OPERATING MANUAL

SHREDDER-PRESS COMBINATION

SP 4040

Keep in a safe place for future use!

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Contents

1 Safety

1.1 Safety instructions

1.1.1 The Safety symbol

You will see this symbol next to all operating safety instructions in this operating manual where failure to comply may result in injury or death. Please note these instructions and exercise particular care in such cases. Pass on all safety instruction to other persons using the machine. In addition to the instructions in this manual, the safety and accident prevention regulations which generally apply must also be observed.

1.1.2 The Note symbol

This symbol indicates particularly important instructions in this manual which must be observed in order to ensure that guidelines and regulations are correctly adhered to, that work is carried out in the proper order, and that damage to the machine or other plant compo- nents is prevented.

1.2 Classification of hazards

1.2.1 Danger

Indicates an immediate danger. Failure to take heed of this warning will result in death or very serious injury.

1.2.2 Warning

Indicates a potentially dangerous situation. Failure to take heed of this warning may result in death or very serious injury.

1.2.3 Caution

Indicates a potentially dangerous situation. Failure to take heed of this warning may result in minor injury.
Also used to warn about material damage.

1.3 Safety instructions

Pay particular attention to the following safety instructions:

– The shredder-press combination SP 4040 has been inspected for safety by the examination board of the technical committee of TÜV Rheinland. Nevertheless, incorrect operation and misuse can result in:

- injury or death to the operator
- damage to the machine and other material assets of the company
- inefficient machine operation

– The shredder-press combination SP 4040 baling press has been built with the most up-to-date technology. However, the machine can be dangerous if improperly used, even by trained staff, or if used for purposes other than those for which it was designed.

– The operation of the shredder-press combination is always subject to local safety and accident prevention regulations.

– The employer has to observe and to keep the „Minimum safety and health requirements for use of the work equipment by workers at work. (2009/104/EG)

– The shredder-press combination may not be operated by anyone under 16 years of age.

– All those charged with installation, assembly, disassembly, start-up, operation, inspection, maintenance or repair of the shredder-press combination must have first read and fully understood the entire operating manual, paying particular attention to the "Safety" section.

– The shredder-press combination may only be operated, serviced and repaired by authorised, trained staff. These staff must have been given special instructions on any dangers which may possibly arise.

– Areas of personal responsibility for installation, assembly, re-assembly, set-up, operation and maintenance must be clearly defined and strictly adhered to, in order to avoid confusion which might compromise safety.

– When carrying out installation, disassembly, re-assembly, maintenance, operation, adjustment and maintenance work always observe the shut-down procedures described in the operating manual. Never perform this kind of work on the machine unless it is fully shut down.

– Before performing such tasks make sure the drives and additional mechanisms of the shredder-press combination cannot be switched on unintentionally. Turn the main switch to the "0" position and secure it. Pull out the mains plug.

– Before starting the machine after repairs, make sure all protective devices are in place.

– Do not carry out any tasks which may endanger your safety while operating the machine.

– Any changes which take place and could impair safety should be reported immediately. Put the machine out of operation until the damage is rectified.

– Always make sure the machine is in perfect condition before you switch it on.

– Make sure the area around the shredder-press combination is clean and safe.

– Unauthorised modifications and changes to the machine are strictly prohibited. Protective devices may not be removed or otherwise rendered inoperative.

– No work on the machine which is not part of its normal operation may be performed while the machine is still running.

– Never open doors and flaps before the machine has been shut down. Note the instruction plate.

– Test the protective measures installed after any electrical or repair work.

– No platforms or other raised surfaces may be placed near the shredder-press combination if they encroach on the specified safety clearances.

– Connecting cables must be laid in such a way that they cannot be tripped over.

– Only persons with the appropriate skills and experience in hydraulics may carry out work on the hydraulic equipment.

– All lines, pipes and bolted joints must be regularly inspected for looseness, leaks and visible damage. Any damage must be repaired immediately. Escaping oil can cause fire and injury!

– Any parts of the system and hydraulic pressure lines that need to be opened must be depressurised according to the assembly instructions before commencing repair work.

1.4 Proper use

The shredder-press combination **SP 4040** is solely to be used for pressing paper and cardborad (shredded or not shredded). The sturdy cutting mechanism is not damaged by paper clips and staples, credit cards, CD-ROMs and floppy discs.
The shredder-press combination may only be operated by authorised, trained staff. Do not carry out any tasks which may endanger your safety while operating the machine.

Any other use is considered improper. The manufacturer accepts no liability for damage resulting from improper use - the operator carries sole responsibility for such use.

1.5 Inspecting the safety devices

Check the safety devices:

- At the start of each shift (if operation was interrupted)
- At least once a week if the machine is operated continuously
- After any maintenance or repair work

Check that the safety devices:

- Are in the correct condition
- Are in the correct position
- Are firmly secured
- Are working properly

If any defects arise during operation stop the machine immediately and ensure that the defect is corrected.

Do not modify or remove any of the protective devices. Do not deactivate any of the protective devices by modifying the machine.

Modifications to the machine are prohibited for safety reasons!

Warning!
Defective safety devices can lead to serious accidents!
Ensure that the shredder has been completely shut down immediately, should the safety devices become defective!
Never reach into the cutting device while it is running, this could result in very serious injuries!
The shredder may only be started, if all the safety devices are functioning correctly.

Use the following checklist for your inspection. Correct any defects before starting the machine!

1.5.1 Checklist for inspecting the safety devices

Photocopy this checklist for regular inspections.

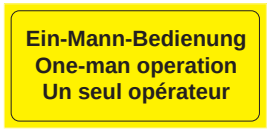
Tick off the points if they are OK. ☑

Do not start the machine until you have checked every point.

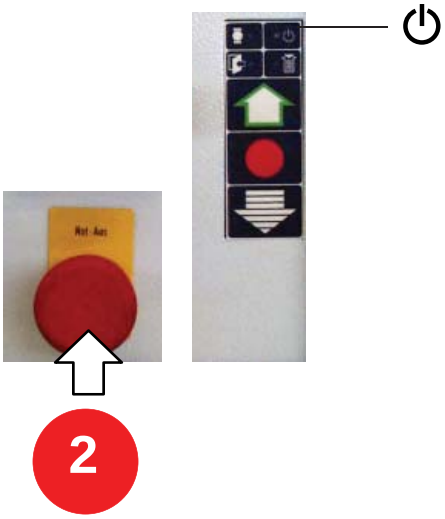
☐ The **warning sign** ⚠ must be fixed to the control cabinet of the shredder-press combination.

☐ All protective covers must be mounted and firmly bolted onto the shredder and the shredder-press combination (see picture)

☐ Check the safety switch on the bale removal door (1). If the bale removal door is opened during operation, The shredder-press combination and the shredder should switch off immediately. It should not be possible to turn on any of the machines as long as the bale removal door is open. After the bale removal door has been shut, the "Ready" lamp on the shredder should light up again.



☐ The safety label "**One-man operation**" must be attached on the shredder.



☐ If you press the "Emergency Stop" button (2) on the shredder, it should switch off immediately and the "Ready" lamp should stop glowing. It should not be possible to turn the shredder on as long as the "Emergency Stop" button is locked. After the "Emergency Stop" has been unlocked, the "Ready" lamp should light up again.

☐ ***Only for shredder type FA 400.2:***
Check the safety switch (3) on the front door:
If the door is opened then the shredder must switch off immediately and the "Door open" lamp should light up.
It should not be possible to turn the shredder on as long as the door is open.
After the door has been shut, the "Door open" lamp must go off.

Inspected:	Date……	Signed ……

2 Transportation / Installation

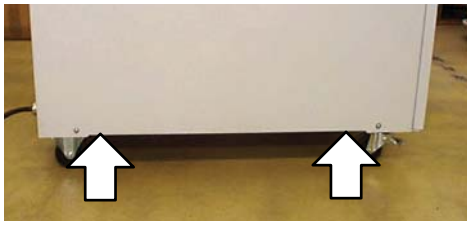
2.1 Operating conditions

The machines should only be operated in dry rooms.
If the temperature is less than 0°C, a different hydraulic fluid with a more suitable viscosity will be required.

2.2 Transport

Danger!
The baling press should only be transported upright with the press ram lowered.
If this is not done the baling press can topple over!

If the machine is to be transported with a fork lift truck, the bearing points indicated in the diagram should always be used. Note that the shredder and the baling press have a high centre of gravity!



- Place the machines on a smooth level surface
- Remove the packaging

The shredder or the baling press can now be rolled onto its installation site.

2.3 Technical data

2.3.1 Baling Press KP 40 V

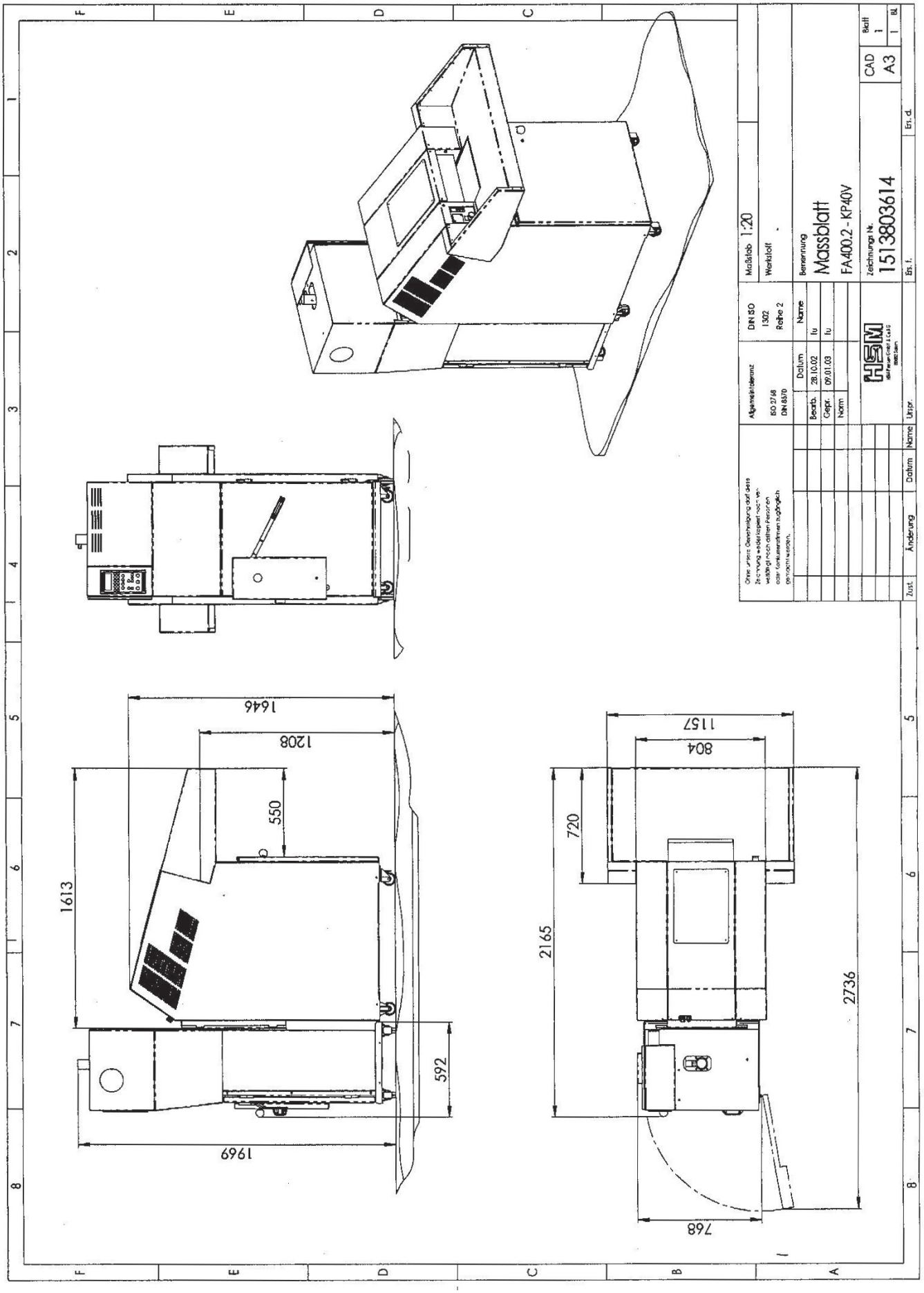
Pressing power	44 kN
Compression time with return stroke	11 s
Rated power P_n	2,2 kW
Rated speed n	3000 min^{-1}
Connection	3 x 400 V / 50 Hz
Rated current I_n	5 A
Carton size (LxWxH)	590 x 390 x 485 mm
Carton weight, full	25 - 35 kg
Transport height	~ 2150 mm
Weight	~ 500 kg

2.3.2 Shredder FA 400.2

Cutting type	Strip cut	Cross cut	
Cut size (mm)	5,8	5,8 x 50	3,9 x 40
Safety level DIN 66399	P-2 / O-2 / T-2 / E-2	P-3 / O-2 / T-3 / E-2	P-4 / O-3 / T-4 / E-3 / F-1
Safety level DIN 32757 - 1	2	3	3
Cutting capacity (sheets), DIN A4, 70 g/m²	130	120	95 - 100
80 g/m²	104	96	80 - 85
Cutting speed	210 mm/s	220 mm/s	
Effective width	428 mm		
Weight	ca 425 kg		
Waste container volume (Solo machines) 1-chamber system 2-chamber system	460 l 2 x 230 l		
Power supply	3 x 400 V / 50 Hz		
Rated power P_n	4 kW		
Max. current	21 A		
Sound level (idling / under load)	61 dB (A) / 75 dB (A)		

2.3.3	Power requirement and fuse rate		
		KP 40V + FA 400.2	
	Voltage	3 x 400 V / 50 Hz	
	Net	3P+N+PE	
	Power	~6,2kW	
	Fuse	25A (K-Charakteristik)	
	Control voltage	24VDC	
	Guideline	EN 60204	
	Plug electrical connection	CEE 32	
2.3.4	**Noise emission**		
		FA 400.2	**KP 40 V**
	Idle	61 dB(A)	69 dB(A)
	Loaded	75 dB(A)	75 dB(A)
2.3.5	**Operating conditions**		
	Operating temperature	- 10°C ÷ + 40°C	
	Operating humidity	max. 90%, non-condensing	
	Operating altitude	max. 2200 m above sea level	

2.3.6 Measurements chart: Baling press HSM KP 40 V + Shredder FA 400.2

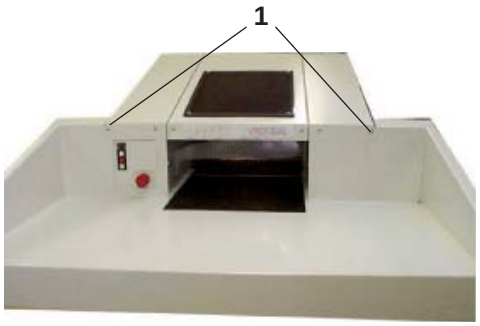


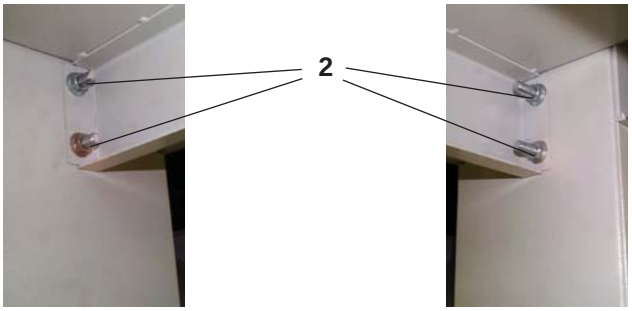
2.4 Assembling the shredder

The shredder is not fully assembled on delivery.
The loading table is not mounted and should only be mounted at the installation site.

FA 400.2

- Screw the loading table on the top to the frame using the 2 Phillips screws (1) and at the bottom with 2 nuts (2) each at the left and the right side.





- The shredder may only be placed in dry rooms on a firm, even floor (no carpeting!). The foot load is approx. 107 kg on every roller .

2.5 Assembling the press and shredder

Danger!

For safety reasons the hopper for the press must remain covered with a cover plate until initial operation. Crushing and cutting elements are uncovered if the hopper is open .

The press should only be used in conjunction with a shredder (type FA 400.2).

Do not turn on the main switch of the press before the press and the shredder have been screwed together.

- Remove the screws from the cover plate on the press hopper -> screws (M6) and store in a safe place!

Note

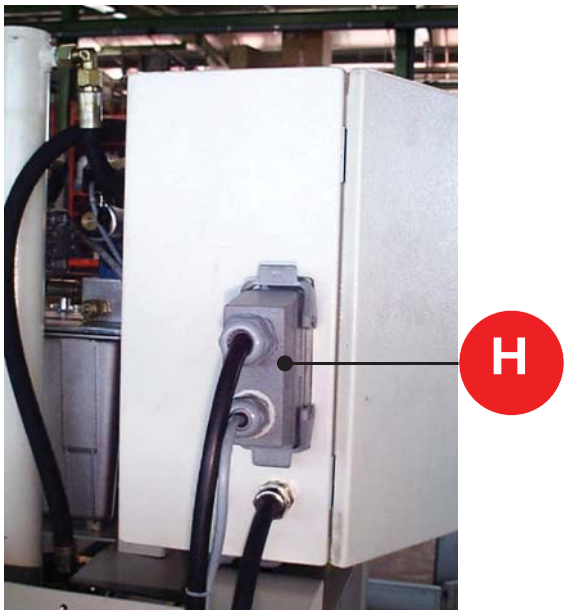
For transport reasons the press ram is in the lowest position. The bale removal door cannot be opened yet.

- Push the press and the shredder together until the input and discharge chutes touch each other. The discharge chute of the shredder is manufactured with slots and can be adjusted.

- Fix the shredder's discharge chute firmly onto the input chute of the press with the 4 screws (M6).

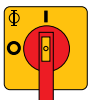
- Lock the brake pedals on the casters of the shredder and press.

- Plug the mains plug (H) of the shredder into the socket on the control cabinet of the press.



- Plug the mains plug of the press (CEE plug) into a socket at the installation site which must be protected by a slow 32 A! fuse.

2.6 Start-up



- Turn the main switch on the press to "I"

• If the polarity of the electrical connection is reversed, the "Malfunction" light symbol blinks

- Turn the main switch on the press to "0" and pull the CEE plug

- Two of the three phases marked L_1, L_2 und L_3 must be turned around and reconnected by an appropriate specialist engineer (see circuit diagram)

Warning!
Faults in electrical components and supply cables may only be attended to by qualified electricians or HSM service engineers.

- Plug the CEE plug back in

Note
The press ram is at its lowest position on delivery for transportation reasons. When the press is switched on then the press ram automatically moves to top end limit position without any button being pressed.

- Turn the main switch on the press on

• The press ram moves to the top end limit, and afterwards the press switches off automatically. It is now possible to open the bale removal door.

- Open the bale removal door

- Fold out a carton box in the correct manner (l x w x h = 590 x 390 x 485 mm, no. 6111995101) and glue the base together

- Fold the 4 carton flaps down on the outside

Note
If the left carton flap is not bent down correctly, the press ram continues moving up and down -> put in the carton box in the correct manner!

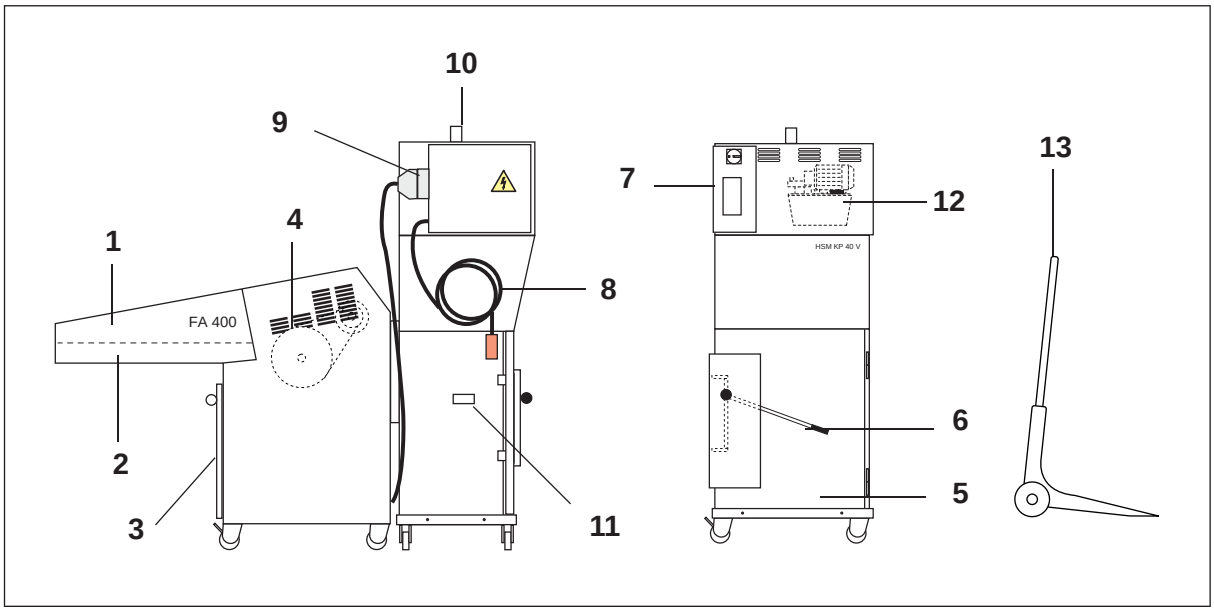
- Put the carton box on the base of the press and close the bale removal door

• The press is now ready for operation

- Alternatively a metal frame (no.: 6111990220) with a plastic bag (lxwxh = 570x490x1400 mm, no.: 6111995200) can be used instead of the carton box.

3 Operation

3.1 Machine overview



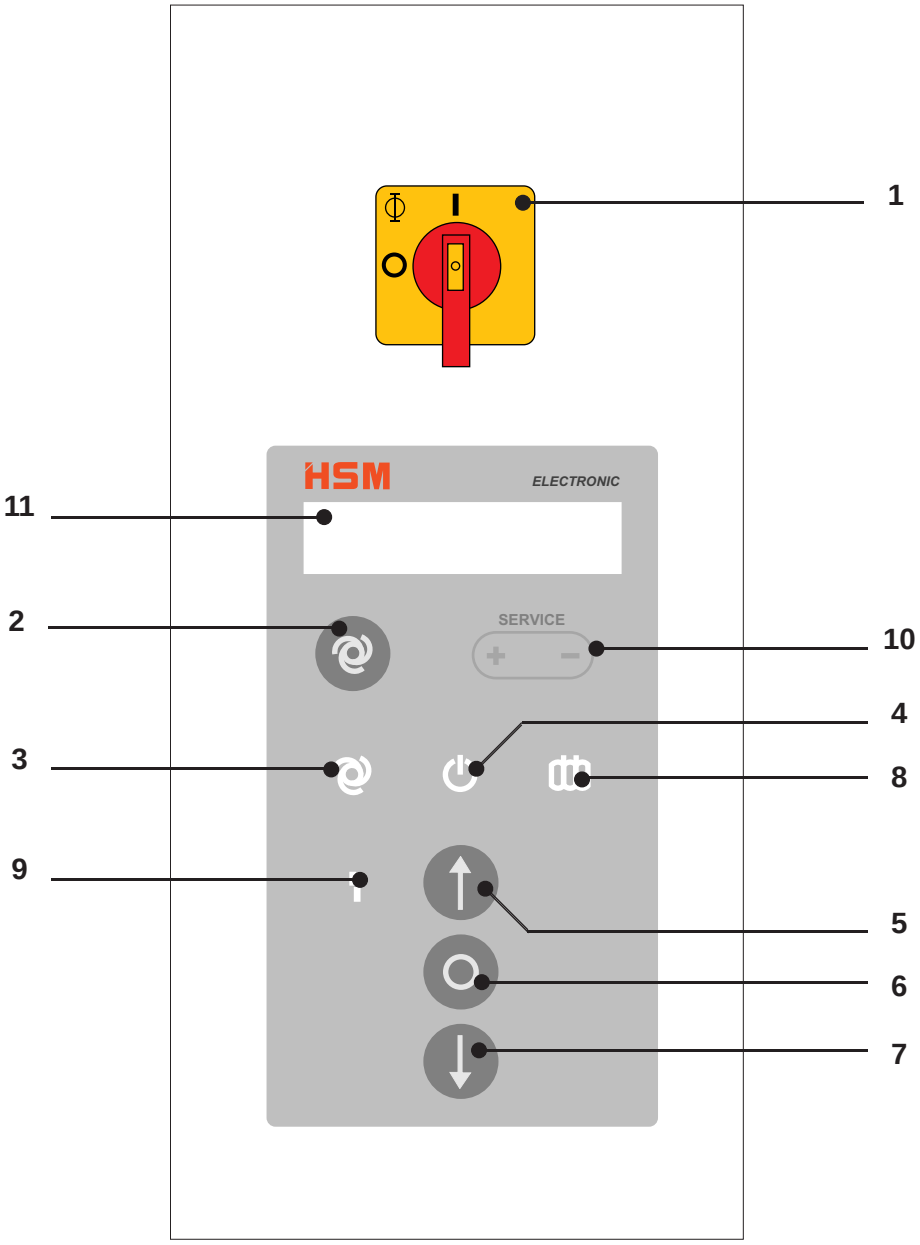
Shredder FA 400.2

1 Loading table
2 Infeed conveyor
3 Inspection door
4 Cutting device

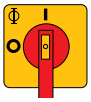
Vertical Baling Press KP 40V

5 Bale removal door
6 Door latch
7 Control cabinet with operator panel
8 Socket baling press
9 Socket shredder
10 Press cylinder
11 Infrared light barrier (-> starts the press cycle)
12 Hydraulic unit
13 Special trolley

3.2 Operating and display elements of the baling press



1. Main switch
2. Automatic
3. Automatic (light symbol)
4. Standby (Ready for operation)
5. Raise press ram
6. Press ram stop
7. Lower press ram
8. Bale finished
9. Malfunction
10. Menu selection / scroll up (+) / down (–)
11. Display



Main switch (1)

When turned 90° clockwise, the main switch is on.
The main switch can be locked in the "Off" position with a padlock.

"Automatic operation" soft-key (2)

When this soft-key is pressed, the press ram is switched into automatic operation. By re-pressing this key, automatic operation is deleted. Automatic operation is the precondition for the function of the shredder.
Screen display: Automatic operation
in starting position

Light symbol "Automatic operation" (3)

This yellow symbol lights up when the automatic operation is switched on.
Screen display: Automatic operation
in starting position

Light symbol "Standby" (4)

This green light symbol lights up when the main switch is switched on and under power.
Screen display: Manual operation
in starting position
The light symbol is flashing, as long as the door of the baling press is open.
Screen display: Manual operation
Door/Loading flap open

The light symbol is flashing in set-up mode resp. at the message "Bale finished".

"Raise press ram" soft-key (5)

When this soft-key is pressed, the press ram returns into its upper end position with the door closed.
Screen display: Raise press ram

"Press ram stop" soft-key (6)

With this soft-key the press ram can be stopped in any position.
Screen display: Press ram not in starting position
The movement can be continued by pressing the "Raise/lower press ram" soft-key.

"Lower press ram" soft-key (7)

Pressing this soft-key while the door is closed starts the compression. The press ram moves down and compresses the material.The press ram automatically returns into its upper end position after expiry of the pressing time.
Screen display: Lower press ram

Light symbol "Bale finished" (8)

This message is displayed when a certain filling height of the carton box is reached. The shredder is switched off. The press ram automatically moves into its upper end position. As soon as this position is reached, the motor of the press is switched off.
The "Bale finished" message goes off, when the door is opened.

Light symbol "Malfunction" (9)

This message is displayed when there is any malfunction on the combination press. Combination press and paper shredder are switched off and a malfunction number appears on the screen. (-> see section **"Malfunctions"**)

Screen display (11)

On the display are shown the running states and the error messages.
(-> see section **"Malfunctions"**)

3.2.1 Call up the SERVICE menu

SERVICE menu / + / – keys (10) 

By simultaneous pressing of the +/– keys for approx. 3 seconds, you come to the menu **ADJUSTMENTS / SERVICE**

With the +/– keys you can scroll to the submenus
User language - Set-up mode - Compression time - Bale counter - Operating hours - Error memory - Service 1 - Service 2

By simultaneous pressing of the +/– keys again for approx. 3 seconds, you come to the corresponding adjustments resp. displays. The selection is acknowledged with the + or – key.
Changed adjustments must be acknowledged by simultaneous pressing the +/– keys.

3 sec. SERVICE + –	Menu SERVICE	3 sec. SERVICE + –	Adjustments / Display
	User language >>		**D** (GB, F, ...)
	Set-up mode >>		**Set-up mode: yes/no**
	Compression time >>		**Compression time: xxx**
	Bale counter >>		**Number of bales: xxx**
	Operating hours >>		**Operating hours: xxx**
	Error memory >>		**Error memory: xxx**
	Service 1 >>		**HSM**
	Service 2 >>		**HSM**

3.2.2 Adjusting the user language

- Switch on main switch
  Screen display: Ready or Press ram not in starting postion.

The screen display can be adjusted for different user languages.
The following ones are available:
D - GB - F - E - I - P - NL - S - FIN - DK - GR - TR - PL - CZ - HU - RUS

- Simultaneously press the +/– keys for approx. 3 seconds
  Screen display: Selection with +/-
  User language

- Simultaneously press the +/– keys for approx. 3 seconds
  Screen display: User language
  D

- Scroll to the desired language using the +/– keys
- Press the +/– keys simultaneaously for acknowledgement

3.2.3 Select set-up mode

- Simultaneously press the +/– keys for approx. 3 seconds
  Screen display: Selection with +/-
  User language

- Press the + key 2x until "Set-up mode" is displayed
- Simultaneously press the +/– keys once more for approx. 3 seconds
  Screen display: Set-up mode
  no
- Press the + key 1x and jump to "yes"
- Press the +/– keys simultaneously for acknowledgement
  Screen display: Attention!
  Set-up mode

3.2.4 Leave set-up mode

- Simultaneously press the +/– keys for approx. 3 seconds
  Screen display: Selection with +/-
  User language

- Press the + key 2x until "Set-up mode" is displayed
- Simultaneously press the +/– keys once more for approx. 3 seconds
  Screen display: Set-up mode
  no

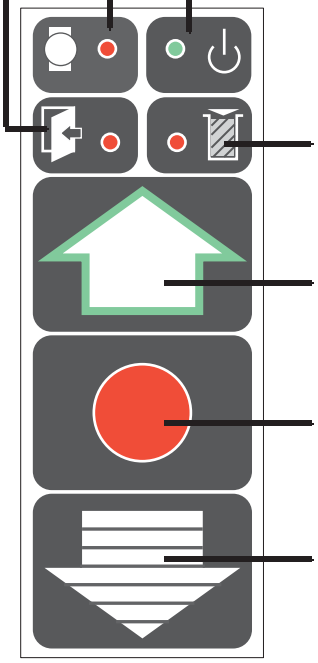
- Press the + key 1x and jump to **"no"**
- Press the +/– keys simultaneously for acknowledgement

3.3 Operating and display elements of the shredder

3.3.1 Emergency stop button

Pull out the "Emergency stop" button to unlock it. If you press the "Emergency stop" button the power circuit is broken. This switches off the shredder.

3.3.2 Keypad



Safety flap not shut
Red light

Overfeed - motor overloaded
Red light

Apparatus ready for operation
Green light

Baling Press not in automatic mode *(corresponds bag full indicator)*
Red light

Start button
Apparatus starts - cutting device moves in intake direction

Stop button
Cutting device stands still - apparatus remains ready for operation

Reverse button
Cutting device reverses

3.4 Operation

The press is now ready for operation if:
- *The main switch on the press is on*
- *The bale removal door is shut*
- *No error message is present*
- *Screen display: Manual operation - in starting position*

The shredder is now ready for operation if:
- *The mains plug for the shredder is plugged into the control cabinet of the baling press*
- *The "Emergency stop" button is unlocked*
- *The green symbol is glowing*

- Press the **"Automatic key"** on the balling press
  Screen display: Automatic
  in starting position

- Press the green arrow key (=start key)

- Place the material to be shredded on the loading table and then place batches on the infeed conveyor

If material that is not supposed to be shredded is mistakenly placed onto the conveyor belt do not try to pull it out, but

- First press the "Stop" key and then press the reverse key after the shredder has come to a standstill
- The shredder is now running in reverse
- When the reverse key is released the shredder comes to a stand still

- The material can now be removed from the conveyor belt and the shredder can be started again with the start key

The shredded material falls through the discharge chute of the shredder directly into the carton box inside the press.
The press cycle is initiated by the infrared light barrier when the carton box has been filled to a certain level. The press ram moves downwards, presses the material into the carton box, (alternatively: into the plastic bag) switches over automatically and moves back to its starting position.
The shredder continues to run during the press cycle.

The filling and press cycle continues until the "Bale finished" light symbol appears on the display and the blue light symbol "Bale finished" lights up.
At the same time the shredder switches off. The shredder can now only be operated in reverse direction.
The press ram moves to its upper end position. As soon as this position is reached, the motor of the press is switched off and the light symbol "Automatic" goes off. The "Bale finished" light symbol disappears as soon as the bale removal door is opened.

3.4.1 Repressing

- Acknowledge the "Bale finished" message with the "Stop" key
• the message disappears

- Press the "Press ram down" key
• The press ram moves down onto the material, switches over automatically and moves back to its upper end position
• The yellow "Bales ready" lamp lights up again

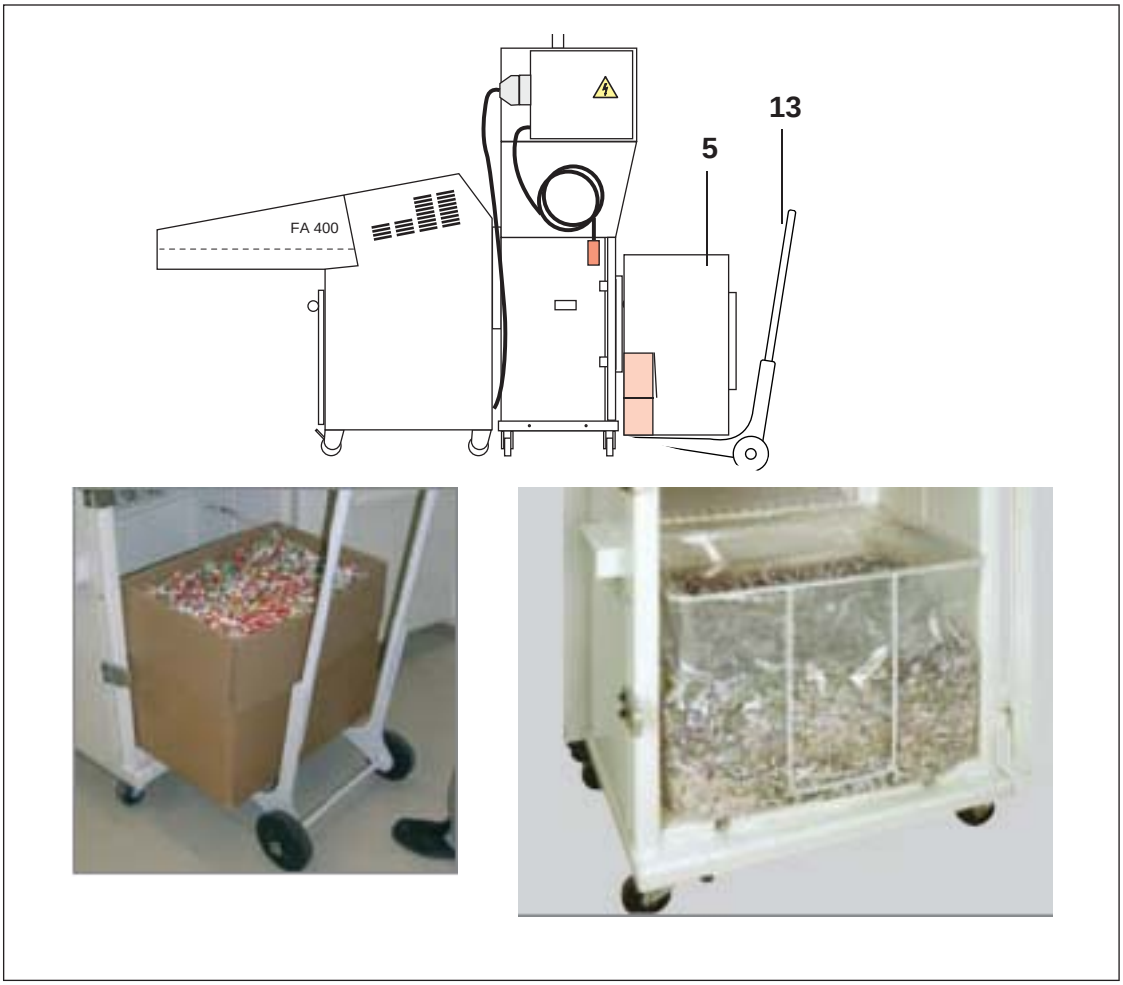
Note

In order to achieve an optimum compression of the material, it may be necessary to repeat the press cycle 1-2 times.

- Open the bale removal door (5)

- Take the special trolley (13) and push it under the carton box (not necessary when using the plastic bag)

- Remove the bale from the press and carry it away (resp. pull out the plastic bag and carry it away)



- Fold out a carton box in the correct manner (l x w x h = 590 x 390 x 485 mm) and glue the base together (alternatively a plastic bag can be inserted instead of the carton box -> see chapter "Start-up")

- Fold the 4 carton flaps down net on the outside

Note

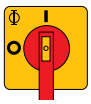
If the left carton flap is not bent down correctly, the press ram continues moving up and down -> insert the carton box correctly!

- Put the carton box on the base of the press
- Close the bale removal door and lock it
- The press and the shredder are now ready for operation again

3.5 Shredder combination shutdown

- Press the "Stop" key on the shredder

- Turn the main switch on the shredder off.



- Secure the main switch with a padlock to prevent unauthorised use.

3.5.1 Lowering the press ram

- Move the press ram downwards.

- Press the "Stop" key on the press when the ram meets counter pressure.
  • As long as the press ram is in its bottom end limit position, the bale removal door cannot be opened.

- Turn the main switch on the press off.

- Secure the main switch with a padlock to prevent unauthorised use.

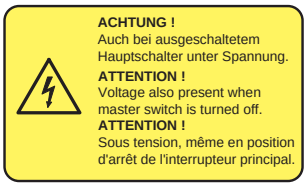
- Pull out the baling press mains plug off the onsite socket.

4 Faults / troubleshooting

Warning!
Faults in electrical components and supply cables may only be attended to by qualified electricians or HSM service engineers.

Before any work on the control cabinet:
Turn off the main switch!

Note the warning plates:



4.1 Malfunctions shredder

If the cutting device is overloaded, the shredder switches automatically to reverse operation:

- The shredder stops
- The red LED on the keypad lights up
- The shredder runs in reverse for a bout 2 seconds and then stops again

- Divide the pile of paper and press the start key again

- Shredder runs forward

- Take care that any further loads are made up of rather less paper

Frequent overloading:

- The electric motor overheats
- The red LED on the keypad lights up
- The shredder switches off automatically

- Allow the shredder's electric motor around 20–30 minutes to cool down and afterwards start the equipment again

Note
Load the shredder in equal amounts that fall within the shredder's performance range. This avoids time consuming reverse cycles and enables you to run the machine at its maximum throughput capacity.

4.2 Malfunctions baling press

As soon as there is any malfunction on the baling press, the read light symbol is displayed. The shredder-press combination switches off and a corresponding malfunction number is shown on the display. The shredder-press combination cannot be started as long as the red light symbol is displayed!

Code	Description	Elimination
0100	Phase is missing	Electrician! Check onsite fuses
0101	Incorrect connection of phases / Wrong direct. of rotation	Electrician! Check rotatory field
0110	Oil temperature too high	Let oil cool down
0111	Sensing device for oiltemperature defective	Electrician! Change sensing device
0120	Motor protective relay has swapped	Let motor cool down
0121	Emergency-off is actuated	Pull out emergency-off pushbutton
0127	Time monitoring raise press ram	Induct. switch / hydraulics -> Contact HSM
0128	Induct. switch for top resp. bottom defective	Electrician! Check inductive switch
0130	Hardware defective	Contact service of HSM
0131	Short circuit output Master	Contact service of HSM
0132	Short circuit output Slave	Contact service of HSM

Note

The press ram moves constantly up and down if

- *The infrared light barrier is dirty -> clean it.*
- *The left hand flap of the carton is not folded down -> insert carton correctly.*

5 Maintenance

5.1 General instructions

All the inspection and maintenance tasks listed here apply to single-shift operation. If the machine is being operated in multiple shifts it must be checked more frequently.

Warning!
Before undertaking any maintenance or cleaning work on the baling press or shredder:
- *Turn off both main switches and secure against starting accidentally*
- *Pull out the mains plug for the baling press*

Always refer to the "Safety" chapter during maintenance and inspection work.

Among other factors, the operational safety and the longevity of the baling press depend on properly carried out maintenance.

Since operating conditions may vary, it is impossible to specify in advance how often wear check, inspections, maintenance and repairs will be necessary. A suitable inspection routine should be devised according to your particular operating conditions.

Our customer service experts will be glad to assist you with additional advice.

Maintenance work may only be carried out by our specialist engineers or specially trained staff.

The baling press must undergo a complete overhaul at least every two years.

Before beginning work, always check all cables, pipes and screw connections for leaks, looseness and visible damage.

Warning!
Correct any damage immediately!
Escaping oil can cause fire and injury!

Maintenance and repair work on the electrical system or control cabinet may only be carried out by a qualified electrician or one of our service engineers!

5.2 Baling press

5.2.1 Hydraulic fluid level / venting filter

The hydraulic oil level must be checked at least every 3 months. Insufficient fluid levels can lead to the destruction of the unit.

Fluid level check:

– Move the press ram to its top end limit position

– Turn off the main switch and pull the mains plug out

– Unscrew the top safety cover (16)

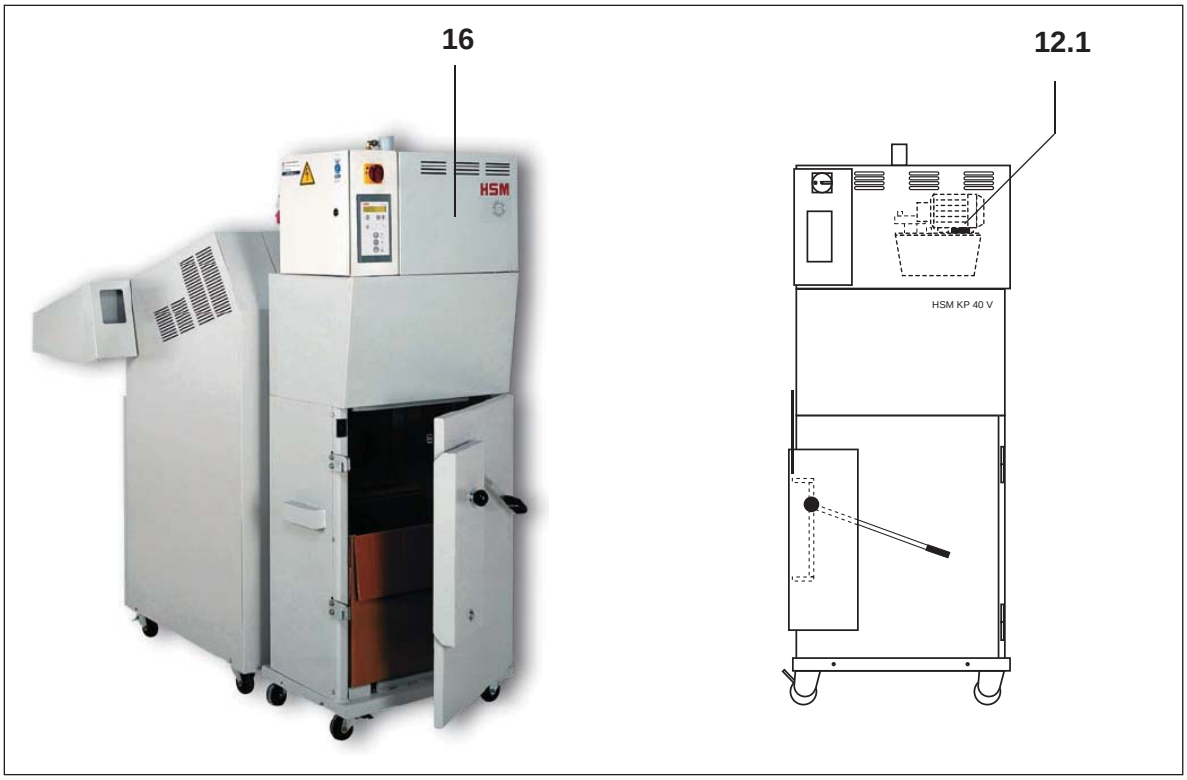
– Unscrew the ventilation filter lid (12.1)

- The fluid level can be read on the fluid level measuring stick on the ventilation filter lid
- The fluid level should be in between the two notches on the measuring stick
- If there is insufficient fluid in the tank, pour more fluid into the opening for the ventilation filter lid
- Change the oil annually to increase the longevity of the hydraulic parts

– Check the ventilation filter lid every 3 months for dirt and blockage

– Screw the ventilation filter lid back in

– Mount the safety cover onto the unit again



5.2.2 Changing the hydraulic fluid

Change the hydraulic fluid **annually:**

– Move the press ram to its top end limit position

– Turn off the main switch and pull the mains plug out

– Unscrew the top safety cover

– Place a container to catch the fluid under the fluid drain plug or use a fluid suction unit

• The capacity of the hydraulic fluid tank is ~11 l

– Unscrew the oil drain plug on the side of the fluid tank with a hexagon socket spanner and use a container to catch the fluid

– If the tank is very dirty, clean it

– Screw the fluid drain plug back in (renew seal)

– Fill with the prescribed amount of fluid

Oil type: Multi-grade oil DIN 51524-T3 / ISO viscosity grade HVLP 22

– Turn on the main switch

– Move the press ram up and down several times and check the fluid again (as described above) with the press ram in its topmost position

– Fill more oil if required

– Unscrew the ventilation filter lid again

– Mount the safety cover onto the unit again

Note
Observe the applicable accident prevention regulations when handling cleaning agents and solvents!

Observe the environment protection regulations when disposing of waste oil!

Never mix hydraulic fluid and cleaning agent mixtures with waste oil! Collect these substances in separate containers and dispose of them according to the regulations!

	ISO-Viskositäts-klasse	ESSO	DEA	SHELL	ARAL	BP	FINA
Mineralöle Mineral oils	**ISO VG 22 HVLP**	UNIVIS N 22	Astron ZHLP 22	Tellus Öl T 22	Aral Vitam HF 22	Bartran HV 22	HYDRAN HV 22

5.3 Shredder

5.3.1 Cleaning cutting device (1x daily)

Strip cut machines:

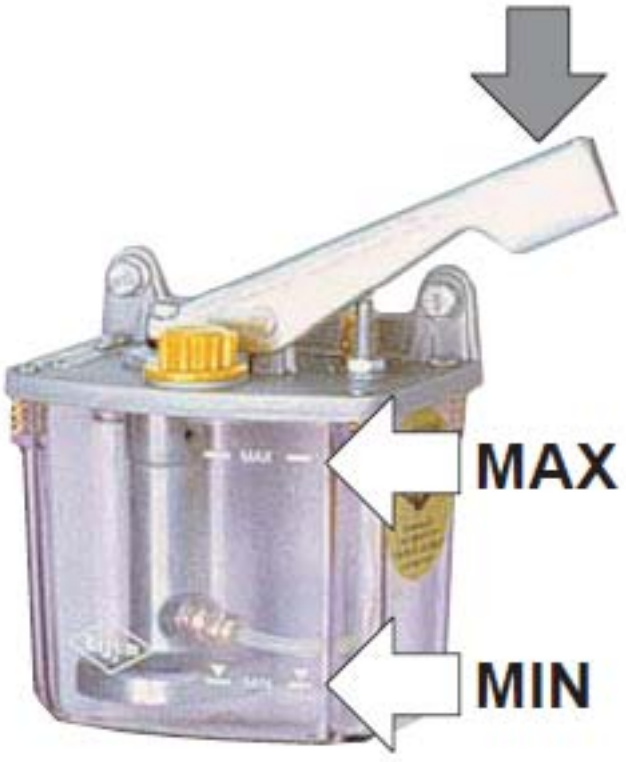
- Switch off the shredder at the main switch.
- Spray cutting block special oil through the paper inlet opening onto the cutting rollers.
  Order no. 1.235.997.401 for 250 ml-bottle
  Order no. 1.235.997.500 for 5 l-tank

- Let the cutting device run forwards and backwards several times without feeding in any paper.
- This loosens paper dust and particles.

Cross cut machines:

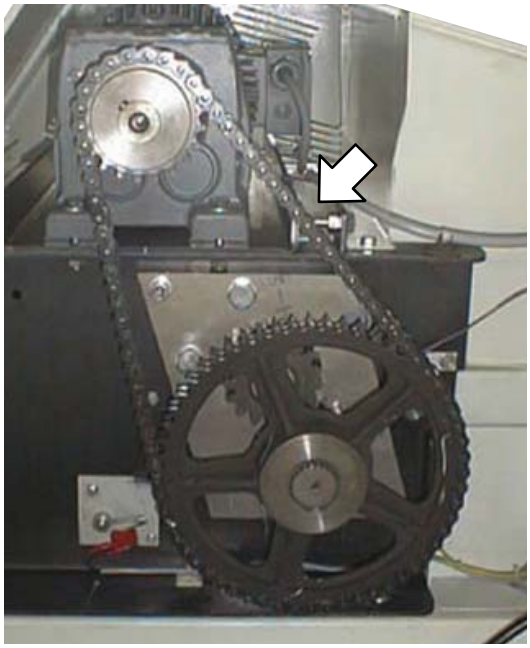
- If the cutting quality detoriates or hte machine becomes noisy
- Let the shredder run without feeding any paper
- Push the lever of the oiler down several times
- Make sure, that the oil level in the container is between the MIN and MAX markings

Cutting block special oil
Order no. 1.235.997.500 for 5 l-tank



5.3.2 Checking chain tension (2 x annually) FA 400.2

- Switch off the shredder at the main switch.
- Pull out the mains plug.
- Remove the tray and the cover plate on the left hand side



The chain sag should be 4 – 10 mm.

If you need to adjust the chain tension on a FA 400.2:

- Remove the cover plate on the right hand side
- Loosen the nuts and push the motor with the tensioning screws until the chain sag is between 4 – 10 mm
- Tighten the nuts again
- Mount the cover plate and the loading table onto the unit again.

Note
Do not tighten the chain too much as this will wear the chain and the bearings faster than would otherwise be the case.

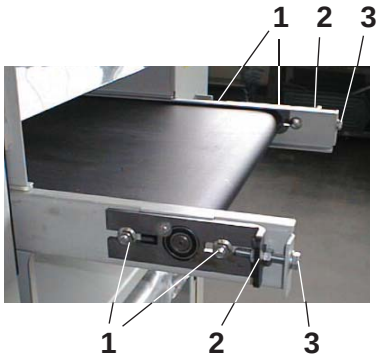
5.3.3 Greasing drive chains and cogs (2x annually) FA 400.2

- Switch off the shredder
- Pull out the mains plug
- Remove the left and right cover panels.
- Grease the cogs and the drive chains from the motor to the cutting device, the cutting block to the feeding belt and the cutting block to the regulating roller. Recommended lubricating grease: K2K in accordance with DIN 51502/DIN 51825
- Put the side cover panels and the tray back on

	NLGI-Klasse	ESSO	DEA	SHELL	ARAL	BP	MOBIL
Wälzlagerfett (lithiumverseift) **Bearing grease** (lithium saponified)	2 -3	Exxon BEACON 2	Glissando 30	ALVANIA Fett R 3	Aralub HL 3	Energrease LS 3	Mobilux EP 2

5.3.4 Tightening the feeding belt FA 400.2

The feeding belt should not slip when loaded with material.
- Switch off the shredder and pull out the mains plug
- Loosen the hexagonal nuts (1) on the left and on the right side of the snub roller
- Loosen the lock nuts (2) of the tensioning bolts (3).



- Tighten the feeding belt **evenly** using the tensioning bolts

Note
Only tighten the feeding belt until it stops slipping. The feeding belt bearing may be damaged if it is tightened too much.

- Tighten the hexagonal nuts on the snub roller and the lock nuts of the tensioning bolts again.

5.3.4.1 Check, that the feeding belt runs straight

Switch on the shredder and let it run for 10 minutes.
During this time, the feeding belt must run in the middle of the snub roller. If it slips to the left or right edge, you must alter the setting of the snub roller

5.3.4.2 Checking the feeding belt for wear

The surface of the feeding belt can become worn after long periods of use. If you can see the fabric inlay in the belt, it must be replaced. Please notify our customer service.

6 Disposal instructions

HSM baling presses / shredders have a long service life. Nevertheless, every machine reaches a time when inspections and repairs are no longer worth the trouble. The operator then faces the problem of disposing of the machine properly.

We will be glad to advise you about the legal regulations for disposal at the appropriate time.

The baling press and shredder are made of different materials and need to be disassembled to separate the materials for recycling. (Ferrous materials, electrical components, plastics)

The hydraulic tank, pipes and hoses must be drained. It is important to ensure that leaking or spilled liquids are disposed of using appropriate binding agents or technical facilities, and do not enter the water, the ground or the sewer system.
In disposing of the respective hydraulic fluids, the national legal requirements must be observed.

6.1 Disposal verifi cation form

To

HSM GmbH + Co. KG

Austraße 1 - 9

D-88699 Frickingen / Germany

The machine specifi ed here

Designation: Baling press / Shredder

Model: _____

Machine number: _____

Year of construction: _____

has been disposed of according the applicable regulations.

Address of the last operating company

Address of the waste management company

....

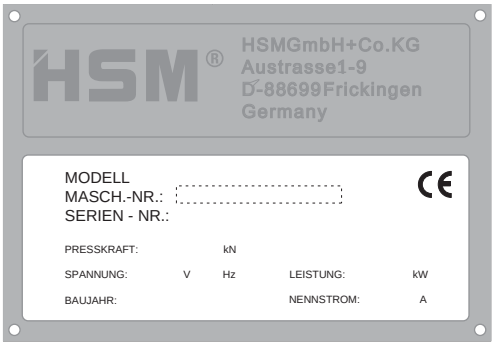
Date and signature of the last operator

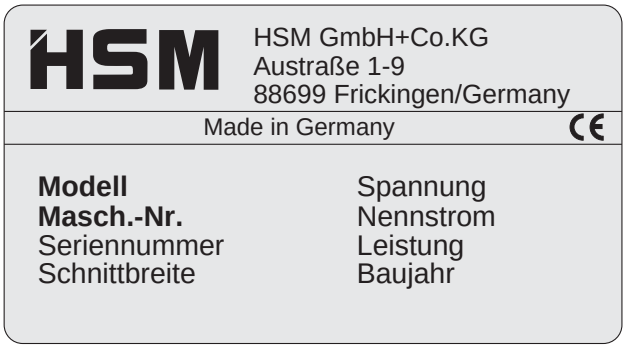
Date and signature of the disposal company

7 Electrical and hydraulic circuit diagrams

Note
Any missing documentation can be ordered from:
HSM GmbH + Co.KG
Austraße 1 - 9
D-88699 Frickingen
Telefon: +49 7554 2100-0
Telefax: + 49 7554 2100-160

The machine number is stated on the nameplate on the shredder resp. the baling press. It is difficult to deal with warranty claims and queries unless you quote the machine number.

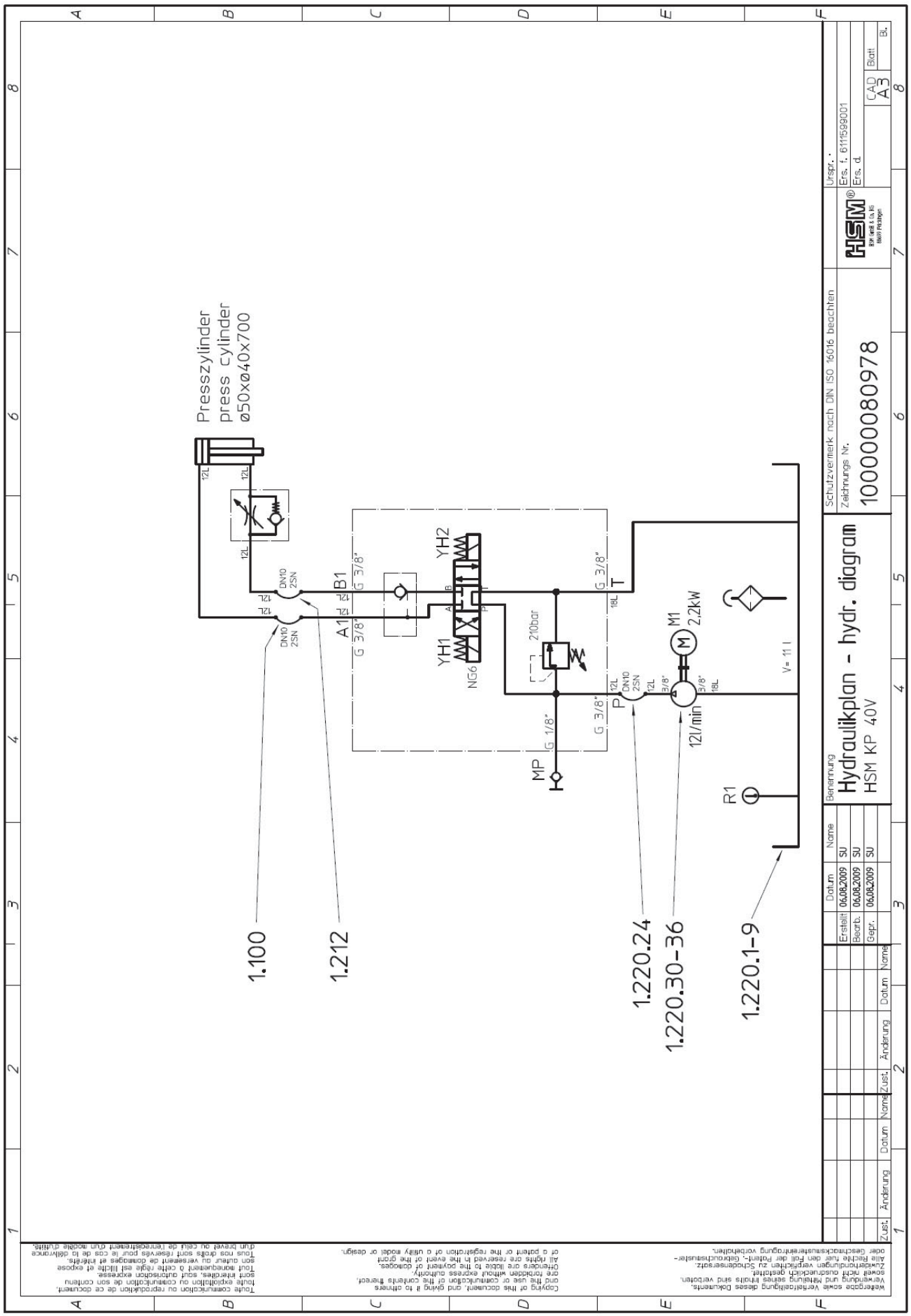




7.1 Electrical circuit diagrams

Note
The wiring diagrams are supplied separately with the machine.
(in the control cabinet)

7.2 Hydraulic diagrams



7.3 EC declaration of conformity

EC declaration of conformity

The manufacturer **HSM GmbH + Co. KG**
Austraße 1-9
D - 88699 Frickingen

hereby declares that the described SP 4040 shredder press combination, comply with the basic safety and health requirements
of the following EC directives:
• 2006/42/EG
• 2004/108/EG
• 2006/98/EG

Applied standards and technical specifications:

EN 1010-3:2002+A1, EN ISO 12100-1:2003+A1:2009, EN ISO 12100-2:2003+A1:2009,
EN ISO 13857:2008, EN 13849-1 (2008), EN 60204-1:2006+A1:2009,
EN 349:1993+A1:2008, EN 55014-1:2006+A1:2009, EN 61000-6-4 (01.07), EN 61000-6-2 (03.06)

The individual operation of the machines is prohibited. Only the combination of the shredder and the baling press complies with EN 13857 (safety distances)

Frickingen, 24.03.2010

p. p. Hubert Kötzinger
Head of Environmental Engineering Product Development

Authorised representative for the compilation of technical documentation:
Hubert Kötzinger, HSM GmbH + Co. KG.

The technical documentation in terms of Appendix VII, Part A has been created and is available at HSM GmbH + Co.KG.
This declaration only relates to those machines that are in the same condition as they were when put into circulation, no regard can be to parts added later by the end user and/or any work conducted subsequently.