm.



#### 10.3 Cleaning / Troubleshooting

If there is a fault or the staples are jammed, proceed as follows. Turn off the supply air. Remove any staples in the stapling head and clean the device from debris and dirt. Connect the supply air again. Now you can use the roller stapling head again without restrictions.



**In case of a fault that goes beyond jammed staples, please contact the manufacturer for repair. The device will be carefully examined by us, and the disturbance cleared by our specialists.**

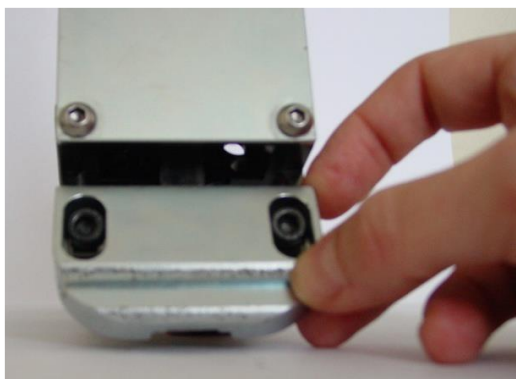
To open the interior of the stapling head, the front plate must be removed.



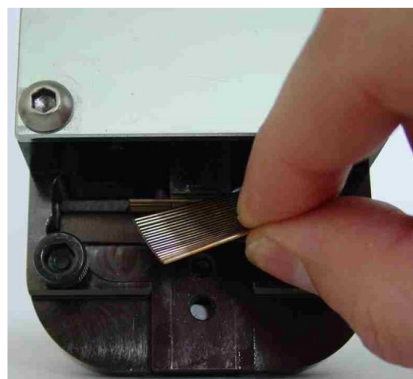
1) Open screws



2) Remove front plate



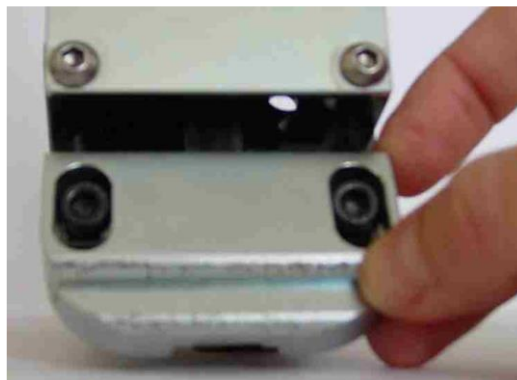
3) Remove all staples



4) Remove residue



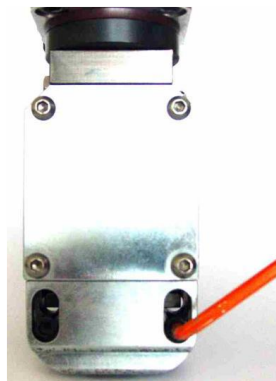
5) Insert front plate



6) Push the front plate completely upwards



7) Tighten the screws again



Tighten again feeding tape by pressing down on the swivel bearing **g** several times.

The first staple is pre-bent and does not leave the stapling head yet!  
 Only at the second stapling does the staple leave the stapling head!

Be careful not to pinch the driver between the front plate → Damage!

#### 10.4 Driver plate exchange

s. [www.mezger.eu](http://www.mezger.eu)



## 11 Fault identification



**In case of any malfunction stop working with the stapling heads and disconnect air pressure immediately until correct function is re-established. Do not try to disassemble and repair the stapling head.**

No.	Problem	Caused by:	Action:
1.	No stapling, staple not bent regularly or staple remained in the stapling head	Staple is pre-bent in the stapling head; only the second staple will exit the stapling head.	Stapling twice, only the second staple will exit the stapling head.
2.	No stapling, staple not bent regularly or staple remained in the stapling head	Angle lever b is not engaged – Feeding tape is not tightened.	Engage angle lever b. Tighten swivel bearing g until it does not return any more in its initial position.
3.	No stapling, staple not bent regularly or staple remained in the stapling head	Feeding tape is not tightened.	see item 2
4.	No stapling, staple not bent regularly or staple remained in the stapling head	Maximum feed travel exceeded.	Stapling head can perform only maximum feeding travel.
5.	No stapling, staple not bent regularly or staple remained in the stapling head	Air pressure too low. Feeding travel is not ensured.	For stapling 4 - 6 bars, for nailing 6 bars. Check valves and air hose for sufficient air flow.
6.	No stapling, staple not bent regularly or staple remained in the stapling head	Air pureness not sufficient	Use a filter regulator consisting of an air filter, pressure regulator and oil sprayer
7.	Staple did not leave stapling head output	Stroke travel time too short	Increase stroke time accordingly (1 – 2 sec.).
8.	Staple is jammed in stapling head and has not been U-shaped.	Air pressure too low (see item 5). Stapling head returns to normal position before pushing the staple.	Increase stroke time accordingly (1 – 2 sec.).
9.	Stapling head too heavily soiled.	Clean stapling head.	In case send stapling head to manufacturer for maintenance.
10.	Staple is jammed within stapling head	Air pressure /amount too low at stapling head	Control every stapling head with its own 4/2 or 5/3 way valve.
11.	Staple is jammed within stapling head	Air pressure /amount too low at stapling head	Use a one way flow control valve only directly mounted on the stapling head for the exhaust air.
12.	Feeding tape torn	Zugband falsch eingelegt.	Do not insert the feeding tape behind the straight pin of the swivel bearing. Remove some staples from the tape and fix feeding tape again.
13.	Staple tilts and jams in the stapling head	Possibly jack angle set incorrectly.	Check setting ack (gap 0.1-0.15 mm between staple and jack angle)
14.	Feeding tape lifts off = staple feed not longer functional	staples too long under tension or environmental temperature too high.	For longer breaks relax tension. Do not expose staple to high temperatures

## 12 Technical details

Device: **Stapling head**  
 overall weight: See type in list  
 Noise emission: < 70 dB(A)  
 Compressed air supply: **max. 6 bar, 4-6 bar recommended**

### 12.1 Versions of Stapling Heads

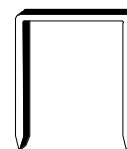
	A 20 - ..		B 36 - ..		C 13 - ..		E 24 - ..		E 24 - ..		E 26 - ..	
*Staples per coil	5.000		4.000		5.000		4.000		4.000		4.000	
Width of the staples when processed	20 mm		36 mm		13 mm		22 mm		24 mm		26 mm	
Wire width of the staple	1.5 mm		2.0 mm		1.0 mm		2.0 mm		2.0 mm		2.0 mm	
Weight (feed travel: standard/80mm) kg:	7,1	7,4	7,1	7,4	5,0	5,3	7,3	7,6	7,3	7,6	7,3	7,6

\* = depending on version different quantity of staples on the coil

### 12.2 Stapling Head and matching sizes of staples

#### Stapling Head A 20

for coiled staples with  
 20 mm crown size, 1.5 x 0.8 mm wire,  
 Leg lengths 7,5/11/ 20 mm  
 5,000 staples per coil.



e.g. M A 60

#### Stapling Head B 36

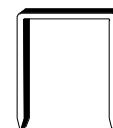
for coiled staples with  
 36 mm crown size, 2.0 x 1 mm wire,  
 Leg length from 12/17/ 21 mm  
 Staples per coil.



e.g. MG® B 70

#### Stapling Head C 13

for coiled staples with  
 13 mm crown size, 1.0 x 0.75 mm wire,  
 Leg length from 6,5/8,5/11,5/14,5 mm  
 5,000 staples per coil.



e.g. M C 42

#### Stapling Head E 22, E 24\*, E 26

for coiled staples with  
 22, 24\* or 26 mm crown size, 2.0 x 1.0 mm wire  
 Leg length 6,5/7,7/9 mm  
 4,000 staples per coil.  
 \* = standard



e.g. TOP E 60

Type:	Weight (Kilo) standard	Length x Width x Height mm without threaded bolt, with feeding travel of 25mm (C,D) and 40mm (A,B,E)	Operating Pressure (bar)	Air Consumt./Stapling Operation NL at 6 bars	Air Connection	Pressing Force at 6 bars (N)	Matching coiled staples	Crown width of clinched staple (mm)	Leg Length of formed Staple (mm)	Wire Diameter (mm)	Wire Quality: HS = Half Steel Quality; ST = Steel Quality	Wire Surface: KU = Copper Plated;	Weight per Stapling Coil (Kilo)	* Quantity of Staples Coil/Pieces, max.	APPLICATIONS MEZGER Stapling Heads for coiled staples
<b>MEZGER Stapling Heads for coiled Staples</b>															
A 20-35	7.1	272x110 x 328	4-6	4-6	R 1/4	1900	MG A 35	20	7,5	1,5 x 0,8	HS	KU	2,30	5000	Stapling of thin carton, synthetic materials
A 20-42	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MG A 42	20	11	1,5 x 0,8	HS	KU	2,7	5000	Stapling of thicker cardboards, single and double
B 36-60	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MG B 60	36	12	2 x 1	HS	KU	4,0	4000	Stapling of solid, single and double corrugated
B 36-70	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MG B 70	36	17	2 x 1	HS	KU	4,8	4000	Stapling of thick double corrugated cardboard
E 26-50	7.2	272x110 x 338	4-	5-7	R 1/4	1900	TOPE 50	26	6,5	2 x 1	HS	KU	3,5	4000	Blind Stapling of single and double corrugated
E 22-60	7.2	272x110 x 338	4-	5-7	R 1/4	1900	TOPE 60	22	9	2 x 1	HS	KU	4,1	4000	Blind Stapling of single and double corrugated
E 24-60	7.2	272x110 x 338	4-	5-7	R 1/4	1900	TOPE 60	24	8	2 x 1	HS	KU	4,1	4000	Blind Stapling of single and double corrugated
E 26-60	7.2	272x110 x 338	4-	5-7	R 1/4	1900	TOPE 60	26	7	2 x 1	HS	KU	4,1	4000	Blind Stapling of single and double corrugated
<b>MEZGER Nailing Heads for coiled staples (stapling possible with specific anvil as counterpart)</b>															
A 20-35	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MA 35	20	7,5	1,5 x 0,8	HS	KU	2,3	5000	Nailing of foil, plastic, cardboard onto soft wood
A 20-42	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MA 42	20	11	1,5 x 0,8	HS	KU	2,7	5000	Nailing of cardboard, plastic onto pressed wood,
A 20-60	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MA 60	20	20	1,5 x 0,8	HS	KU	4,3	5000	Nailing of thick plastic, aluminum, carton board on wood
B 36-78	7.1	272x110 x 328	4-	4-6	R 1/4	1900	MB 78	36	21	2 x 1	HS	KU	5,5	4000	Stapling of thick double and triple corrugated cardboard
C 13-26	4.9	218 x 75 x 299	4-	2-4	R 1/8	1200	MC 26	13	6,5	1 x 0,75	HS	KU	0,7	5000	Nailing / Stapling foil, paper (header on plastic bags)
C 13-30	4.9	218 x 75 x 299	4-	2-4	R 1/8	1200	MC 30	13	8,5	1 x 0,75	HS	KU	0,8	5000	Nailing / Stapling of foil paper, cardboard onto wood
C 13-36	4.9	218 x 75 x 299	4-	2-4	R 1/8	1200	MC 36	13	11,5	1 x 0,75	HS	KU	0,8	5000	Nailing / Stapling of foil paper, cardboard onto wood
C 13-42	4.9	218 x 75 x 299	4-	2-4	R 1/8	1200	MC 42	13	14,5	1 x 0,75	HS	KU	1,2	5000	Nailing / Stapling of cardboard, plastic etc.

**Remarks:**

1. Mounting position: For the vertical mounting position, a special support is required.
2. The stapling head and staple type will be determined depending on the material to be processed.
3. Every stapling head can only process the corresponding staples.
4. The coil holder is mounted in a way that the staple coil can be inserted either from the left (right version) or from the right side (left version, standard).
5. Max. feeder travel: A,B,E: 40mm or 80mm; C: 25 mm or 80 mm; further feeder travel options on inquiry.

### 13 Service

Repairs through:

**MEZGER Heftsysteme**  
**Saganer Straße 24**  
**90475 Nuremberg**  
**Germany**

or

authorized specialized companies

Damages which can be explained by natural wear and tear, overload, improper treatment or damages caused by the user or other use contrary to the operating instructions, will remain excluded from the guarantee.

Keep operating instructions, safety labelings, spare part list and sales receipt in a safe place.

### 14 Installation declaration

(in accordance with the EC machine guideline 2006/42/EC, appendix II B)

We hereby declare that the not complete machine

**Stapling heads type: A 20, B 36, C 13, E 24**

- as far as it is possible according to the scope of delivery -,  
are in accordance with the **with machine guideline (2006/42/EC)**.

Furthermore we declare that the special technical documents for this incomplete machine <sup>[1]</sup><sub>SEP</sub> were prepared according to appendix VII part B, and that this commits us to transmit these to the authorities upon request, through our department for technical documentation.

The commissioning of the incomplete machine is prohibited, until the incomplete machine has been installed into a machine, and this corresponds to the regulations of the EC machine guideline and there is an EC declaration of conformity on hand (after checking).

Assignee for the composition of the technical documentation: Technology department

Installation declaration was issued:

Nuremberg, September 01, 2020

General Manager: Hermann Gumbinger

## 15 Installation instruction

Installation instructions according to appendix VI (Machine guideline 2006/42/ EC)

During the assembly of the "incomplete machine - stapling heads - the following conditions must be fulfilled, so that it can duly and without impairment of the safety and health be assembled with other parts to form a complete machine:

**The device may only be installed, using the fastening points provided (thread drillings, blind drill holes).**

### See enclosed drawings!

The correct installation of the front plate must be observed. Do not jam the driver blade!

Dimension the stapling head fastening sufficiently stable, since movements of the stapling head during the stapling or nailing process can influence the stapling quality negatively.

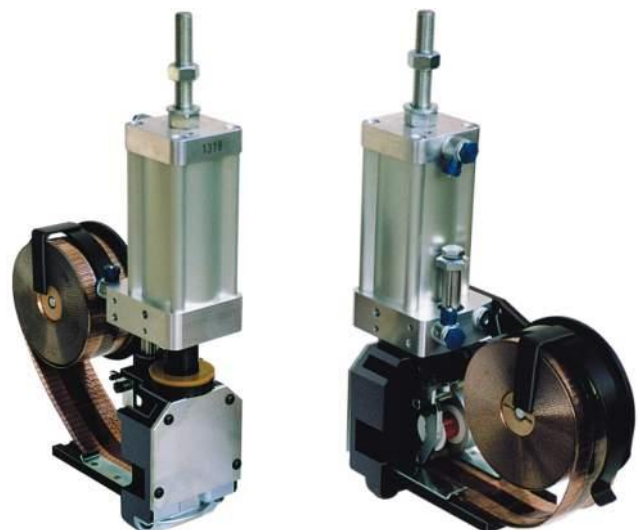
Stapling had must be adjusted accurately to the anvil (centred), if the staple legs are straight.

Every stapling head can be delivered in a left (le) and in a right (ri) handed version. The coil holder is mounted in a way that the staple coil can be inserted either

- from the right side (left version, standard) or
- from the left (right version).

**Version**

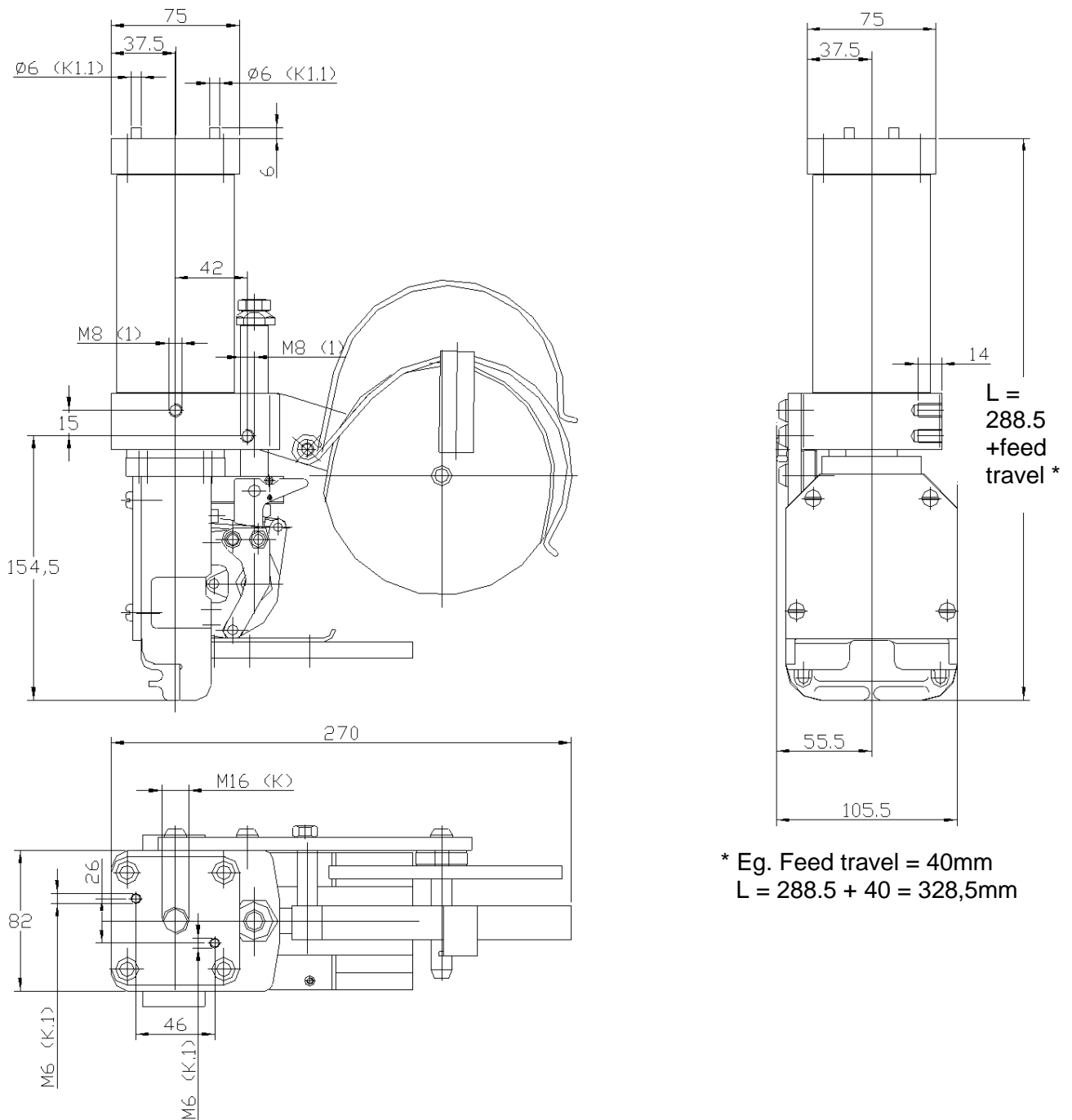
<b>Right</b>		<b>Left</b>
Staple loading: from the left		Staple loading: from the right



#### 15.1 Stapling head A 20, B 36, E 24 illustration

Intended fastening possibilities of the stapling head:

- 1.) With the help of an eg. M 16 thread bolt "K" and the 2 threaded pins "K1.1" for twist protection
- 2.) By means of the two M 8 thread drillings "1" in the bottom of the cylinder and two M 8 - 8.8 screws



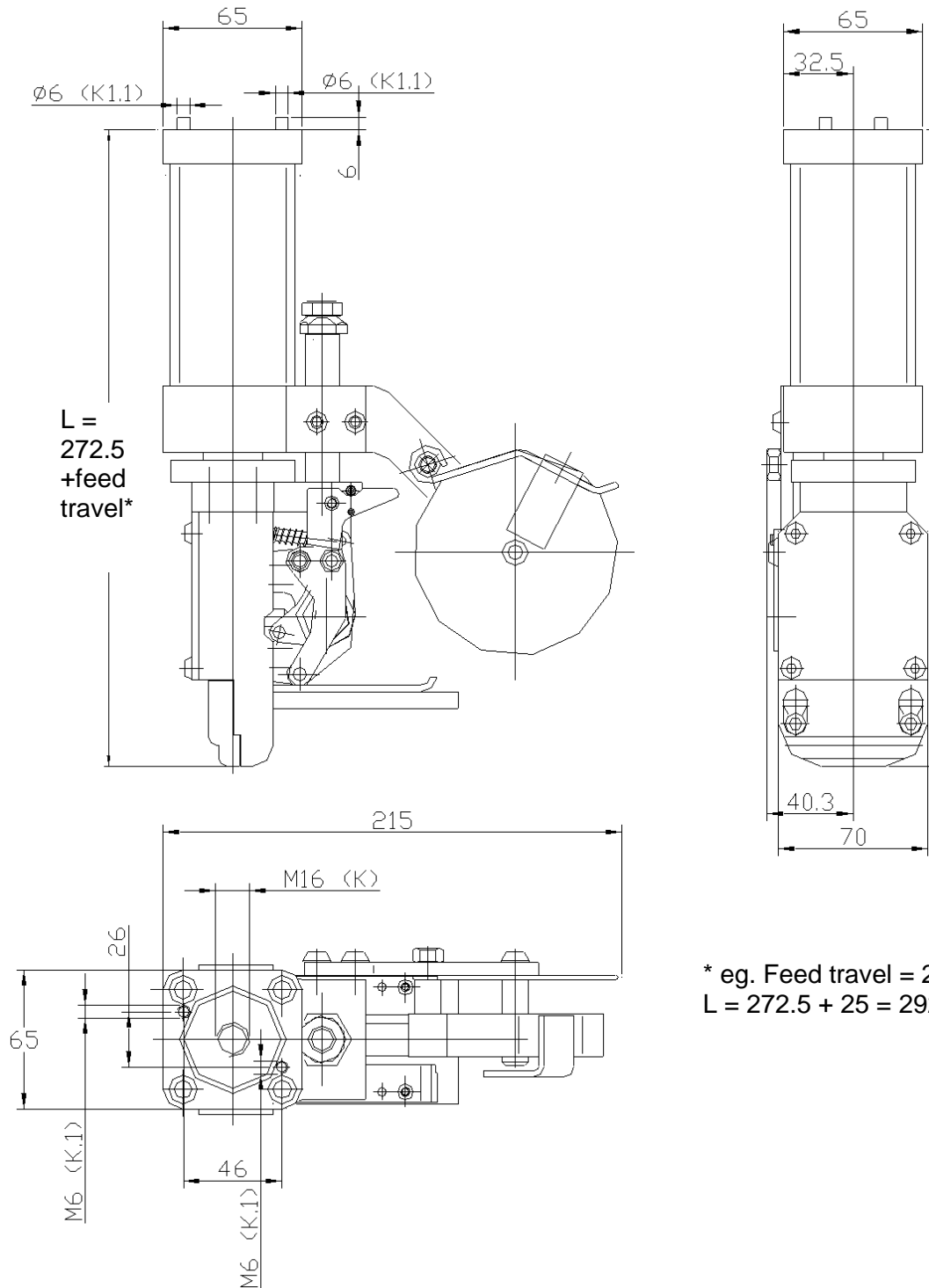
\* Eg. Feed travel = 40mm  
 L = 288.5 + 40 = 328,5mm



**15.2 Stapling head C13 illustration**

Intended fastening possibilities of the stapling head:

With the help of an eg. M 16 thread bolt "K" and the 2 threaded pins "K1.1" for twist protection



\* eg. Feed travel = 25mm  
 $L = 272.5 + 25 = 292,5\text{mm}$