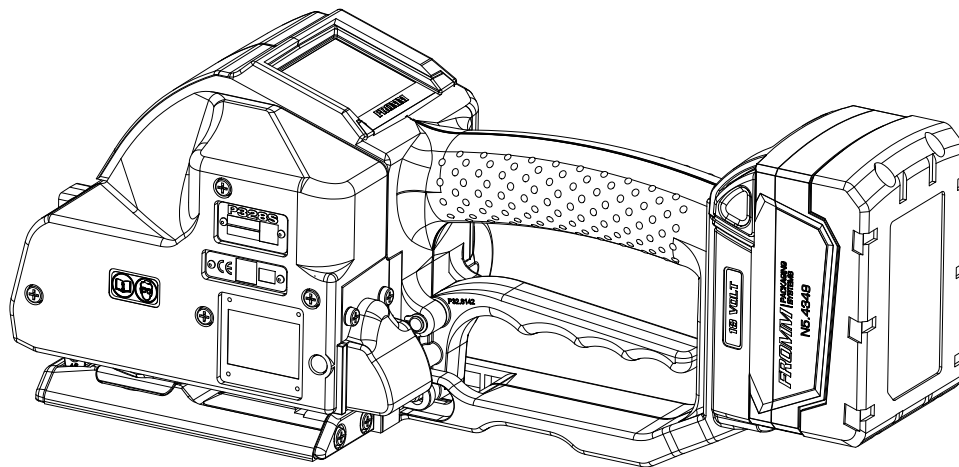


**FROMM** | STRAPPING  
SOLUTIONS

OPERATION MANUAL

**BATTERY - POWERED  
PLASTIC STRAPPING TOOL  
MODEL P328S**



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# 1 General

This operation manual is valid for the plastic strapping tools P328S.

## Manufacturer:

FROMM Holding AG  
Hinterbergstrasse 26  
CH-6312 Steinhausen  
www.fromm-pack.com

## 2 Safety

### 2.1 Keeping and reading of operation manual

 <b>WARNING</b>	
	<b>Read all safety warnings, instructions, illustrations and specifications.</b> Failure to follow the warnings and instructions may result in serious injury.

The operation manual belongs to the tool and must be at the disposal of every user of the tool. Keep the operation manual for further use.

### 2.2 Intended use








The tool has been designed to strap packages with plastic strapping (→ See 3 Technical data) exclusively. Another use or an use beyond that is considered as not intended. For damages resulting from that FROMM Holding AG is not liable.

To intended use also belongs:

- Following of all notes from the operation manual.
- The observance of the local laws and regulations.
- The observance of the inspection and maintenance work.

### 2.3 Key to the symbols

Symbols and signal words which are used in this operation manual or on the strapping tool:

	<b>WARNING</b> Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	<b>CAUTION</b> Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury.
	<b>NOTICE</b> Warning about material and environment damages.
	Denotes application tips and other useful information.
	Observe operation manual!
	Wear protective gloves!
	Wear eye protection!



Wear ear protection!



Wear safety shoes!



CE-label



WEEE symbol



RoHS symbol



Recycling symbol

## 2.4 General power tool safety warnings



**WARNING** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/ or serious injury.

**Save all warnings and instructions for future reference.**

The term "power tool" in the warnings refers to your mainsoperated (corded) power tool or battery-operated (cordless) power tool.

### 2.4.1 Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2.4.2 Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce the risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

### 2.4.3 Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

### 2.4.4 Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

### 2.4.5 Battery tool use and care

- a) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b) **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.

- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- e) **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C (265 °F) may cause explosion.
- g) **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

#### 2.4.6 Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- b) **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

## 2.5 Safety rules for strapping tools

### 2.5.1 Personal protective equipment

**Wear protective gloves, safety shoes and always safety glasses.**

Cascading objects, sharp edges and spring back straps can cause severe injuries.

### 2.5.2 Work area safety

**Never use the tool in an unfavourable working position. Keep work area clean and well lit.**

Abnormal body posture, clutter or bad visibility in the working area is causing danger of accident.

**Do not operate strapping tools in explosive atmospheres.** Flammable liquids, gases or dust could be ignited and lead to explosion or fire.

**Only dispense strap from a dispenser specifically designed for strap. Tuck strap end back into dispenser when not in use.** Packaging straps lying around are causing hazards of slipping, tripping and falling.

### 2.5.3 Operation

**Tool must not be used by persons not properly trained in their use. Before tensioning strap, read and understand the tool operating instructions.** The disregard of this regulation can cause breakage of strap and implicate severe inquiry.

**During tensioning of the strap there must not be any hands or body parts between strap loop and strapped object.**

**Make sure that no other persons are present in the area endangered by tensioning the strap.**

When tensioning the strap around a strapping object there is hazard of injury due to pinching, cutting and shearing.

#### 2.5.4 Strap breakage hazard

Use the correct strap quality, strap width, strap gauge and strap tensile strength recommended in this manual for your tool.

If the load corners are sharp, use edge protectors.

Place the strap correctly around a properly positioned load.

Choose your operation position always outside the zone which is specially endangered by spring back straps.

It is also in your responsibility to take care that no other persons are in the area of the endangered zone.

Improper operation of the tool, excessive tensioning, using strap not recommended for this tool or sharp corners on the load can result in a sudden loss of strap tension or in strap breakage during tensioning, which could result in the following:

A sudden loss of balance causing you to fall.

Injury due to spring back strap and due to falling down objects.

#### 2.5.5 Danger from deficient sealing

You are fully responsible to review the joints made by your tool. Become familiar with the seal control and the adjustment possibilities of the tool described in this operation manual.

Never handle or ship any load with improperly formed joints.

Malformed joints may not secure the load and could cause serious injury.

#### 2.5.6 Misuse of the strapping

Never use strap as a means of pulling or lifting loads.

Failure to follow these warnings can result in severe personal injury.

#### 2.5.7 Cutting tensioned strap

When cutting strapping, use the proper strapping cutter.

Keep other personnel and yourself at a safe distance from the strap.

Hazard due to spring back strap and due to falling down objects. Especially at risk is the zone in which the cut strap end springs back.

#### 2.5.8 Tool maintenance

Executing maintenance work is allowed for qualified personnel only.

Check tool regularly for broken or worn parts.

Do not operate a tool with broken or worn parts.

Use only genuine accessories and genuine parts.

Never modify any tool.

This will ensure that the safety of the tool is maintained.

#### 2.5.9 Environment protection

Do not dispose of used tools and batteries in the household refuse, water or by burning them.

For disposal of the tools and batteries the local laws and prescriptions must be observed.

### 3 Technical data

#### Description of the tool

The tool model P328S has been designed to strap packages with plastic strapping. The plastic strapping is fed around the package manually or in combination with a strap feeder. The straps are inserted in the tool, tensioned, sealed by friction welding and separated from the strap coil.

#### Tool size with battery

Dimension	with battery N5.4349	with battery N5.4353
Length	351 mm / 13.8"	367 mm / 14.4"
Width	134 mm / 5.3"	134 mm / 5.3"
Height	143 mm / 5.6"	160 mm / 6.3"

#### Weight

with battery N5.4349: 4.3 kg / 9.6 lbs

with battery N5.4353: 4.7 kg / 10.4 lbs

#### Noise information

The A-weighted emission sound pressure level at the work place of the machine operator is typical 79 dB(A).

This value was determined according to EN ISO 11204.

Uncertainty K: 2.5 dB

Hearing protection is recommended.

#### Vibration information

The vibration total value typically amounts to less than 2.5 m/s<sup>2</sup>.

This value was determined according to DIN EN 60745-1/2-18.

Uncertainty K: 1.5 m/s<sup>2</sup>

The vibration emission level and noise emission values given in this manual has been measured in accordance with a standardized test and may be used to compare one tool with another.

It may be used for a preliminary assessment of vibration exposure.

Depending on the type of packaged goods and the way the tool is used, the actual values may differ from the specified values.

An exact estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool, keep the hands warm, organization of work patterns.


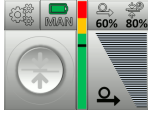
#### Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



## Work menu / Operation mode

The strapping tool can be operated in the work menus CLASSIC or ADVANCED.  
Both work menus each enable manual, semi-automatic, or automatic operation modes.

Operation mode	 <b>CLASSIC work menu</b>	 <b>ADVANCED work menu</b>
Manual	The tool user starts the tensioning and sealing of the strap.	The tool user starts the tensioning and sealing of the strap. The strap speed is variable.
Semi-automatic	The user presses the tension key until the set tension is reached. The sealing starts automatically when the set tension is reached.	The user presses the tension key until the set tension is reached. The strap speed is variable. The sealing starts automatically when the set tension is reached.
Automatic	The user taps the tension key to start the automatic tension and sealing procedures.	The user taps the tension key to start the automatic tension and sealing procedures.

## Strap tension

Strap tension\*: Can be set from 250 - max. 2600 N / 56 - max. 585 lbs.  
The adjustment is made in 5% increments.

Strap speed\*: 49 - 174 mm/s / 1.9 - 6.8 inch/sec.  
The strap speed depends on the strap tension. In the lowest tension this is 49 mm/s (1.9 inch/sec), this increases up to 70% of the tension to 174 mm/s (6.8 inch/sec) and then remains at this level up to the highest setting.

## Strap material

Strap qualities: PET (Polyester) and PP (Polypropylene) plain or embossed.  
The plastic strap must be according to DIN EN 13394.  
**Use only plastic straps recommended by your sales shop (name and address on the rear of the operation manual).**

Strap dimensions: 12.0 - 16.0 mm x 0.40 - 1.05 mm (see chart of types).  
**Use only plastic straps with the correct strap dimensions for your tool.**

## Seal

Type of seal: Friction weld sealing  
Strength of seal\*: approx. 75% of the tensile strength of the plastic strap.

\* The value depends on the strap quality.

## Working temperature

The ambient temperature should be between -15° and 45 °C (5° and 113 °F).  
The best performance is achieved between 15° and 20 °C (59° and 68 °F).

## Data transmission for tools with activated remote module

Signal reach up to approx. 30 m.  
The mobile terminal equipment must have Bluetooth® 4.2 low-energy or higher.  
Depending on the external requirements, including the receiver, this reach can vary strongly. Inside closed rooms and behind metal barriers (such as walls, shelves, suitcases, etc.), the reception distance can be considerably shorter.

Bluetooth® is a registered trade mark and property of Bluetooth SIG, Inc.

## 4 Accessories

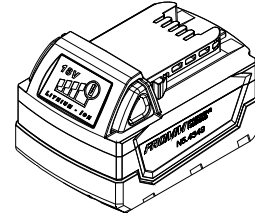
### ! WARNING

The use of unsuitable spare parts or accessories can cause damages and personal injuries.

⇒ Use only parts and accessories mentioned in the operation manual.

### 4.1 Battery

The battery is not automatically supplied with the tool. The battery has to be ordered separately under the following item number.



Item-No.	Battery	Voltage	Capacity
N5.4349 N5.4355 (Only for Japan)	Li-Ion	18 VDC	5.0 Ah
N5.4353*	Li-Ion	18 VDC	9.0 Ah

\* Only available in EU countries.

### 4.2 Battery - chargers

The charger must be ordered separately according to below shown table.

Item-No.	Voltage / frequency	Admitted for country
N5.4443	100-240 V / 50-60 Hz	A, B, BG, BIH, BOL, BR, BY, CH, CL, CZ, D, DK, DZ, E, EAS, EST, ET, F, FIN, GE, GR, H, HK, HR, I, IL, IND, IR, IRQ, IS, JOR, KSA, KWT, L, LAR, LT, LV, MA, MC, MK, MOC, N, NL, P, PK, PE, PL, PRC, PY, RA, RCH, RI, RL, RO, ROK, ROU, RP, RUS, S, SK, SLO, SYR, THA, TN, TR, UA, (UAE), YU, YV, (BRN), (BRU), (CY), (EAK), (EAT), (GB), (IRL), (M), (MAL), (OM), (SGP), (Y), (Z), (ZA), (ZW)
N5.4468**	220-240 V / 50-60 Hz	
N5.4447**	120 V / 50-60 Hz	BR, C, CDN, CO, CR, DOM, EC, GCA, JA, KSA, LB, MEX, NIC, PA, Puerto Rico, RC, RP, USA, YV
N5.4445	220-240 V / 50-60 Hz	AUS, NZ
N5.4469**	100 V / 50-60 Hz	J

\*\*Quick charger

(..) = an adaptor N52.2102 is required.

### Charging times

Item-No.	Battery	Capacity	Standard charger	Quick charger
N5.4349	Li-Ion	5.0 Ah	approx. 100 min	approx. 59 min
N5.4353	Li-Ion	9.0 Ah	approx. 180 min*	approx. 90 min

\*Older models were not equipped for a capacity of 9 Ah. They have a time limitation of 90 minutes. This means that if the battery is not completely loaded after 90 minutes, the charger will be set to malfunction, and both LEDs will blink alternatively. To completely load the 9 Ah, disconnect the battery from the charger and insert it again. This continues the charging.

### 4.3 FROMM Tool app for tools with activated remote module

With the FROMM tool app, the tool status can be displayed on a smart phone. This can also manage the strap database and transmit any firmware updates to the tool.

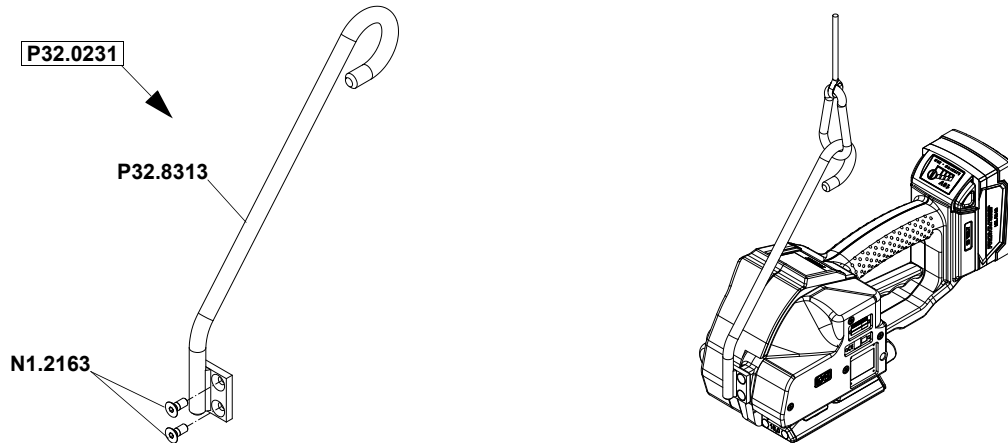
The FROMM tool app can be downloaded from the App Store / Google Play Store.

## 4.4 Fan

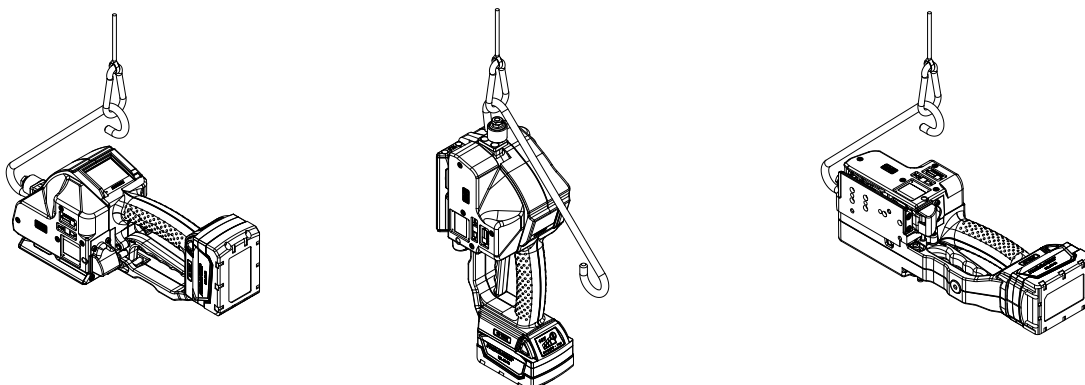
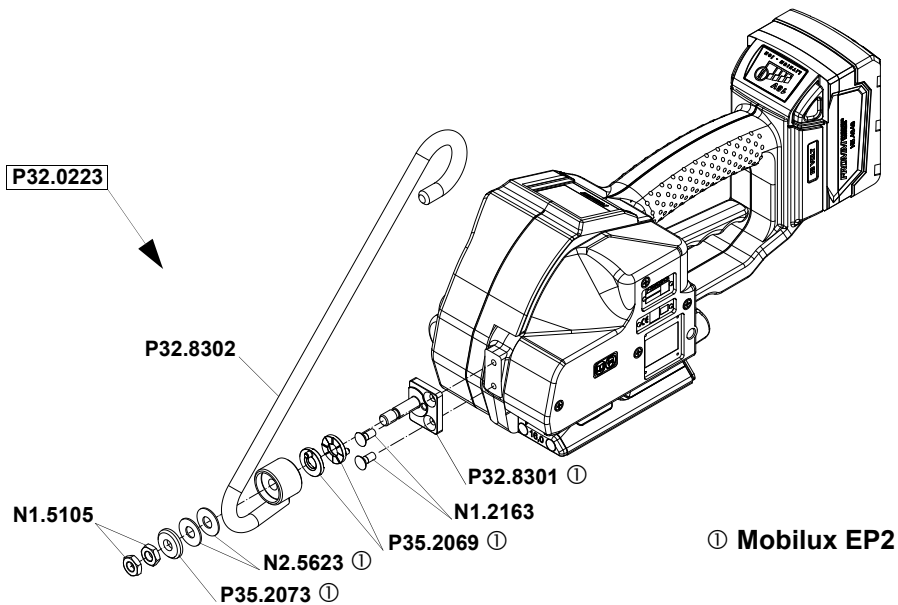
In order to avoid overheating of the motor we recommend at environmental temperatures above 40°C / 104°F using the optional fan P32.0228.

## 4.5 Suspension

When working stationary the P328S can be suspended at a spring loaded balancer by using a suspension bracket. For working in normal position a stiff suspension bracket with screws and washers can be ordered under item number P32.0231.



With the swivel mounted suspension bracket the package can be strapped in various working positions. The complete suspension bracket can be ordered under item number P32.0223.



**4.6 Wearing plate**

As an option, the tool can be equipped with a wearing plate to protect the base from excessive wear on abrasive package surfaces.

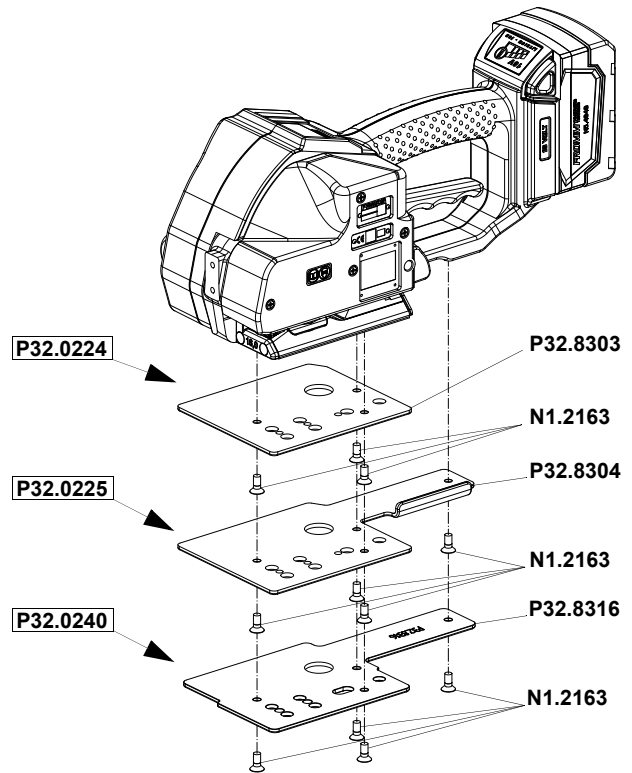
The complete wearing plate can be ordered together with the fastening screws under item number P32.0224.

If the complete bottom side of the tool has to be protected, the plate P32.0225 must be used.

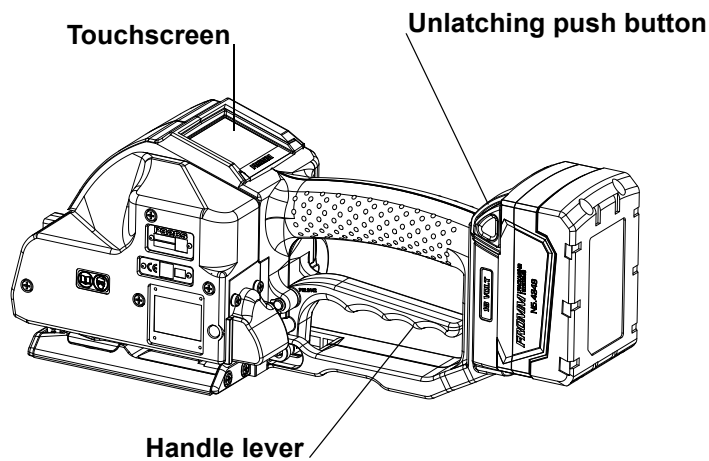
**4.7 Protection plate (plastic)**

For using the P328S on packages with sensitive surface there can a plastic protection plate be mounted for protecting the package.

The complete protection plate can be ordered together with the fastening screws under item number P32.0240.



**5 Operating elements**



## 6 Battery

### ⚠ WARNING

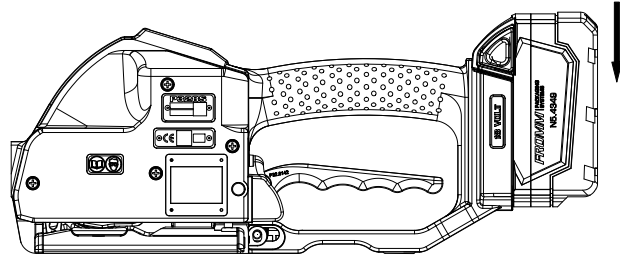
The use of unsuitable batteries and chargers as well as the improper use of them can cause fires, explosions, and serious injuries.

- ⇒ Only use the batteries and chargers indicated in this operating manual.
- ⇒ The separate operating manual for the battery and charger must be observed.

The batteries are supplied partially charged.  
Before the first use, the battery must be completely charged.

### Inserting the battery

- Insert the battery from top to bottom into the tool until both unlatching push buttons are engaged.  
- The touchscreen is activated, the tool is operational.



### Removing the empty battery


The battery charge is displayed in the touchscreen.



= Battery full



= Battery empty

If the symbol  appears in the touchscreen, the battery capacity is empty.  
The battery must be recharged.

- Push the unlatching push buttons at both sides of the battery.
- Pull the battery out of the tool.

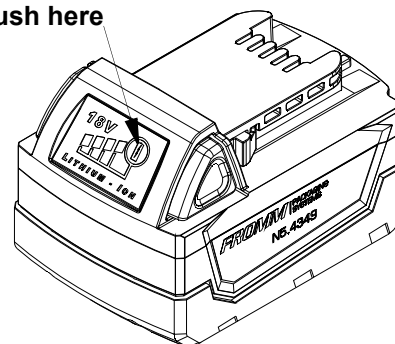
### Display of the battery charge status on the battery

By pressing a button the status of the battery can be shown in four steps.

If four lamps are lighting the battery is full.

If only one lamp is lighting shortly the battery has to be charged.

Push here





## 7 Settings

The strapping tool is equipped with a touchscreen. Active areas on the touchscreen with a function are described as “keys”. The keys start functions or open menus. The keys are activated by tapping or pressing. Grey symbols are currently not active.

To prevent undesired changes to the settings, access to the adjustment menu can be blocked.

→ See 7.5 Activate/Deactivate the Key Block

### 7.1 Adjustment menu

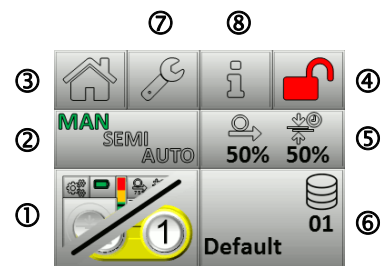
- In the work menu, tap  to open the adjustment menu.
- When the key block is activated:
  - Enter user PIN **37666** and confirm with .
  - After 4 seconds without an entry, return to the work menu.

#### ① Shift key for work menu

- The active work menu is highlighted optically.
- Tap to switch between the menus ADVANCED and CLASSIC.

#### ② Shift key for operation mode

- The active operation mode is displayed in green.
- Tap to switch between the operation modes.



There are three possible operation modes:

MAN - Manual  
SEMI - Semi-automatic  
AUTO - Automatic

#### ③ Home -Key

- Tap to change to the work menu.

#### ④ Shift key for key block

The current status of the key block is displayed.

→ See 7.5 Activate/Deactivate the Key Block

#### ⑤ Strap tension and welding time setting

The current set tension and welding time is displayed.

→ See 7.2 Set Strap Tension and Welding Time

#### ⑥ Strap database key

The active dataset is displayed.

- Tap to open the strap database menu.

→ See 7.4 Strap Database

#### ⑦ Service menu

- Tap to open the service menu.
- Only for service access only with service PIN.

#### ⑧ Info key

- Tap to open the information menu.
  - Information on the status of the tool is displayed.
  - Writing system and units can be chosen.


If a warning appears when the adjustment menu is opened, instead of the information symbol, the warning

symbol  is displayed.

- Tap to open the information menu.

→ See 7.6 Information Menu

## 7.2 Set Strap Tension and Welding Time

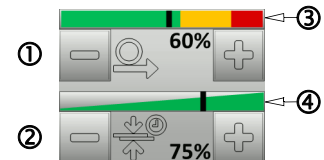
- In the adjustment menu, tap  to open the menu for the strap tension and welding time setting.
  - Or when the **key block is disabled** in the work menu:  
Tap the strap tension and welding time key to open the menu for the strap tension and welding time setting
- After 4 seconds without an entry - save and return to the work menu.

### ① Strap tension setting

- This displays the tension in relation to the maximum tension in %.
- Tap the keys - / + to change the values in increments of 5%.

### ② Welding time setting

- This displays the welding time in relation to the maximum tension welding time in %.
- Tap the keys - / + to change the values in increments of 5%.



### ③ Tension bar

→ See 7.3 Tension Bar

### ④ Welding time bar

The black line indicates the currently set welding time.

- 👉 The new setting can be saved in the strap database as a user-defined dataset.
- See 7.4 Strap Database

## 7.3 Tension Bar

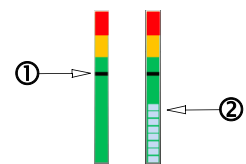
- ① The black line indicates the set tension, when this is reached, the tension procedure stops.
- ② The segments indicate the current tension in increments of 5%.

### Tension bar color definitions bar for straps with FROMM part numbers

Green - Ideal tension range, optimal energy efficiency with optimal residual tension.

Yellow - Higher tension, without increasing the residual tension.

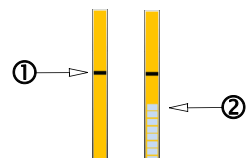
Red - Tension exceeds the recommended tension range, danger of injury from excessive tension force.



### Tension bar color definitions bar for straps without part numbers

Yellow - The tension bar is yellow.

No data are saved for plastic straps without a FROMM part number.  
Danger of injury from excessive tension force.



→ See 7.4 Strap Database

## 7.4 Strap Database

To open the strap database, press the strap database key in the adjustment menu.

The strap database stores the data for various plastic straps.

The user can save user-defined data sets.

### 20 data sets are possible:

Data set 01: no strap assigned, T:50% (tension)/ W:50% (welding time) are defined.

Data sets 02-10: FROMM standard straps

Data sets 11-20: User-defined data sets

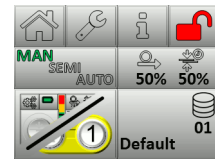
The data sets 01-10 cannot be overwritten or deleted.

The active data set is displayed on the strap database key.

When delivered, last data set used in the outgoing inspection is active.

The data set 01 (default) is displayed.

- Tap to open the strap database menu.



### 7.4.1 Select data set

#### ① Key settings

- Tap - return to the adjustment menu.

#### ② Shift key mm/inch

The active setting is displayed in green.

- Tap - change between metric and inch systems.

#### ③ Save key / Delete key

The save key or delete key is only displayed when the corresponding function is active.

→ See 7.4.2 Save Data Set / 7.4.3 Delete Data Set

#### ④ OK key

The OK key only appears when this function is active.

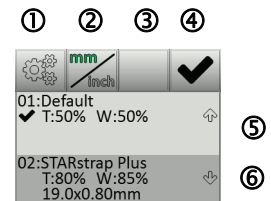
- Tap - activate the highlighted data set.
- After 2 seconds, return to the adjustment menu.

#### ⑤ Selection key

- Tap - change to previous data set.

#### ⑥ Selection key

- Tap - change to next data set.



### The selection keys show:

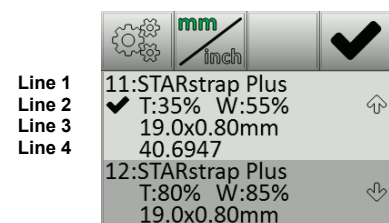
Line 1: Data set no. / strap name

Line 2: ✓ (data set active) / T:35% (tension) / W:55% (welding time)

Line 3: Strap dimensions (width x thickness)

Line 4: FROMM part number

Lines 5-7: Preview of the next data set

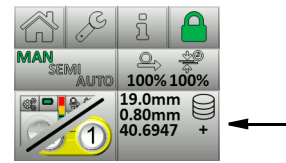





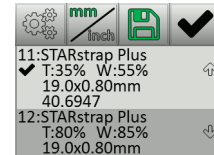
### 7.4.2 Save Data Set

If the tension setting or welding time for the active dataset is changed, the strap database button under the database symbol will display a + character.

This setting can be saved as a user-defined data set under the data set numbers 11-20.




- Tap the strap database to open the strap database menu.
- Select an empty or an existing data set.
- Tap the save key .
  - The new setting is saved to the data set and the data set is activated.
  - After 2 seconds, return to the adjustment menu.



☞ With the OK key you can, without saving the changed setting, activate the active dataset with the original setting or activate a different data set.

### 7.4.3 Delete Data Set



User-defined data sets can be deleted when they are not marked as an active data set (✓).



- Tap the strap database to open the strap database menu.
- Select the data set to be deleted. The delete key is only displayed for user-defined data sets.
- Tap the delete key .
  - The highlighted data set is deleted.





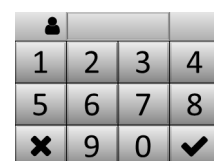
## 7.5 Activate/Deactivate the Key Block

The current status of the key block is displayed in the adjustment menu.

- In the adjustment menu, tap  or .
  - The control switches to the PIN request.
- Enter user PIN **37666** and confirm with ✓.

The key block is activated  or deactivated .  
 - After 4 seconds without an entry, return to the adjustment menu.

 = Key block active  
 = Key block deactivate

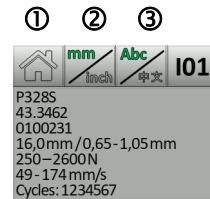


## 7.6 Information Menu

The Information menu shows information on the status of the tool.  
Writing system and units can be chosen.

### Display I01:

Line 1: Model description  
Line 2: Part number  
Line 3: Serial number  
(the first two numbers of the serial number are the version number)  
Line 4: Strap dimensions (width x thickness)  
Line 5: Tension range  
Line 6: Tension speed  
Line 7: Number of strapping cycles (if activated).



### ① Home -Key

- Tap to change to the work menu.

### ② Shift key mm/inch

The active setting is displayed in green.


- Tap - change between metric and inch systems.

### ③ Shift key Abc/ 中文

The active setting is displayed in green.

- Tap - change between alphabetical and Chinese writing system.

## 7.7 Request Maintenance

If 75,000 strapping cycles is reached since the last maintenance, when the battery is inserted, the warning symbol  appears on the touchscreen.

- Tap to open the information menu

### Display I10:

<5000 strapping cycles left until maintenance.

If 80,000 cycles is exceeded since the initialization or the last maintenance, the following is displayed:

Limit 80 000 / now: "Number of strapping cycles since the last maintenance."



### NOTICE

**Non-adherence to the maintenance intervals can lead to massive malfunctions and damage to the tool.** ⇒ After 80 000 strapping cycles, the sleeve hub on the motor shaft must be replaced.

## 7.8 Energy Saving Mode (Standby Operation)

After about 3 minutes without activity, the controller switches to the energy saving mode.  
The touchscreen switches off.

- Press the lever.
  - The tool is operational

## 7.9 Work Menus and Operation Modes

### 7.9.1 CLASSIC Work Menu, MAN Operation Mode (Manual)

#### ① Tension Key

- Press the tension key until the desired tension is reached.

☞ The tension can be interrupted by releasing the tension key and started again.

#### ② Welding key

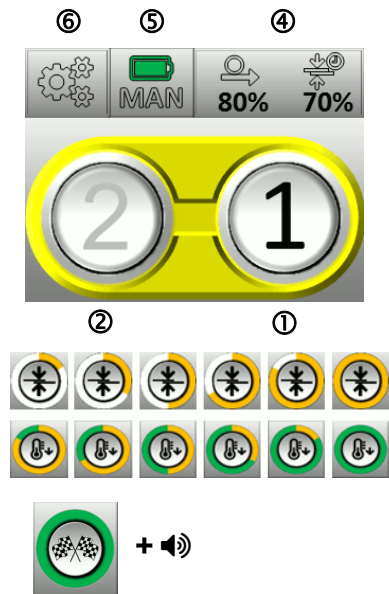
- Tap the welding key.
  - The plastic material strap is welded and simultaneously removed from the remaining strap material.

#### Welding time, cooling-down time

When the set welding time is finished, the cooling-down time starts.

The following appears:

- A yellow 6-step segment display shows the welding time in a clockwise direction.
- A green 6-step segment display shows the cooling time counter-clockwise.
- When the cooling time is finished, a flag appears and a tone indicate the end of the cycle.



#### ☞ STRAP CONNECT- function:

Tap the welding key twice within 0.5 seconds to activate the welding key. This starts welding without setting the tension first.



#### ④ Strap tension and welding time setting

Shows the current set tension and welding time.

→ See 7.2 Set Strap Tension and Welding Time

☞ If, when the battery is inserted, there is a warning, the caution symbol will appear for 10 seconds on the ④ key. Work can be continued.

Tap to open the Information menu - the warning is displayed.

→ See 7.6 Information Menu



#### ⑤ Display of the battery charge / operation mode

The battery charge is shown in increments of 25% and the active operation mode is displayed.

#### ⑥ Selection key

- Tap to open the adjustment menu.

→ See 7.1 Adjustment menu

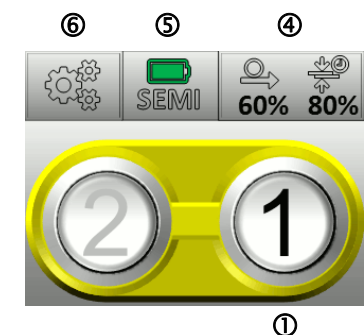
### 7.9.2 CLASSIC Work Menu, SEMI Operation Mode (semi-automatic)

#### ① Tension Key

- Pres the tension button until the set tension is reached.
  - Once the set tension is reached, the welding process starts automatically.

☞ The tension can be interrupted by releasing the tension key and started again.

- When the welding starts, release the tension key.
  - The plastic material strap is welded and simultaneously removed from the remaining strap material.



Welding time, cooling-down time → See 7.9.1

④⑤⑥ → See 7.9.1

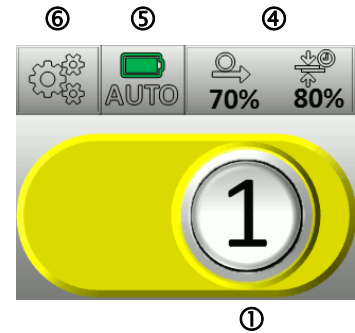
7.9.3 CLASSIC Work Menu, AUTO Operation Mode (automatic)

① Tension Key

👉 Reduce Risks / Prevent Improper Strapping

The tension can be interrupted by tapping the tension key again or by lifting up the lever.

- Tap the tension key.
  - Strapping is tightened until the set tension is reached.
  - Once the set tension is reached, the welding process starts automatically.
  - The plastic material strap is welded and simultaneously removed from the remaining strap material.



Welding time, cooling-down time → See 7.9.1

④⑤⑥ → See 7.9.1

7.9.4 ADVANCED Work Menu, MAN Operation Mode (Manual)

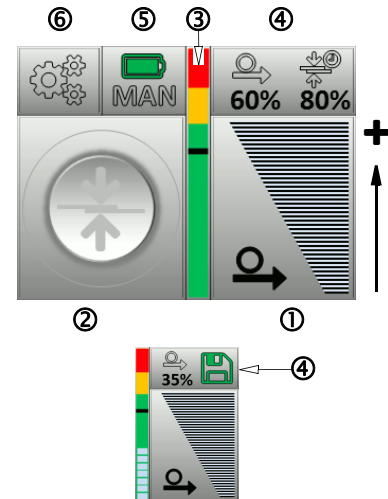
① Tension Key

- Press the tension button until the desired tension is reached.

👉 Adjustable strap speed:

- Up - faster (+)
- Down - slower

👉 The tension can be interrupted by releasing the tension key and started again.



👉 If, when the key block is deactivated, the tension setting is cancelled before the set tension is reached, the ④ key for the tension and welding time will display a green save symbol. This can be used to save the current tension as the new tension limit. If the welding key is pressed without saving, the old value will remain valid.

② Welding key

- Tap the welding key.
  - The plastic material strap is welded and simultaneously removed from the remaining strap material.

Welding time, cooling-down time → See 7.9.1

👉 STRAP CONNECT- function:

Tap the welding key twice within 0.5 seconds to activate the welding key. This starts welding without setting the tension first.



③ Tension Bar

→ See 7.3 Tension Bar

④⑤⑥ → See 7.9.1

**7.9.5 ADVANCED Work Menu, SEMI Operation Mode (semi-automatic)**

① **Tension Key**

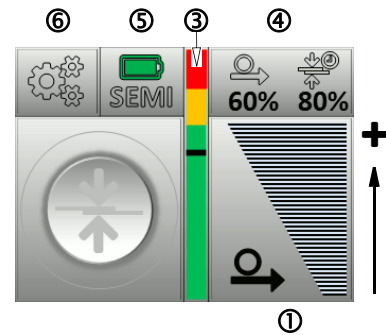
- Pres the tension button until the set tension is reached.
- Once the set tension is reached, the welding process starts automatically.

👉 **Adjustable strap speed:**

- Up - faster (+)
- Down - slower

- 👉 The tension can be interrupted by releasing the tension key and started again.

- When the welding starts, release the tension key.
- The plastic material strap is welded and simultaneously removed from the remaining strap material.



**Welding time, cooling-down time** → See 7.9.1

③ **Tension Bar**

→ See 7.3 Tension Bar

④⑤⑥ → See 7.9.1

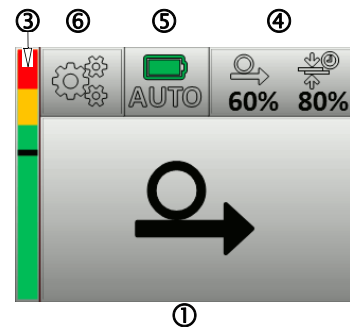
**7.9.6 ADVANCED Work Menu, AUTO Operation Mode (automatic)**

① **Tension Key**

👉 **Reduce Risks / Prevent Improper Strapping**

The tension can be interrupted by tapping the tension key again or by lifting up the lever.

- Tap the tension key.
- Strapping is tightened until the set tension is reached.
- Once the set tension is reached, the welding process starts automatically.
- The plastic material strap is welded and simultaneously removed from the remaining strap material.



**Welding time, cooling-down time** → See 7.9.1

③ **Tension Bar**

→ See 7.3 Tension Bar

④⑤⑥ → See 7.9.1

## 8 Strapping

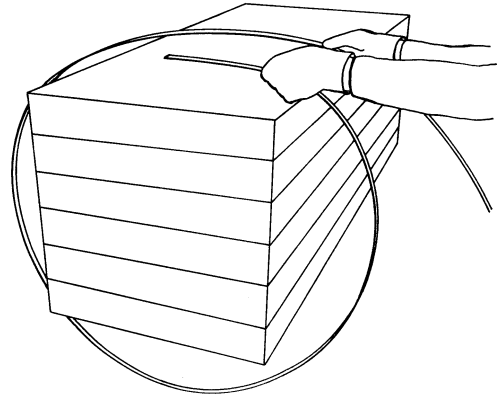
The following sections describe a strapping procedure in the manual operation mode (CLASSIC work menu).  
→ See 7.9.1 CLASSIC Work Menu, MAN Operation Mode (Manual)

### 8.1 Feeding the strap around the package

- The strapping is fed around the package as illustrated.

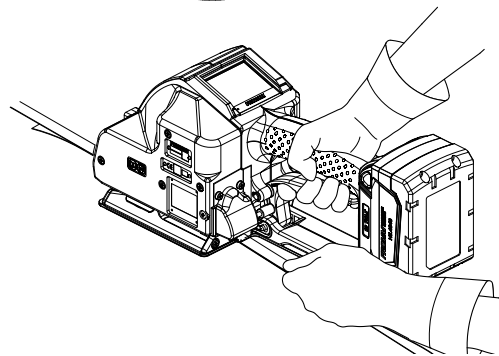
☞ **The plastic strap which will be welded must be free from oil, grease and other dirt.**

Dirty plastic straps can't be welded correct!



### 8.2 Inserting the strap

- Pull up the handle lever firmly with your right hand.
- Insert the two straps well aligned on each other into the strap guide using your left hand.  
The lower strap end must slightly protrude the end of the base plate.
- Release the handle lever.



### 8.3 Tensioning the strap

#### NOTICE

**Tensioning and welding of an already welded strapping can cause massive disorders and damages of the tool.** ⇒ After welding and cooling the tool has to be removed from the strapping before a new strapping cycle is started.

#### ⚠ WARNING

**Hazard of injury due to spring back strap and falling down objects.** ⇒ Do not adjust the tensioning force too high. If the tension force is adjusted to high, the strap will break during tensioning.

**Hazard of injury due to pinching, cutting and shearing.**

⇒ During tensioning of the strap there must not be any hands or body parts between strap loop and strapped object. ⇒ Make sure that no other persons are present in the area endangered by tensioning the strap.

- Press the tension key ① until the desired tension is reached.

→ See 7.2 Set Strap Tension and Welding Time

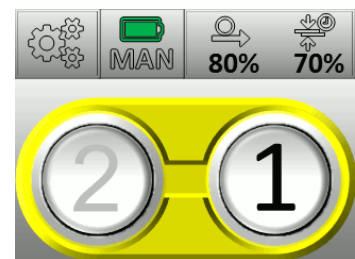
☞ The tension can be interrupted by releasing the tension key and started again.

☞ After automatic cut off of the tensioning force it can be tensioned again not before 5 seconds.

☞ **Only for the automatic operation mode:**

**Reduce Risks / Prevent Improper Strapping**

The tension can be interrupted by tapping the tension key again or by lifting up the lever.

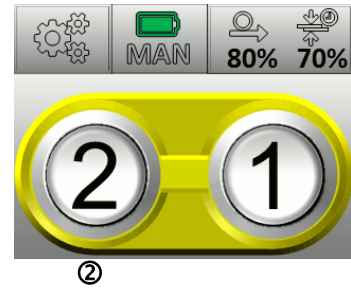


①

### 8.4 Sealing the straps

- Tap the welding key ②.
- The plastic material strap is welded and simultaneously removed from the remaining strap material.

→ See 7.2 Set Strap Tension and Welding Time



#### STRAP CONNECT- function:

Tap the welding key twice within 0.5 seconds to activate the welding key. This starts welding without setting the tension first.

- When the set welding time is finished, the cooling-down time starts.

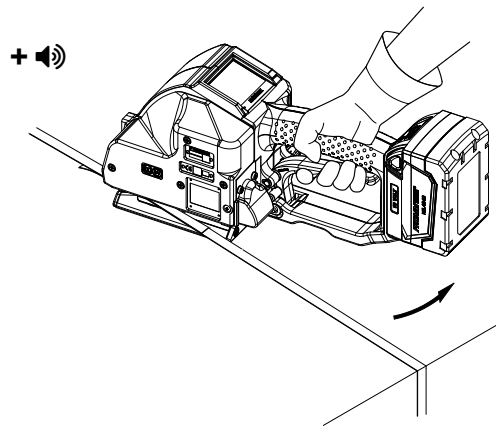
**WARNING**

**Hazard of injury due to spring back strap and falling down objects due to insufficient seal efficiency.**

⇒ The tool must not be removed from the strap as long as the cooling time is not finished.

### 8.5 Removing the tool

- When the cooling time is finished, a flag appears and a tone indicate the end of the cycle.
- Pull up the handle lever,
- pull the tool right and off the strapping.



### 8.6 Seal - Control

A regular control of the seal is necessary. The seal can be examined visually.



#### Correct seal

The seal must be completely welded over the whole width of the strap on a length of approx. 19 mm. Minor quantities of fused plastic may overflow on sides.



#### Welding time too short

The plastic strap is not welded over the whole width of the strap. The seal efficiency is insufficient. Warning! Straps with insufficient seal strength must be removed from the package! Adjust the welding time (see 7.2).



#### Welding time too long

If the welding time is too long the straps are overheated. The fused plastic overflows on both sides of the straps. The seal efficiency is affected. Warning! Straps with insufficient seal strength must be removed from the package! Adjust the welding time (see 7.2).

## 9 Chart of types

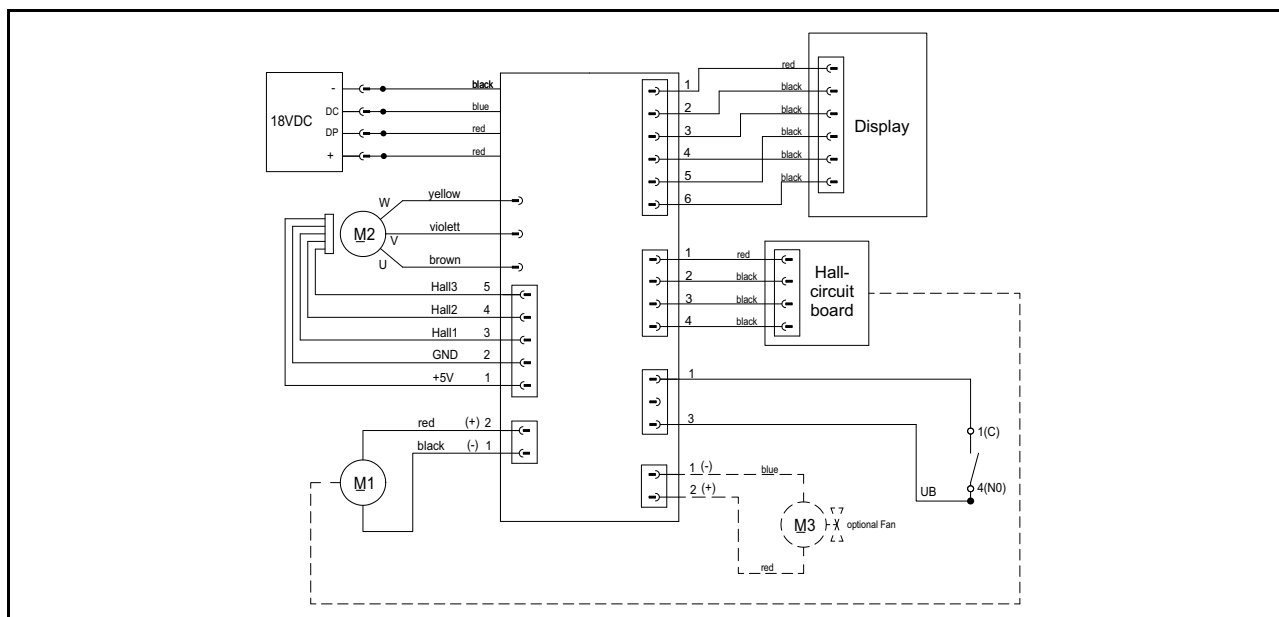
### P328S

Item No.	Model	Strap width	Strap thickness
43.2822	P328S/12/0.65-1.05	12.0 mm	0.65-1.05 mm / .026 - .041"
43.2823	P328S/12.7/0.40-0.64	12.7 mm / 1/2"	0.40-0.64 mm / .016 - .025"
43.2824	P328S/12.7/0.65-1.05	12.7 mm / 1/2"	0.65-1.05 mm / .026 - .041"
43.2832	P328S/13/0.65-1.05	13.0 mm	0.65-1.05 mm / .026 - .041"
43.2853	P328S/15.5/0.40-0.64	15.5 mm	0.40-0.64 mm / .016 - .025"
43.2854	P328S/15.5/0.65-1.05	15.5 mm	0.65-1.05 mm / .026 - .041"
43.2861	P328S/16/0.40-0.64	16.0 mm / 5/8"	0.40-0.64 mm / .016 - .025"
43.2862	P328S/16/0.65-1.05	16.0 mm / 5/8"	0.65-1.05 mm / .026 - .041"

### P328S with activated remote module

Item No.	Model	Strap width	Strap thickness
43.3422	P328S/12/0.65-1.05/W	12.0 mm	0.65-1.05 mm / .026 - .041"
43.3423	P328S/12.7/0.40-0.64/W	12.7 mm / 1/2"	0.40-0.64 mm / .016 - .025"
43.3424	P328S/12.7/0.65-1.05/W	12.7 mm / 1/2"	0.65-1.05 mm / .026 - .041"
43.3432	P328S/13/0.65-1.05/W	13.0 mm	0.65-1.05 mm / .026 - .041"
43.3453	P328S/15.5/0.40-0.64/W	15.5 mm	0.40-0.64 mm / .016 - .025"
43.3454	P328S/15.5/0.65-1.05/W	15.5 mm	0.65-1.05 mm / .026 - .041"
43.3461	P328S/16/0.40-0.64/W	16.0 mm / 5/8"	0.40-0.64 mm / .016 - .025"
43.3462	P328S/16/0.65-1.05/W	16.0 mm / 5/8"	0.65-1.05 mm / .026 - .041"

## 10 Electric schematic ELS.1126





## 11 Exchange of wearing parts

### WARNING

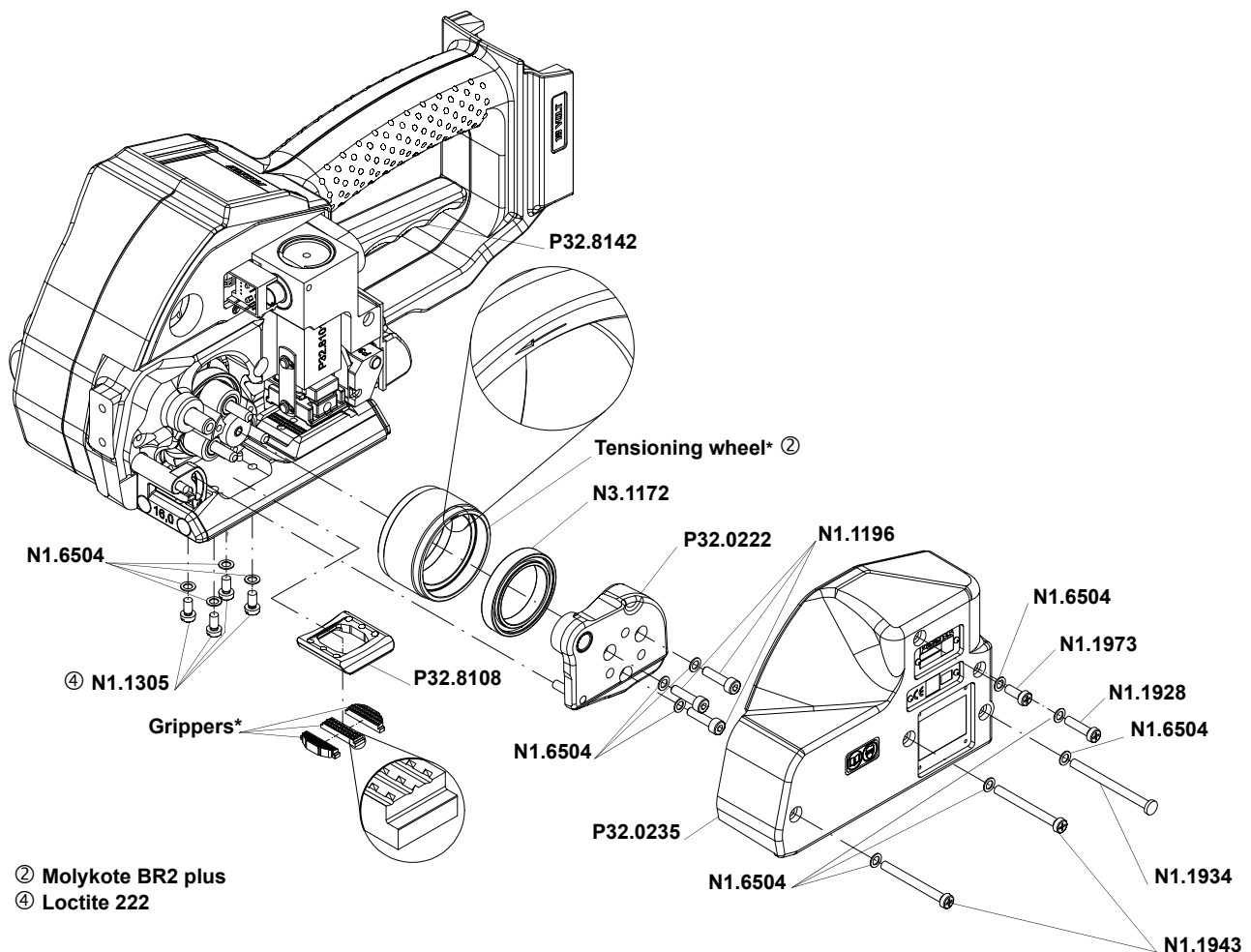
Inadvertent activation of the tool may result in injury.

⇒ Remove always the battery from the tool before starting maintenance works.

### 11.1 Exchange of tensioning wheel and grippers

#### Disassembling

- Unscrew cover P32.0235 and remove it;
- Unscrew end cover P32.0222 and remove it;
- Raise tension wheel by lifting the handle lever P32.8142;
- Remove the tensioning wheel together with the bearing N3.1172 from the tool;
- Unscrew the holder P32.8108 and remove it from the body;
- Remove the grippers from the body.



\* See 11.3 Type dependent wearing parts

Assembling in opposite order.

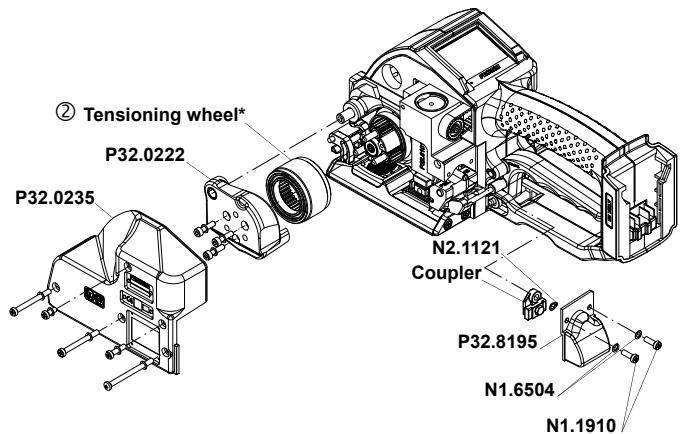
#### Assembly advise:

- Lubricate the internal tothing of the tensioning wheel with Molykote BR2 plus.
- Observe the position of the tensioning wheel. The direction of rotation of the tensioning wheel is marked at the front of the tensioning wheel (see drawing).
- Observe the position of the grippers (see drawing).
- Safe the screws N1.1305 with Loctite 222.

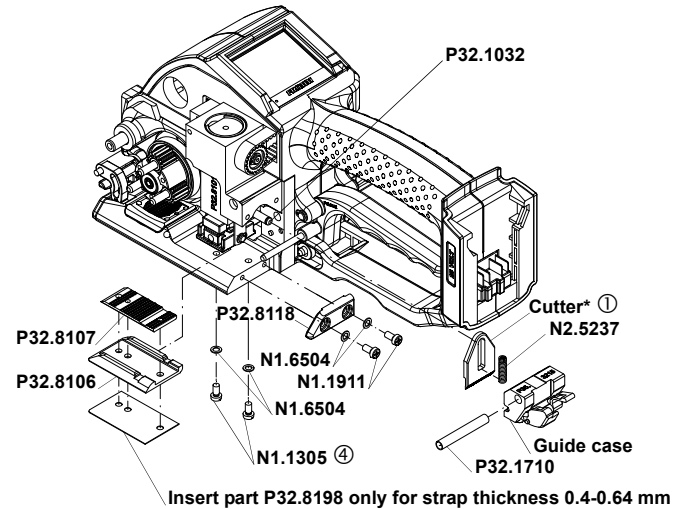
## 11.2 Exchange of cutter, welding stop gripper and welding gripper

### Disassembling

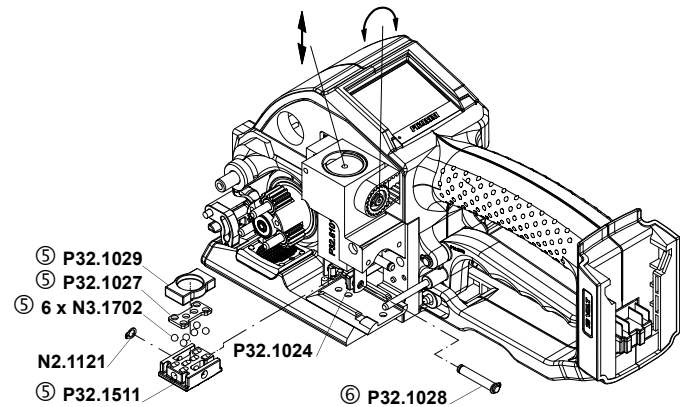
- Unscrew cover P32.0235 and remove it;
- Unscrew end cover P32.0222 and remove it;
- Raise tensioning wheel by lifting the handle lever P32.8142;
- Pull off tensioning wheel together with bearing N3.1172 from the body.
- Remove cover P32.8195;
- **Don't** loosen screw N1.1553 at the coupler.
- Disassemble the security ring N2.1121 from the coupler, remove the coupler;



- Pull out the centering sleeve P32.1710 from the guide case, disassemble the guide case;
- Pull out the pressure spring N2.5237 with a screw driver from the cutter;
- Remove the cutter from the driving pin P32.1032;
- Disassemble strap guide plate P32.8118;
- Disassemble the screws N1.1305, lift slightly the welding stop gripper P32.8107 and the steel insert P32.8106 and remove them from the tool;



- Push the steel insert without welding stop gripper under the welding gripper P32.1511 until it touches the parallel pin N2.2110;
- Turn welding gripper down, in case the welding gripper does not sit on the steel insert, put a piece of plastic strap underneath the steel insert;
- Disassemble the safety ring N2.1121 from the bolt P32.1028, remove the bolt from the welding gripper;
- Turn welding gripper up;
- Remove the thrust piece P32.1029 from the tool;
- Pull out the steel insert with care to right under the welding gripper;
- Lift the rocker P32.1024 behind the welding gripper with a screw driver, remove the welding gripper together with the ball cage P32.1027 and the balls N3.1702 from the tool.



- ① Mobilux EP2
- ② Molykote BR2 plus
- ④ Loctite 222
- ⑤ Klüber Isoflex Alltime SL2
- ⑥ Klüber Isoflex NBU 15

\* See 11.3 Type dependent wearing parts

Assembling in opposite order.

**Assembly advise:**

- During assembling move the strap guide plate P32.8118 downwards against the holding gripper.
- Pay attention to the fitting position of the cutter (see drawing).
- Safe the screws N1.1305 with Loctite 222.
- Lubricate the rocker and the bolt P32.1028 in the area of the welding gripper with Klüber Isoflex NBU 15.
- Lubricate the balls, ball cage and the running surface of the balls on the welding gripper with Klüber Isoflex Alltime SL2.
- Lubricate the cutter and the driver with Mobilux EP2.

**11.3 Type dependent wearing parts**

Tool Item No	Strap width	Strap thickness	Tensioning wheel Item No.	Gripper Item No.	Gripper Item No.	Gripper Item No.	Cutter Item No.
43.2822 43.3422	12.0 mm	0.65-1.05 mm / .026 - .041"	P35.3203	P32.8109	P32.8110	P32.8111	P35.3214
43.2823 43.3423	12.7 mm / 1/2"	0.40-0.64 mm / .016 - .025"	P35.3202	P32.8112	P32.8113	P32.8114	P32.8197
43.2824 43.3424	12.7 mm / 1/2"	0.65-1.05 mm / .026 - .041"	P35.3203	P32.8109	P32.8110	P32.8111	P35.3214
43.2832 43.3432	13.0 mm	0.65-1.05 mm / .026 - .041"	P35.3203	P32.8109	P32.8110	P32.8111	P35.3214
43.2853 43.3453	15.5 mm	0.40-0.64 mm / .016 - .025"	P35.3202	P32.8112	P32.8113	P32.8114	P35.3214
43.2854 43.3454	15.5 mm	0.65-1.05 mm / .026 - .041"	P35.3203	P32.8109	P32.8110	P32.8111	P35.3214
43.2861 43.3461	16.0 mm / 5/8"	0.40-0.64 mm / .016 - .025"	P35.3202	P32.8112	P32.8113	P32.8114	P35.3214
43.2862 43.3462	16.0 mm / 5/8"	0.65-1.05 mm / .026 - .041"	P35.3203	P32.8109	P32.8110	P32.8111	P35.3214

**11.4 Adjustment of the coupler**

The coupler is adjusted in our works.

In case of replacing the seesaw lever, the coupler or the lever body, the coupler has to be readjusted.

Procedure as follows:

The battery is removed from the tool.

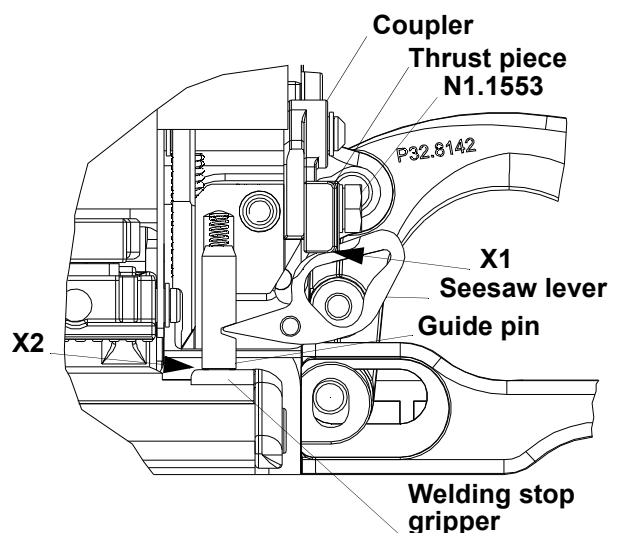
The coupler is fitted into the tool.

- Loosen screw N1.1553.
- Displace thrust piece, so that it touches the two seesaw levers without moving them.
- Re-tighten screw N1.1553.

**Control:**

The thrust piece must touch the seesaw levers (X1).

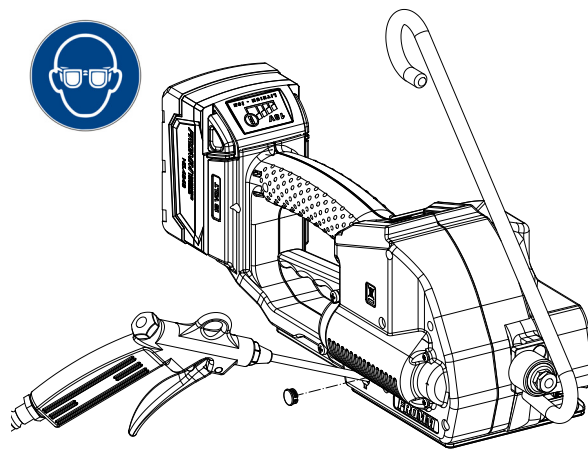
Both guide pins must sit on the welding stop gripper (X2).



## 12 Cleaning

**⚠ WARNING**

**Risk of injury from compressed air, especially for the eyes.** → Wear eye protection.



Clean strap gripping parts from strap abrasion regularly using compressed air.  
 Thus also the cover can be removed and with a suitable air gun air been blown on the welding elements.  
 Do not use any mechanical tool for cleaning.

When cleaning the surface of the tool do not use water or aggressive solvents!

## 13 Service

Servicing and repair work must only be carried out by authorized service centers.


If the tool breaks down or does no longer operate do not disassemble it. Send it fully assembled to the local service center (see name and address on the rear page of this manual). Use original packing.




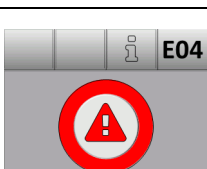
**In order to prevent damages to the motor shaft the two needle free wheeling N3.4509/N3.4520 have to be replaced after maximum 80 000 strapping cycles.** → See 7.7 Request Maintenance

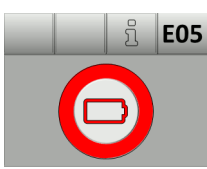
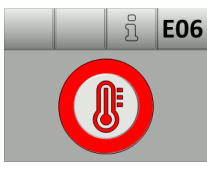
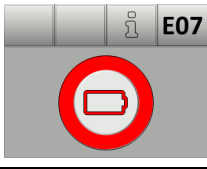

The battery powered plastic strapping tool P328S is a high performance tool. We strongly recommend you to have it serviced by an authorized service shop after 12 months at the latest if used one shift per day. If used two or more shifts per day the tool has to be serviced after a shorter period of time.

## 14 Malfunctions and corrections

If the controller recognizes a malfunction, this is displayed as an error message on the touchscreen. Further work is blocked until the malfunction is corrected.

Tap the information key  to show details of the error message.

Error message	Cause(s)	Correction
	Motor cannot be reactivated.	Remove the battery and insert it again. If the error still cannot be corrected, contact the service station.
	Switch short circuit	Remove the battery and insert it again. If the error still cannot be corrected, contact the service station.
	The welding station blocks or does not reach the welding position. Remaining strap, soil in welding area.	Clean welding area.  Remove the battery and insert it again. If the error still cannot be corrected, contact the service station.
	BLDC motor is blocked.	Remove the battery and insert it again. If the error still cannot be corrected, contact the service station.

Error message	Cause(s)	Correction
	Battery has too much voltage Wrong battery inserted	Use the battery as indicated in the operating manual. If the error still cannot be corrected, contact the service station.
	Tool overheated.	Let the tool cool down. When the temperature drops below the limit, the error is reset.
	Battery is empty.	Replace the rechargeable battery with a charged battery.
	Memory error	Remove the battery and insert it again. If the error still cannot be corrected, contact the service station.

## 15 Transport

Lithium-ion batteries are subject to the Dangerous Goods Legislation requirements. The user can transport the batteries by road without further requirements.

When being transported by third parties (e.g.: air transport or forwarding agency), special requirements on packaging and labeling must be observed.

For preparation of the item being shipped, consulting an expert for hazardous material is required.

Dispatch batteries only when the housing is undamaged.

Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.

Please also observe possibly more detailed national regulations.

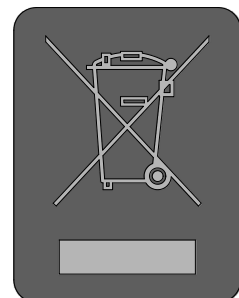
## 16 Disposal

The machine, rechargeable batteries, accessories and packaging should be sorted for environmental- friendly recycling.

Do not dispose of power tools and batteries/rechargeable batteries into household waste!

### Only for EC countries:

According to the European Guideline 2012/19/EU, power tools that are no longer usable, and according to the European Guideline 2006/66/EC, defective or used battery packs/batteries, must be collected separately and disposed of in an environmentally correct manner.



## 17 Declaration of Conformity

### CE-Declaration of Conformity

In accordance with the EC machine directive 2006/42/EC, appendix II A

The manufacturer  
FROMM Holding AG  
Hinterbergstrasse 26  
CH-6312 Steinhausen

declare under our sole responsibility that the product

Name: **Battery - Powered Plastic Strapping Tool  
Model P328S**  
Type: 43.2822 - 43.2862  
43.3422 - 43.3462

following the provisions of directive:

**2006/42/EC  
2014/30/EU  
2011/65/EU**

The following harmonised and national standards and other normative documents are applied:

**DIN EN ISO 12100:2011  
DIN EN 415-8:2011  
DIN EN 415-10:2014  
DIN EN 60745-1:2010  
EN 55014-1:06+A1:09+A2:11  
EN 61000-6-2:2005 + Cor.:2005  
ETSI 301489-1 V2.1.1 (2017-2)  
ETSI 301489-17 V3.1.1 (2017-2)**

Technical documentation at:

J. Baßler  
FROMM System GmbH  
Neulandstrasse 10  
D-77855 Achern



R. Fromm  
Director

Achern, 02.08.2019

## 18 Warranty conditions and liability

FROMM Holding AG warrants all its strapping tools and machine heads during a period of 24 months from the date of installation at the end-user's sight by the distributor, however, not later than 30 months from the date of shipment to the distributor of FROMM Holding AG.

The warranty includes all deficiencies clearly resulting from poor manufacturing or faulty materials. Damage claims as a result of production shutdowns and claims for damage to persons and to property resulting from warranty deficiencies cannot be asserted by the customer.

The warranty excludes:

- wearing parts (tensioning wheels, cutters, punches, dies, notching knives, grippers, batteries and motors),
- deficiencies resulting from improper installing, incorrect handling and maintaining the tool,
- deficiencies resulting from using the tool without or with defective security- and safety devices,
- disregard of directions in the operation manual,
- arbitrary modifications of the tool,
- deficient control of wearing parts,
- deficient repair works of the tool,
- use of consumable products not recommended by FROMM Holding AG.

We reserve the right to modify the product at any time in order to improve its quality.

## 19 Spare parts list

In order to receive the spare parts list use the following link or QR-code

<https://www.fromm-pack.com/service/P328S>



