Operating manual

MSK Packaging Systems

Com.No.: 399600

MSK Verpackungs-Systeme GmbH, Kleve/Germany

MSK
COVERTECH-GROUP

Conformity Declaration

Refer to the EG-Guidlines "Machinery" 98/37/EG, appendix II A

MSK Verpackungs-Systeme GmbH
Benzstraße · D-47533 Kleve
Postfach 1651 · D-47515 Kleve
Telefon: +49 (0) 28 21/5 06-0
Telefax: +49 (0) 28 21/178 66
Email: info@msk.de
http://www.msk.de

The company: MSK Verpackungs-Systeme GmbH
Benzstrasse / D-47533 Kleve / Germany

declares, that the Construction form of the

MSK Packaging System
Com.No.: 399600
Customer: New Page Corporation

meet the following Norm or guidelines:

CE-Guidelines "Machinery" version 98/37/EG
Low-voltage Guidline - 2006/95/EG
EMC-Guidline 89/336/EWG

applied coordinated Norm:
EN 1050
EN ISO 12100 part 1 and 2
EN 294
EN 349
EN 1127-1
EN 13463 part 1 and 5
EN 60204 part 1
EN 746-1
EN 746-2
EN 415-6
EN 676

Basis for those health and safety requirements not covered by the standard basis:
DVGW DG2217AR0630 Recotech; BGV A3; BGV D17

The above mentioned company shall prepare the following technical documents for the Understanding of the above mentioned machine:

Operating Instruction
Electro-Layout
Programmprint
Reports of Safety acceptance
Inspection Certification
Calculation and Testing Reports

..Kleve,..2008..10..28.....
(Place and Date)

.....
(Director of Construction)

Preface

Manufacturer :

MSK
Verpackungs-Systeme GmbH
Benzstrasse / D-47533 Kleve (Germany)
PO Box: 1610 / D-47515 Kleve (Germany)
Telefone: +49 / 28 21 / 5 06 - 0
Telefax: +49 / 28 21 / 1 78 66
Email: info@msk.de
www: http://www.msk.de

Service :

MSK Covertech, Inc.
4170 JVL Ind. Park Drive
Marietta, GA 30066
USA
P.O.Box 96 54 89
Tel.: (0 01) 77 09 28 10 99
Fax: (0 01) 77 09 28 38 49

We are pleased that you have decided to buy the MSK packaging machine together with the shrink wrapping machine MSK RECOTECH / SYNCHROTECH and in conjunction with the film wrapping machine MSK FLOWTECH.
The experiences gained from the construction of more than 1000 shrink wrapping machines and more than 500 hood mounting machines were incorporated in the development of the MSK packaging machine.
The film wrapping machine MSK FLOWTECH is a high-speed machine designed to wrap up to 300 units per hour. In conjunction with the new shrinking technology perfect shrinkage results are obtained.

All instructions and directions for use concerning the safety of users are marked with the accompanying safety symbol. Any person engaged with erection, operation, maintenance and repair of the MSK packaging system in the works of the user, must know these instructions and pay special attention to them. If these safety instructions are not observed, danger exists for body and life, machine and other assets and efficient operation of the MSK packaging system.

All instructions concerning the efficient operation of the packaging system accompanying directional sign. The disregard of these directions of use can lead to damages to the MSK packaging system and other assets.

These operating instructions have to be placed at the operating position. A further copy of the operating instructions should be deposited by the chief operator.

Packaging machines are in part subject to various sustances (dust, moisture, etc.). To ensure that your MSK packaging system is always working at its best for you, we recommend arranging for a service contract.

Gas-heated machines are subject to legal regulations. Therefore, the MSK shrink machine MSK RECOTECH / SYNCHROTECH must be inspected by a competent gas expert at least every year.

We would be pleased to hear any suggestions or criticisms which you may have on the MSK packaging system or on these operating instructions.

MSK Verpackungs-Systeme GmbH
Kleve, 2008 . 10 . 20

Updating

We provide you with a list which will help you to keep track of changes and updatings.
Please make all necessary changes in this list, especially when:

1. we send to you for changes

2. we send to you sheets for completion

3. someone removes parts of these operating instructions

Sheets to remove			Sheets to insert		
Sheet No.	Date	Signature	Sheet No.	Date	Signature

Contents

1 Safety information

1 .1 General safety information

The MSK packaging system is a state-of-the-art machine and is safe to operate. However, the MSK packaging system may pose risks and dangers if it is not operated by trained personnel, if it is operated incorrectly or if it is not used for its intended purpose.

CAUTION

Not observing the safety information will pose a risk to life and limb, the MSK packaging system itself and other effects and resources and the efficient operation of the MSK packaging system.

The spheres of responsibility for the MSK packaging system and for operation and maintenance of the MSK packaging system must be clearly defined and observed so that all persons concerned are always aware of who is responsible for what safety aspects.

Everyone on the user's premises involved in installation, operation, maintenance or repair of the MSK packaging system must have read and understood these operating instructions. The user is advised to have this confirmed in writing by the persons concerned.

1 .2 Safety information for the chief operator

Before the MSK packaging system is placed into operation for the first time, an acceptance test must be conducted by an authorized MSK installation engineer.

The MSK packaging system may be operated only by trained, authorized, skilled personnel. The procedures and safety regulations specified in these operating instructions must be observed when installing the system, making adjustments and during operation, maintenance and repair.

The MSK packaging system may be used only for the intended purpose defined in these operating instructions.

The relevant accident prevention regulations and the safety regulations of the employer's liability insurance association and of the VDE (in Germany) must always be observed in addition to the safety information described in these instructions.

The user must ensure that no one, without prior authorization, can remove parts of the MSK packaging system (in particular safety devices), attach other parts or components or carry out conversion work without the written approval of the manufacturer since this could impair the safety of the MSK packaging system.

CAUTION

The MSK packaging system may be operated only with the shut-off and safety devices operable and installed or fitted.

CAUTION

Do not step on the conveying installation for reasons of safety.

1 .3 Safety information for the operator

Any mode of operation which impairs the safety of the MSK wrapping machine should be avoided. The operator may only operate the MSK wrapping machine if he is sure that it is in perfect working order and that no one is present in the danger zone. The operator has to make sure that no unauthorized persons work on the MSK wrapping machine and also that no one is present in the danger zone. During the entire operation of the MSK wrapping machine it is absolutely necessary that all its components, especially the safety features, are fully functional and also that all the safety and operation instructions mentioned in this operating manual are adhered to. With all changes which affect the safety or functionality of the MSK wrapping machine, it should be switched off and the person responsible for the machine should be informed.

In emergency situations the MSK wrapping machine should be stopped using the emergency stop switch.

CAUTION

Before entering the danger zone:

- **Press “Automatic Start/Stop” and wait for the machine to stop.**
- **Turn off the control power and remove the key.**
- **Turn off the main switch and secure with a padlock.**
- **Stop the compressed air supply at the main valve (hand manipulated valve; the quick ventilating valve on the maintenance unit lets the compressed air escape from the system.)**

The main switch should be secured such that no other person can remove the padlock e.g. with a spare key.

CAUTION

The control cabinet lighting and ventilation as well as the control are not affected by the main switch.

For short holdups, for example to thread the film

- Press “Automatic Start/Stop” on the control console/the control cabinet.
- When the machine stops, turn off the control power and remove the key.
- Open the guard door. The pressurized air and gas supplies are interrupted using safety valves. After leaving the safety zone press the button “Unlock safety zone”. The safety valves open again.

CAUTION

Before entering the guard area, always press “Automatic Start/Stop” where possible, as opening the guard door leads to an immediate machine stop just like an emergency stop button.
Frequent emergency stops lead to increased wear and tear of the machine due to greater mechanical stress.

Entering the machine to do maintenance work

- Press “Automatic Start/Stop” on the console/the control cabinet.
- When the machine stops, turn off the power and remove the key.
- Turn off the main switch and make sure it can’t be restarted.
- Stop the compressed air supply at the main valve (hand manipulated valve), (the quick ventilating valve on the maintenance unit lets the compressed air escape from the system).

- Stop the gas supply with the main tap.
  (Exception: Adjustments to the gas controlled system by authorized expert personnel or MSK mechanics).

CAUTION

Before entering the danger zone:

- **Switch off the master switch and lock it in off position using a padlock..**
- **Then shut off the compressed air supply at the main valve and open the quick-release valve on the pneumatic conditioning unit**
- **Shut off the gas supply.**

CAUTION

Lighting and control system in the switch cabinet will still be on even after switching off the master switch!

1 .4 Emergency stop circuit

The emergency-stop switch must be operated immediately if dangerous situations occur or if unusual operating situations occur. This stops all sequences of movement. The movement of the pneumatic cylinders stop in part at the end of the piston stroke.

CAUTION

Parts of the system will still be on even after switching off the master switch!

In the case of MSK control, this applies to the control and to the ventilation and lighting system in the control cabinet.

In the case of MSK control, this applies to the control and lighting system in the control cabinet.

In addition, certain frequency converters (if available) take a further 60 seconds until the voltage has dropped below 65 V.

In order to eliminate the source of a fault within the danger zone, always switch off the master switch, lock it and shut off the compressed air supply, as described above. After the source of the fault has been remedied, you can continue with the same program step after pressing the Reset button or selecting the appropriate preselection function.

CAUTION

Do not place the MSK packaging system back into operation until you have ensured that there are no persons in the danger zone.

1 .5 Testing the emergency stop circuits

Check operability of the emergency-stop circuit every time before placing the MSK packaging system into operation.
For that purpose:
- Switch on the master switch.
- Set control voltage to ”on”.
- Push the emergency switch at control panel and unlock the switch.

If the text display or the pilot lamp send the message ”Please unlock” the emergency stop circuit works normal. After that push the switch ”unlocking emergency stop” or select the appropriate preselection function.

Once in a month the safety switches at the doors of the protective guards (option) are to be checked.
For that purpose:
- Switch on the master switch.
- Set control voltage to ”on”.
- Open one door of the protective guards and close them again.

If the text display or the pilot lamp send the message ”Please unlock” the emergency stop circuit works normal. After that select the appropriate preselection function.
If there are several doors in the protective guards repeat this procedure with every door.

CAUTION

Make sure that no person can enter the danger area through an opened door in the protective guards.

1 .6 Safety information for transportation

The MSK packaging system may be transported only by trained, skilled personnel on basis of the instructions in Chapter ”Transportation and foundation”. The admissible burdening of the used lifting devices must not be exceeded. No persons must stand under covered load.

1 .7 Safety information for electrical installations

CAUTION

Electrical work of whatever nature may be carried out only by trained, skilled personnel.

The safety regulations of the employer’s liability insurance association, the VDE (in Germany) and the related legislation must be observed. Lighting, ventilation and control system in the control cabinet will still be on even after switching off the master switch!

The safety regulations of the employer’s liability insurance association, the VDE (in Germany) and the related legislation must be observed. Lighting and control system in the control cabinet will still be on even after switching off the master switch!

1 .8 Safety information for gas supply

The DVGW regulations and all federal regulations for gas are to be observed (DVGW = Deutscher Verein des Gas- und Wasserfaches in Germany).

When the MSK packaging system is installed in small rooms, sufficient ventilation is to be provided. Systems operated with liquid gas must not be erected below ground level.

The gas inlet pressure must not exceed the value stipulated in Chapter "Technical data". Only the specified type of gas is to be applied.

CAUTION

If smell of gas occurs shut off the gas supply at the main valve. In every case fire and sparking is to be avoided.

1 .9 Safety bolts

Safety bolts with which the hot air ring are to be locked in upper position when carrying out maintenance work under the wrapping ring are fitted on both columns of the MSK SYNCHROTECH (see Figure 1). Insert the safety bolts into the borehole until the tension rods.

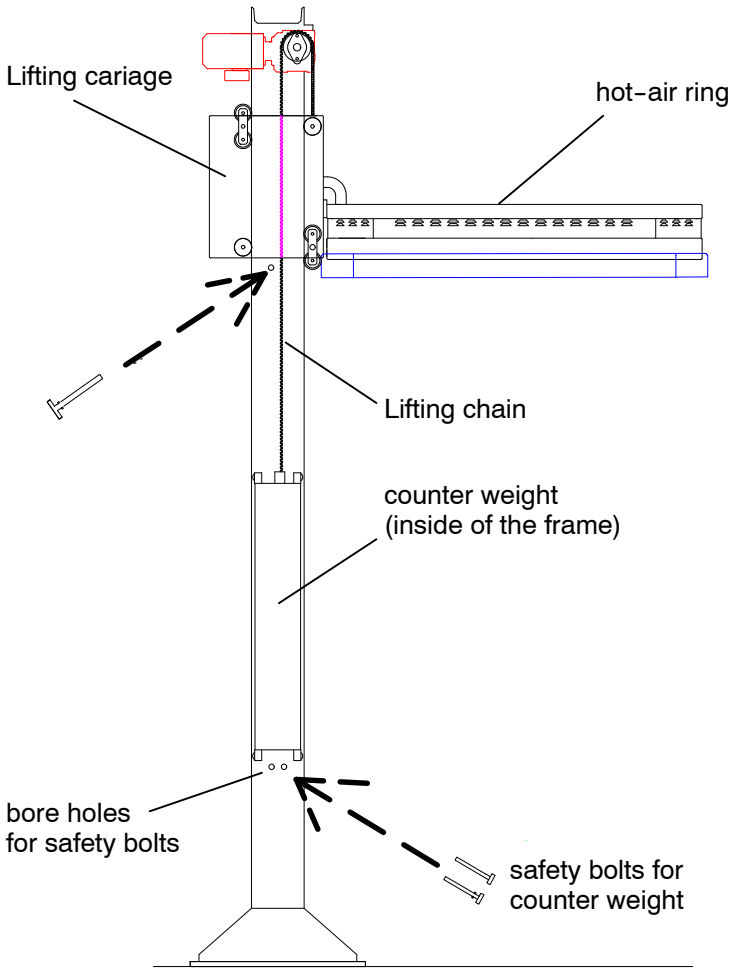


Figure 1 The safety bolts at the MSK SYNCHROTECH

1 .10 Safety information on maintenance

Gas heated machines are subject to legal regulations. Therefore, the MSK shrink machine MSK SYNCHROTECH must be inspected by a competent gas expert at least every year.

When carrying out maintenance work of any description on the MSK packaging system, it must always be shut down with the aid of the master switch, the master switch must be locked with a padlock and the compressed air supply and the gas supply must be shut off before the danger zone inside the protective guards is entered.

CAUTION

On no account may maintenance work be carried out if the system has not been properly shut down and switched off.

Working at the pneumatic and hydraulic (if available) installation is only allowed when the pressure is switched off.

While adjusting the chain tension at the carriage, the assembly screws must never be loosened completely. Otherwise the carriage is not kept at the chain tightener any longer.

Maintenance work on the electrical system may be carried out only by trained, skilled personnel, observing the VDE safety regulations.

Pay attention during oil change and lubrication. Oil must not reach ground- and waste water.

If it is necessary to switch on the MSK packaging system during maintenance work make sure that there is no person within the danger zone of the MSK packaging system. Switch on the MSK packaging zone in accordance to Chapter 4.1.

Insert the safety bolts for carrying out maintenance work at the MSK SYNCHRO-TECH hot-air ring as described above.

CAUTION

Pollution in the area of the hot-air ring increases the danger of sparking.

If the above safety information is not observed, there is a grave risk of very serious injury.

Safty information MSK Flowtech

CAUTION

During the operation of the welding- and cutting device there is a grave risk of very serious injury!

CAUTION

When the filmtransport is disturbed, never move your hand between the sealbars in the opened sealdevice! Here is an increased danger of injuries due to the filmknife.

2 Technical data

2 .1 Intended use

The MSK packaging system has been designed and is intended exclusively for packaging the packaging products listed in this Chapter, with the pallets and loading dimensions stipulated herein.

Any other use over and above this is not considered as intended use and is not permitted. The specified connection and operating conditions and the safety regulations in Chapter 1 must always be observed.

CAUTION

In any case the named dimensions of pallets and loading must not be exceeded. Otherwise fire risk exists.

Take care that only exactly centered pallets are to be packaged to prevent the pallets from getting too near to the burners and taking fire. In case of not exactly centered pallets risk of smouldering fire exists. The burners are to be ignited only in the time of shrinking. In the upper waiting position of the heating ring the burners must be extinguished.

The MSK packaging system may be operated only by trained, authorized, skilled personnel.

The user is responsible for guaranteeing that the system is used for the intended purpose. The user shall be responsible for any damage or injury resulting from use of the system not for the intended purpose.

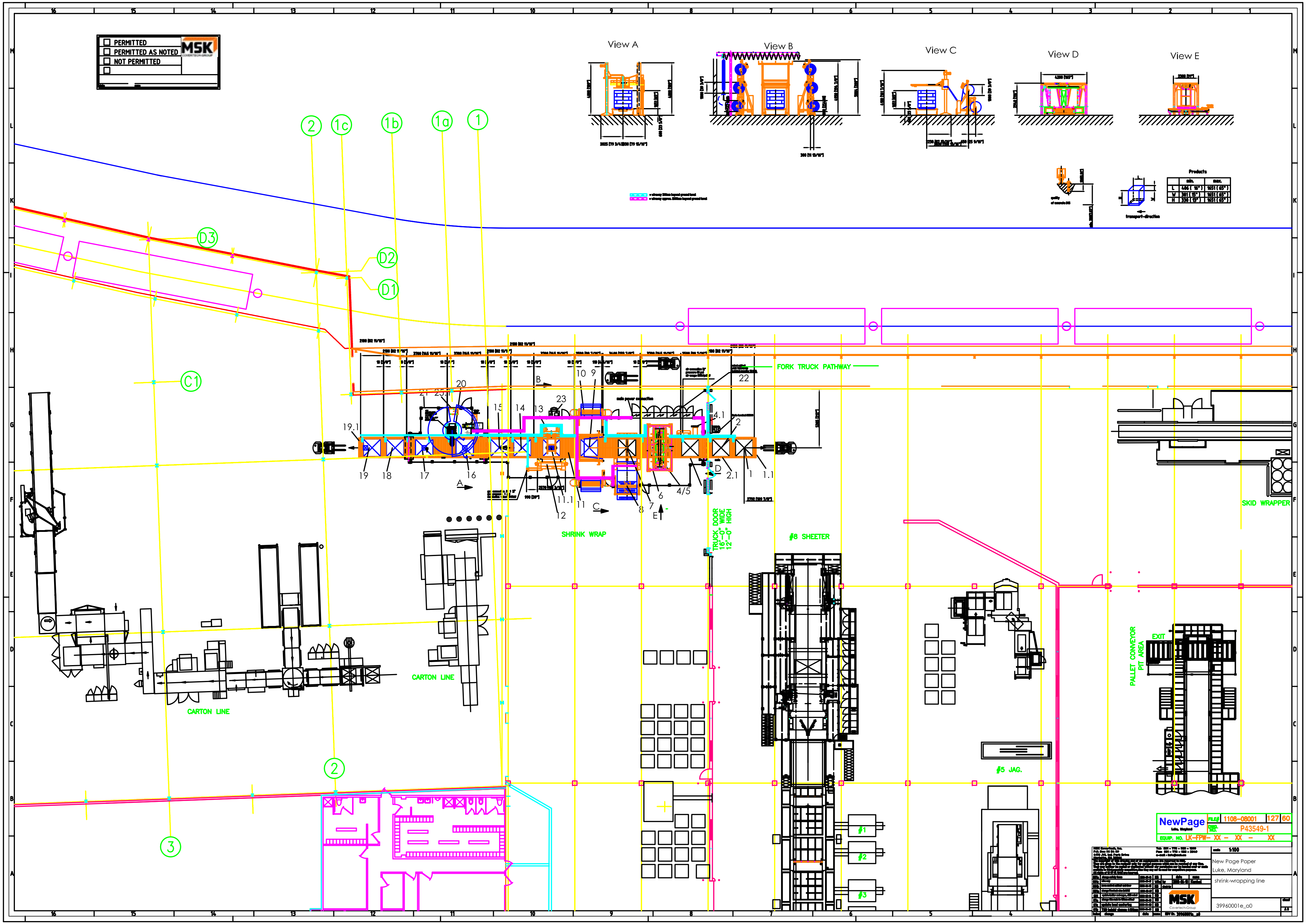
CAUTION

If the MSK packaging system is not used for the intended purpose , this will pose a risk to life and limb, the packaging product, the MSK packaging system, other effects and resources and efficient operation of the MSK packaging system.

2 .2 Installation plan

The MSK packaging system is composed of the following components (see installation plan no. 399600 0 001e):

Pos.	Component
1	Roller conveyor
1.1	Bumper (Driving protection)
2	Roller conveyor
3	Roller conveyor
3.1	Barcode scanner
4	Roller conveyor
5	Pallet centering system
6	Load centering system
7	Roller conveyor
8	MSK Top Sheet Dispenser
9	Roller conveyor
10	Film feeder MSK 320 Flowtech
11	Roller conveyor
11.1	Exhaustion
12	Shrink machine MSK 280iS Synchrotech
13.1	Top–Shrink plate
13	Roller conveyor
13.1	Exhaustion
14	Roller conveyor
15	Roller conveyor
16	Roller conveyor
17	Roller conveyor
18	Roller conveyor
18.1	Bumper (Driving protection)
19	Roller conveyor
21	Protection guards
22	Control cabinet
23	Operating desk



PERMITTED
PERMITTED AS NOTED
NOT PERMITTED
MSK
View A
View B
View C
View D
View E
Products
transport-direction
FORK TRUCK PATHWAY
SHRINK WRAP
TRUCK DOOR 16'-0" WIDE 12'-0" HIGH
#8 SHEETER
SKID WRAPPER
CARTON LINE
CARTON LINE
PALLET CONVEYOR PIT AREA
EXIT
#5 JAG.
#1
#2
#3
NewPage
Luke, Maryland
FILE# 1108-08001 127 60
DWG. NO. P43549-1
EQUIP. NO. LK-FPW- XX - XX - XX
scale 1:100
New Page Paper
Luke, Maryland
shrink-wrapping line
39960001e_a0
sheet
A0
Covertech-Group

2 .3 Technical data of the MSK packaging system

Producer

Company	MSK Verpackungs-Systeme GmbH Benzstraße D-47533 Kleve Postfach 1610 D-47515 Kleve Tel.: +49 / 28 21 / 5 06-0 Fax: +49 / 28 21 / 1 78 66 Email: info@msk.de www: http://www.msk.de
Year of construction	2008

User

Company	NewPage Corporation
Series No.	399600
Installation plan No.	399600 0 001e

Packaging product

Product to be packaged	Paper skids
Pallet material	Wood
Load dimensions (length x width x height)	min. 16” x 15” x 13” max. 64” x 64” x 65”
Pallet running direction	longitudinal and transversal
Pallet weight	min. 500 kg max. 1400 kg
Height of load (incl. pallet)	min. 13” max. 65”

Packaging capacity

Packaging capacity	60 pallets per hour with a film thickness of 100 µm and a max. pallet hight of 65”

Noise level

Noise level (DIN 45641 part 1)	85 dB (A)

Surroundings

Location	hall
Temperatures	10-30° C

Electrical connection values

Input voltage from electrical net	3 x 480 V
Frequency	60 Hz
Control voltage of the inputs/outlets	24 V (DC)
Break voltage of the drives	230 V (AC)
Control voltage gas regulation system	230 V (AC)
Connection value	75 kVA

Gas connection

Type of gas	LPG
Gas pressure	80 mbar
Permissible gas pressure **(Existing gas pressure > Permissible gas pressure ⇒ Gas pressure regulator with optional safety features required, see chap. 8.2)**	50–80 mbar
Rated heat load of the MSK SYNCHROTECH	547,2 kW

Pneumatic connection values

Existing air pressure	5–6 bar
Air connection	min. 550 liter/pallet

Film size

MSK Flowtech

Film thickness		100 µm
Film format	A	65“
	B	50“
	C	42“
	max.	71”

MSK TopSheetDispenser

Film thickness		100 µm
Film format MSK TopSheetDispenser	A	60“
	B	45”
	max.	71”

Roller diameter	max. 40”
Cone inner diameter	76 mm
Roller weight	max. 1000 kg

Motor data

See Chapter ”Spare parts”.

2 .4 Description of the MSK SYNCHROTECH

2 .4 .1 Structure of the MSK SYNCHROTECH

The structure of the MSK SYNCHROTECH are shown in figure 2.

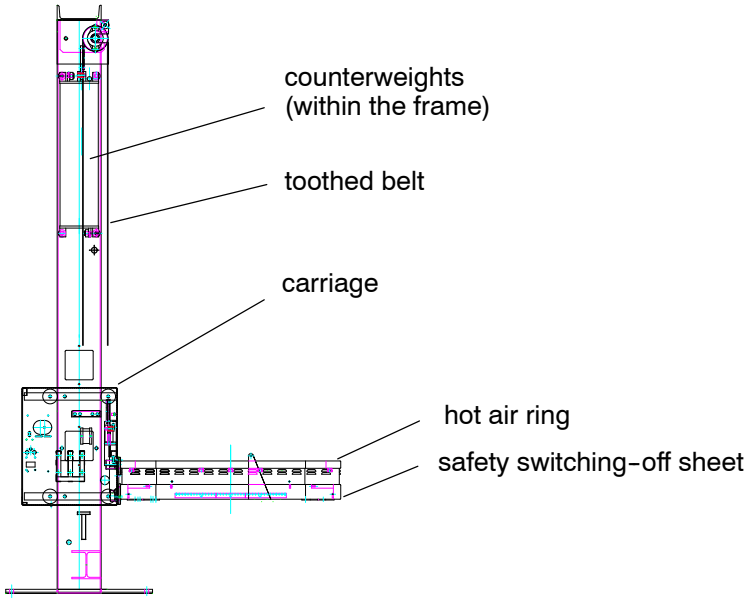


Figure 2 Structure of the MSK SYNCHROTECH

2 .4 .2 Functional description

General functioning of the MSK SYNCHROTECH:

1. The centered pallets are positioned on the conveyor for transport to the shrinkage place.
2. Gas firing is started.
3. The pallet is lifted by the lifting platform (optional).
4. The shrink frame moves down. During this descending movement first the top shrinkage and then the side shrinkage is formed along the product from top to bottom.
5. The vacuum blower sets in.
6. The under shrinkage is formed.
7. The pallet is lowered by the lifting platform (optional).
8. The shrink frame moves upwards.
9. Formation of an additional side shrinkage.
10. The shrink frame moves to initial position.
11. The pallet is further transported.

2 .4 .3 Technical data of the MSK SYNCHROTECH

Type of machine

Name		Shrink machine MSK 280iS Synchrotech
Type of execution		high

Design of the hot air ring

Number of burners		32
Type of ring		8 / 8

Technical datas

Mast height MSK 280iS		189”
Hight of conveyor		23 5/8” +/- 50 mm
Pallet height		max. 65”
Contour scanning		4-fold
Safety scanning		yes
Blower type	Elektror	HRD 2T Fu 2,7 kW
(Further information see installation plan)		

Gas connection

Type of gas	LPG
Existing gas pressure	80 mbar
Permissible gas pressure	50-80 mbar
(Existing gas pressure > Permissible gas pressure ⇒ Gas pressure regulator with optional safety features required, option)	
Rated heat load of one burner	17,1 kW
Rated heat load of the MSK SYNCHROTECH	547,2 kW

Motor data

See Chapter 7 ”Spare parts”.

2 .5 Description of the MSK FLOWTECH

2 .5 .1 Technical data pos. 10

Designation of the machine			Film wrapping machine MSK Flowtech
Model			MSK 320-3 Format, with film drive lifting device, frequency controlled drives
Machine dimensions (for further dimensions see set-up diagram)	height: width:		200” 286”
Height of conveyor			23 5/8” +/- 50 mm
Pallet height			min. 13“ max. 65”
Film dimensions	film width:	A B C max.	65“ 50“ 42“ 71”
	film thickness:		130 µm
Film reel diameter			max. 40”
Cone inside diameter of the film reel			76 mm
Reel weight			max. 1000 kg

See chapter “Spare parts” and/or “Description of built-in components” for more technical details of the components.

For further information about the electrical control system please see separate electrical documentation.

2 .5 .2 Structure of the MSK Flowtech

The structure of the MSK Flowtech are shown in Figure 3.

The exact model of your MSK Flowtech is indicated in the data sheet in chapter 2 .5 .1 ”Technical data”.

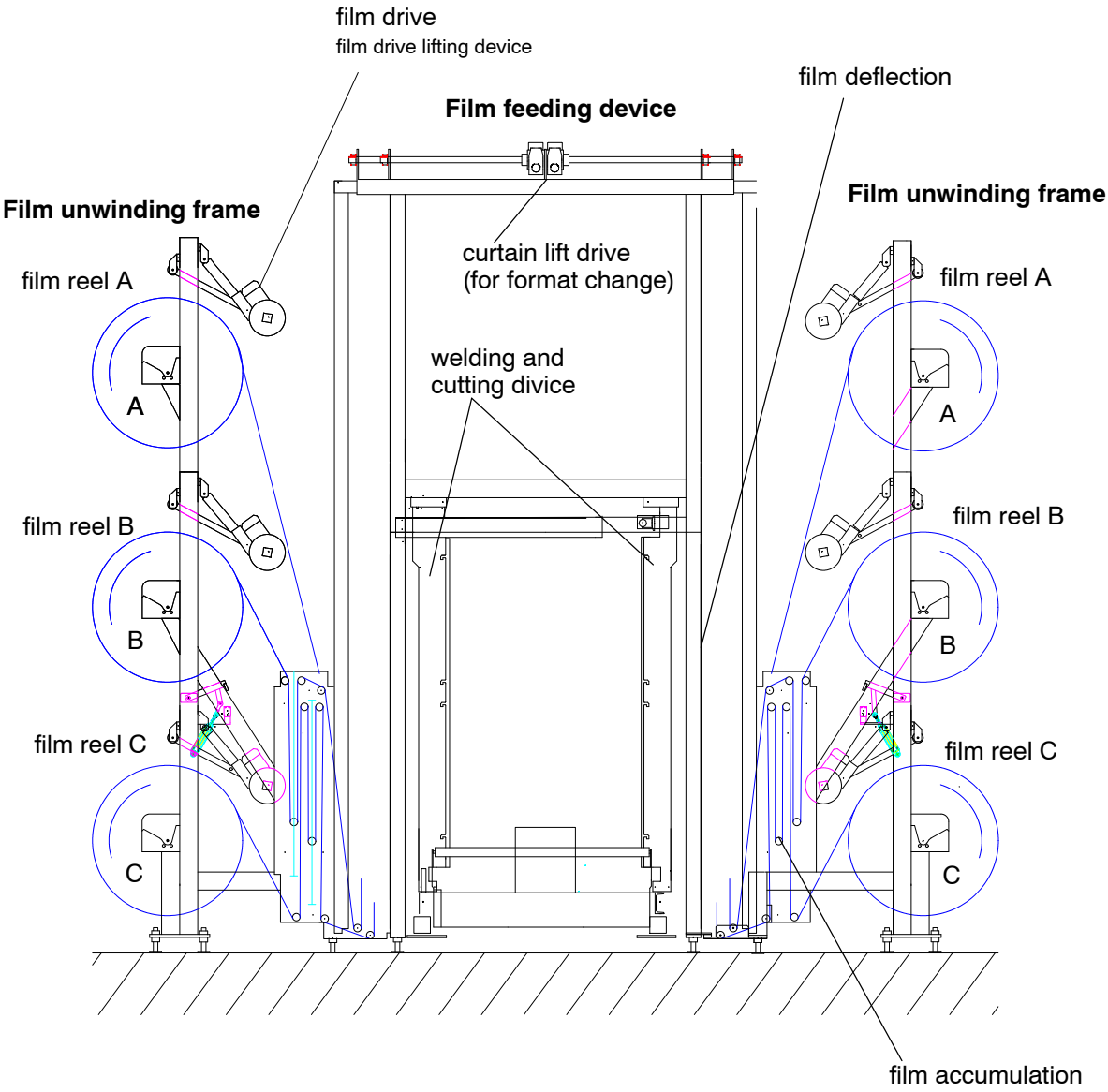


Figure 3 Structure of the MSK Flowtech

2 .5 .3 Functional description

General functioning of the MSK Flowtech:

1. The product is transported to the MSK FLOWTECH film wrapping machine wrapped by a film curtain which is supported by two vertical welding beams. Because of the transporting movement the products are first wrapped on three sides.
2. Once the product has passed the welding beams a light barrier is no longer interrupted and the conveying movement is stopped. A stopper is lifted just behind the welding beams.
3. The welding beams are moved towards each other and closing the film curtain behind the product.
   While the welding beams are moving towards each other the product is conveyed back towards the welding beams and positioned against the stopper just in front of the welding beams.
   The film curtain is thus wrapped closely and accurately around the product even in the event of different lengths.
4. The welding is carried out with a double seam, separated in the middle such that the film wrapping is produced and a new film curtain formed in one single operation.

2 .5 .4 Adjustments

Mechanical adjustments

1. The speed of the welding and cutting device can be adjusted via the throttle screws of the cylinder.
2. The position of the inclined film deflection device can be changed to adjust the film curtain.

Electrical adjustments

1. General parameters:
   - Film width
   - Allocation of the film formats to the pallet heights
   - Treatment of the respective foil data record, the actually used film(s)
     - Welding time
     - Cooling time
     - Film range
2. Film parameters:
   - welding time of the beams at the infeed
   - welding time of the beams at the exit section
   - cooling time of the welt seam
3. Adjustments at the ROPEX–temperature controller (at the top of the Flowtech frame):
   - the welding temperature of the welding beams at the ROPEX regulator

2 .6 Description of the MSK Top Sheet Dispenser

2 .6 .1 Technical data pos.

Name		Top sheet dispenser with Linear-Cylinder for Film-Cutter
Film dimensions	Film width:	A 60“ B 45” max. 71”
	Film thickness:	20 µm thicker than the Flowtech film
Pallet running direction		longitudinal
Pallet height		min. 13” max. 65”
Height of conveyor		23 5/8” (+/-2”)
Roller diameter		max. 40”
Cone inner diameter		76 mm
Roller weight		max. 1000 kg
Motor data		See Chapter ”Spare parts”.

2 .6 .2 Structural components of the Top sheet dispenser

The main structural components of the Top sheet dispencer are shown in Figure 4.

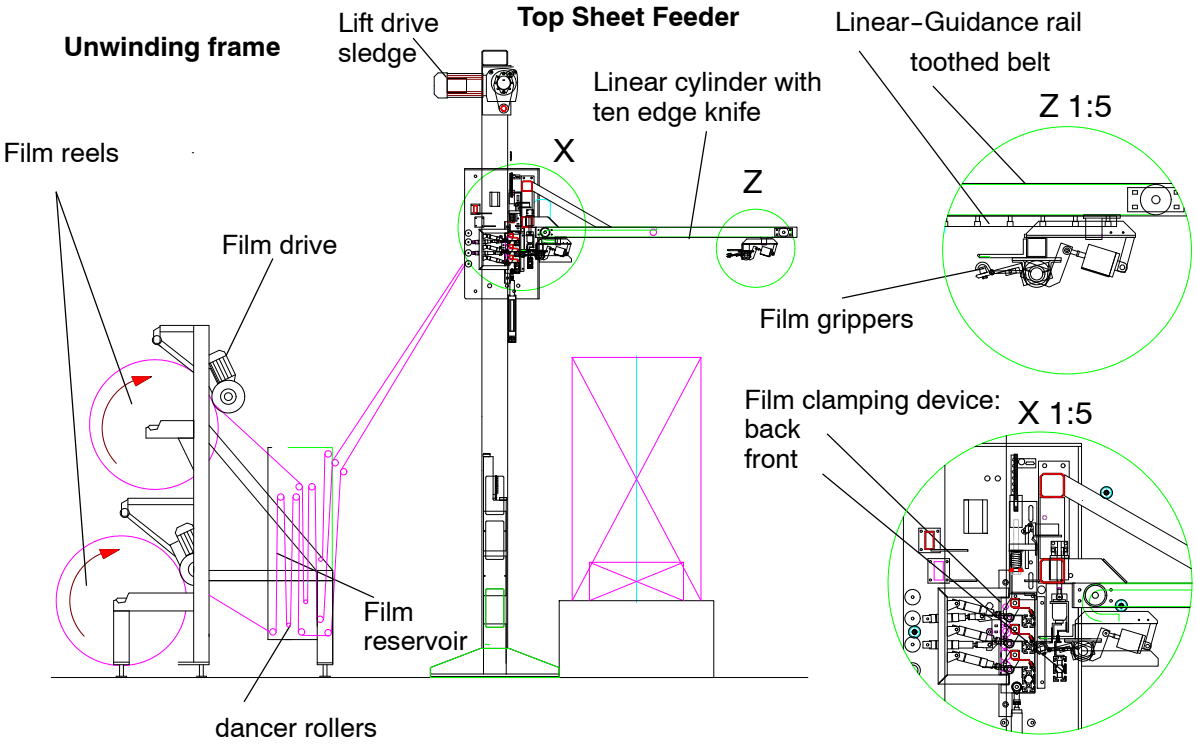


Figure 4 Structural components

2 .6 .3 Functional description

General functioning:

1. The product is laterally centered, identified and transported to the Top sheet feeder. According the pallet dimension the right film reel is selectet - the vertical sledge is positioning the film at the gripper-position.
2. The clamping device of the horizontal ledge is opened and the sledge moves to the gripper-position. The film is gripped.
3. The vertical sledge is pulling the film over the pallet by the right film length.
4. The sledge stopped, both clamping devices at the horizontal sledge were closed.
5. The linear cylinder is cutting the film. The clamping device (on the figure on the right side) opens and the horizontal sledge is pulling the film comlpetely over the pallet, the film gripper opens and the film is sliding onto the pallet.
6. At the same time, the next pallet is allready identified, the right film reel is selected and the horizontal sledge moves back to the gripper-position.

2 .6 .4 Adjustments

Mechanical adjustments

1. -

Electrical adjustments

1. -

2 .7 Technical data of the conveyors

2 .7 .1 Roller conveyor pos. 1, 2

Name	roller conveyor
Type of execution	with freq. inverter
Pallet stand places	1
Pallet positioning	with switch roller
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	82 11/16”
Minimum width required	71”
Speed of conveyor	12 m/min.
Pallet weight	min. 500 kg max. 1500 kg
Drive	see list of spare parts in Chapter 7

2 .7 .2 Driving protection Pos.1.1

Technical description

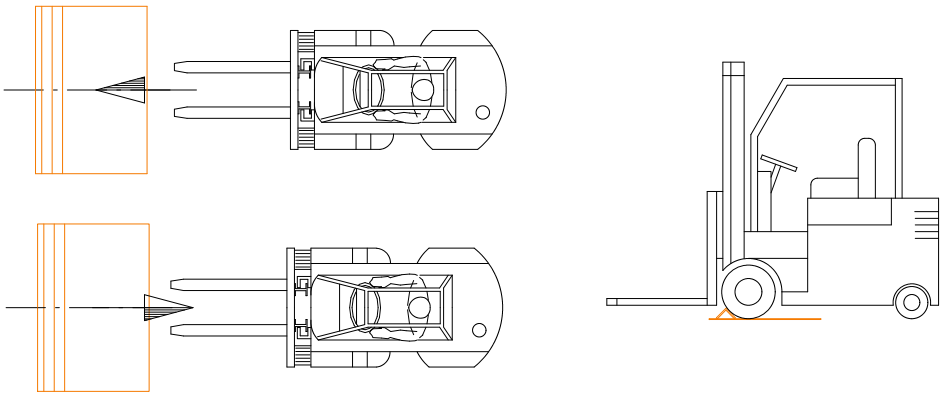


Figure 5 Driving protection / Bumper

Technical Datas

Name			MSK Driving protection
Quantity			1
Fork lift detection with			
	inductionloop		without
		Length of the Inductionloop	0’
	photo swith	type	Sick WT260
Length of the bumper			75”

2 .7 .3 Load cells pos. 2.1

Supplier	Mettler Toledo
Scale capacity	4x 1100 kg

2 .7 .4 Roller conveyor pos. 3

Name	roller conveyor
Type of execution	with freq. inverter with ultrasonic sensor for pallet height measuring
Pallet stand places	1
Pallet positioning	with switch roller, photo switch, pneum. bumper and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	98 7/16”
Minimum width required	71”
Speed of conveyor	12 m/min.
Pallet weight	min. 500 kg max. 1500 kg
Drive	see list of spare parts in Chapter 7

2 .7 .5 Scanner pos. 3.1

Name	bar code scanner
Type	Sick CLV 480
Pallet positioning	with photo switch
Distance between scanner and pallet	28”
Pallet height	min. 13” max. 65”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	transversal / longitudinal

2 .7 .6 Roller conveyor pos. 4

Name		roller conveyor
Type of execution		with freq. inverter and brake
Pallet stand places		1
Pallet positioning		with photo switch and impulse counting on the motor
Roller diameter		89 mm
Roller pitch		4”
Height of conveyor		23 5/8” (+/–2”)
Pallet direction		longitudinal / transversal
Length		145 11/16”
Minimum width required		71”
Speed of conveyor	infeed outfeed	12 m/min. 18 m/min.
Pallet weight		min. 500 kg max. 1500 kg
Drive		see list of spare parts in Chapter 7

2 .7 .7 Centering system pos. 5

Name	pneumatic centering device, two sided with simultaneous transport
Type of execution	at roller conveyor pos. 4
Centering distance	min. 16” max. 71”
Height of the centering beam	6”
Pallet weight	min. 500 kg max. 1500 kg
Pallet direction	longitudinal / transversal

2 .7 .8 Centering station for pallet load pos. 6

Technical description

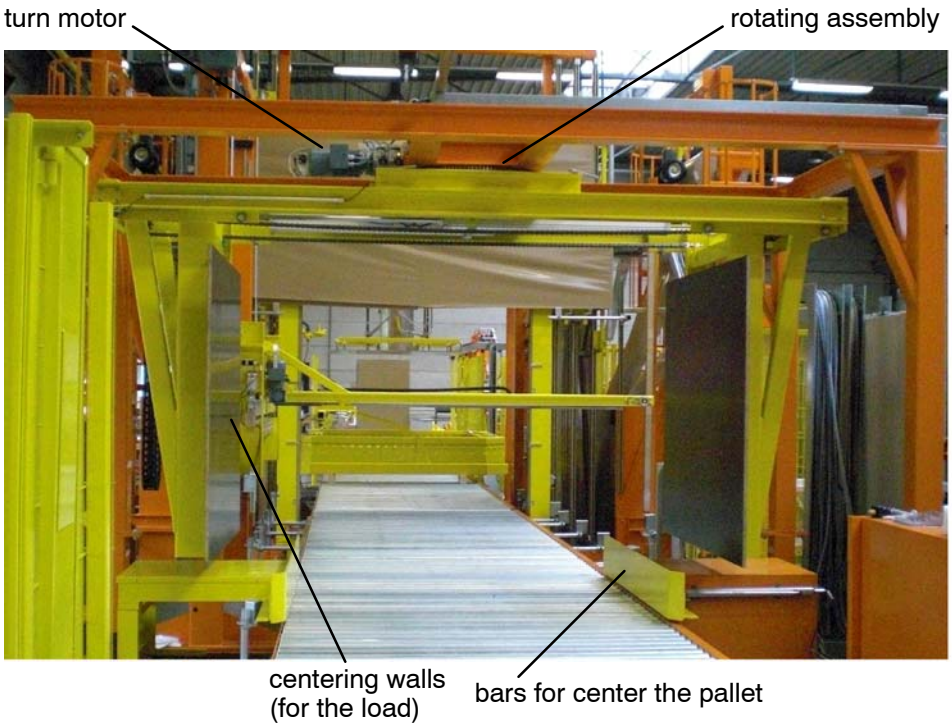


Figure 6 Pneumatic centering station for pallet and load

The pallet arrives at the centering place conveyor and will be positionned.

After that firstly the pallet centering will close. After the pallet was centered, the bars stay closed.
The next step consists of a gathering of the centering walls (at the side of the pallet). They will be pressed synchronously two sided against the charge. After the centering was finished, the walls will open and rotated 90° by the turn motor. The gathering of the centering walls starts again (in front of the head end of the pallet). Finally the walls open, the bars of the pallet centering also, and the walls turn back to start position.

Technical data

Name	centering station for pallet load
Type of execution	pneumatic centrering, two-sided 2-side load centering with turnable walls
Turning speed	90° in 5 sec.
Height of conveyor	23 5/8" (+/-2")
Centering distance Opening measurement	12 x 71" max. 71"
Pallet direction	longitudinal / transversal
Maximum pallet weight	min. 500 kg max. 1500 kg
Drive	see list of spare parts in Chapter 7

2 .7 .9 Roller conveyor pos. 7

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with photo switch and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	133 7/8”
Minimum width required	71”
Speed of conveyor	18 m/min.
Pallet weight	min. 500 kg max. 1500 kg
Drive	see list of spare parts in Chapter 7

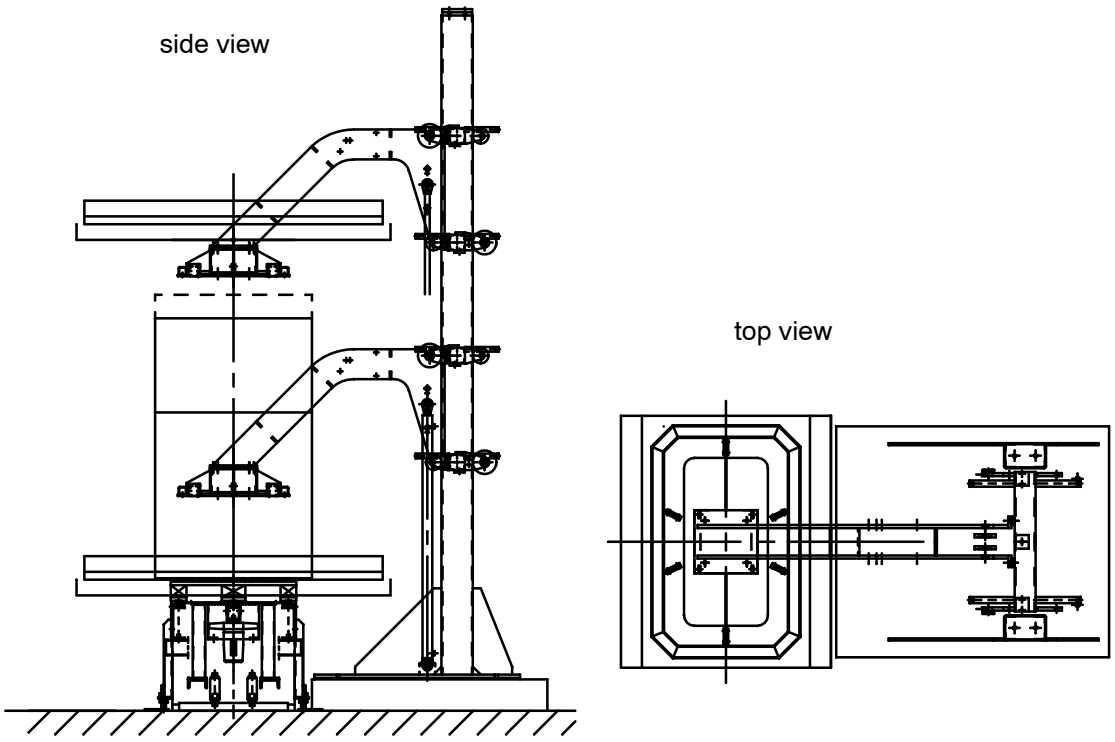
2 .7 .10 Roller conveyor pos. 8

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with photo switch and mech. stop unit and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	98 7/16”
Minimum width required	71”
Speed of conveyor	18 m/min.
Pallet weight	min. 500 kg max. 1500 kg
Drive	see list of spare parts in Chapter 7

2 .7 .11 Roller conveyor pos. 9 (shiftable)

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with photo switch and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	145 11/16”
Minimum width required	71”
Speed of conveyor	18 m/min.
Pallet weight	min. 500 kg max. 3000 kg
Drive	see list of spare parts in Chapter 7

2 .7 .12 Electromotive Top–Shrink plate MSK 700 pos. 13.1



Technical data of the electromotive Top-Shrink plate MSK 700

Name	Electromotive Top–Shrink plate MSK 700
Type of execution	with soft starter and break
Machine height	190”
Machine width	53”
For pallet hight	min. 13” max. 65”
Pressing power	approx. 200 kg

Technical details of the parts are included in the chapter ”Spare parts” and chapter ”Description of built–in devices”.

Further information are given in the electrical documentation.

Discription

If the MSK packaging machine get the information ”with Electromotive Top–Shrink plate MSK 700”, the pallet will be pressed during the shrink process. The pressing power is approx. 200 kg.

The press lifts down onto the pallet and press. When the shrink process is finished the Top–Shrink plate lifts up to the start position after a delay time when the film is cooled down.

2 .7 .13 Roller conveyor pos. 14

Name		roller conveyor
Type of execution		with freq. inverter
Pallet stand places		1
Pallet positioning		with switch roller
Roller diameter		89 mm
Roller pitch		4”
Height of conveyor		23 5/8” (+/–2”)
Pallet direction		longitudinal / transversal
Length		82 11/16”
Minimum width required		71”
Speed of conveyor	infeed outfeed	18 m/min. 12 m/min.
Pallet weight		min. 500 kg max. 3000 kg
Drive		see list of spare parts in Chapter 7

2 .7 .14 Roller conveyor pos. 15

Name		roller conveyor
Type of execution		with freq. inverter
Pallet stand places		1
Pallet positioning		with switch roller
Roller diameter		89 mm
Roller pitch		4”
Height of conveyor		23 5/8” (+/–2”)
Pallet direction		longitudinal / transversal
Length		82 11/16”
Minimum width required		71”
Speed of conveyor		12 m/min.
Pallet weight		min. 500 kg max. 3000 kg
Drive		see list of spare parts in Chapter 7

2 .7 .15 Roller conveyor pos. 16

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with switch roller and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	145 11/16”
Minimum width required	71”
Speed of conveyor	12 m/min.
Pallet weight	min. 500 kg max. 3000 kg
Drive	see list of spare parts in Chapter 7

2 .7 .16 Roller conveyor pos. 17

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with photo switch and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	145 11/16”
Minimum width required	71”
Speed of conveyor	12 m/min.
Pallet weight	min. 500 kg max. 3000 kg
Drive	see list of spare parts in Chapter 7

2 .7 .17 Roller conveyor pos. 18, 19

Name	roller conveyor
Type of execution	with freq. inverter and brake
Pallet stand places	1
Pallet positioning	with switch roller and impulse counting on the motor
Roller diameter	89 mm
Roller pitch	4”
Height of conveyor	23 5/8” (+/–2”)
Pallet direction	longitudinal / transversal
Length	82 11/16”
Minimum width required	71”
Speed of conveyor	12 m/min.
Pallet weight	min. 500 kg max. 3000 kg
Drive	see list of spare parts in Chapter 7

2 .7 .18 Driving protection Pos. 19.1

Technical description

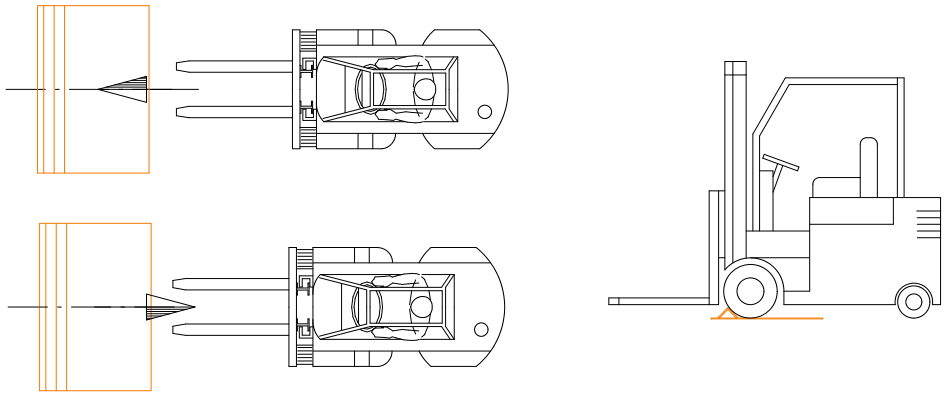


Figure 7 Driving protection / Bumper

Technical Datas

Name			MSK Driving protection
Quantity			1
Fork lift detection with			
	inductionloop		without
		Length of the Inductionloop	0’
	photo swith	type	Sick WT260
Length of the bumper			75”

2 .8 Safety guard

2 .8 .1 Safety guard pos. 21

Length of the safety guard	1890”
Layout of the safety guard	see Layout Chap. 2.2
Safety category	Cat 2
Safety-Light barrier (Type)	Sick M4000
End switches for safety guard doors	Trojan 5
Height of conveyor Infeed-Safety-Light barrier	23 5/8” (+/-2”)

3 Transport and foundation

CAUTION

The MSK packaging system may be transported only by trained, skilled personnel under guidance of authorized MSK-personnel.

3 .1 General information

The MSK packaging system may be transported only by trained, skilled personnel according to these instructions.

The doors of the control cabinet must be closed for transportation. The hot air ring of the MSK SYNCHROTECH must be in the bottom position.

Please pay attention to the safety instructions in Chapter 1.

3 .2 Foundation and connection

3 .2 .1 Foundation

CAUTION

The MSK packaging system has to be doweled before placing it into operation the first time.

The floor area on which it is intended to install the system must be suitable for doweling. The concrete quality of the floor slab must be at least B15 and the slab must have a thickness of 200 mm (see Figure 8). Please note the information provided by the dowel manufacturer.

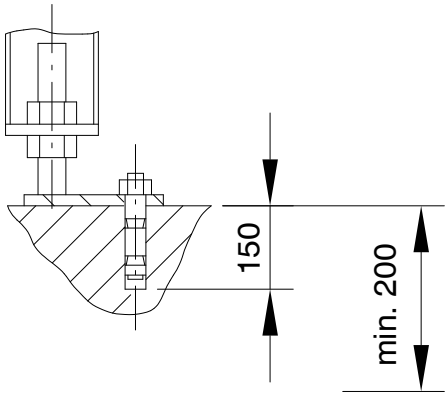


Figure 8 Doweling

3 .2 .2 Gas supply

CAUTION

The DVGW regulations and all federal regulations for gas are to observed. (DVGW = Deutscher Verein des Gas- und Wasserfaches in Germany).

The gas inlet pressure must not exceed the value stipulated in the Chapter "Technical data". Only the specified type of gas is to be applied. If you wish to change the gas pressure or the type of gas please call our service.

CAUTION

In any case the inlet pressure of the MSK shrink machine MSK SYNCHROTECH must not exceed 70 mbar. When the pressure is higher, a pressure controller is to be arranged upstream.

CAUTION

In case of unauthirized change of type of gas or inlet pressure exists danger of explosion or fire or damage of parts of the MSK shrink machine MSK SYNCHROTECH.

When the MSK shrink machine MSK SYNCHROTECH is installed in small rooms, sufficient ventilation is to be provided.
Systems operated with liquid gas must not be erected below ground level.

3 .2 .3 Compressed air connection

A compressed- air connection 3/8" is required for the operation of the MSK packaging system.

The maintenance unit which is directly connected downstream the air hose, is to be filled with pneumatic oil and is to be adjusted (one drop for ten cycles). The setting of the maintenance unit and the types of oil to be used are specified in the description of the manufacturer in Chapter 8 .3 of the present operating instructions.

A defrosting lubricant is to be used at temperatures below 0°C.
The air must be sufficiently dry and for this purpose an air drier can be used.

3 .2 .4 Electric connection

CAUTION

The electrical installation should only be realized by suitably qualified skilled personnel in accordance with VDE or other national regulations.

CAUTION

The MSK packaging system should always be approved by an authorized MSK installation technician prior to initial commissioning.

The MSK packaging system operator should provide a supply cable for the MSK with an adequate cross section and safety elements.
Please refer to Chapter 2.3 for the nominal output and nominal current.

CAUTION

The MSK packaging system should be deactivated in accordance with Chapter 4 .1 .11 for maintenance work.

3 .2 .5 Protective guards

CAUTION

In any case it is not allowed to set the MSK packaging system into operation without mounted protective guards.

The protective guards avoid entering the danger zone during operation. The doors in the protective guards delivered by MSK Verpackungs-Systeme are provided with a limit switch. The MSK packaging system switches off as soon as one door is open.

CAUTION

Ensure above all (in compliance with BGV A3) that unauthorized shutting of the opened protective guard doors by others is prevented. Inadvertent shutting of the protective guard doors should be particularly prevented during repair, maintenance and cleaning work (e.g. by locking the opened doors to the protective guard with a padlock). This can lead to maintenance personnel being locked into the protective guard zone.

4 Operation

4 .1 Layout of the panel

Shown as follows the Panel RS-View (see Figure 9), with which the MSK packaging system can be controlled:

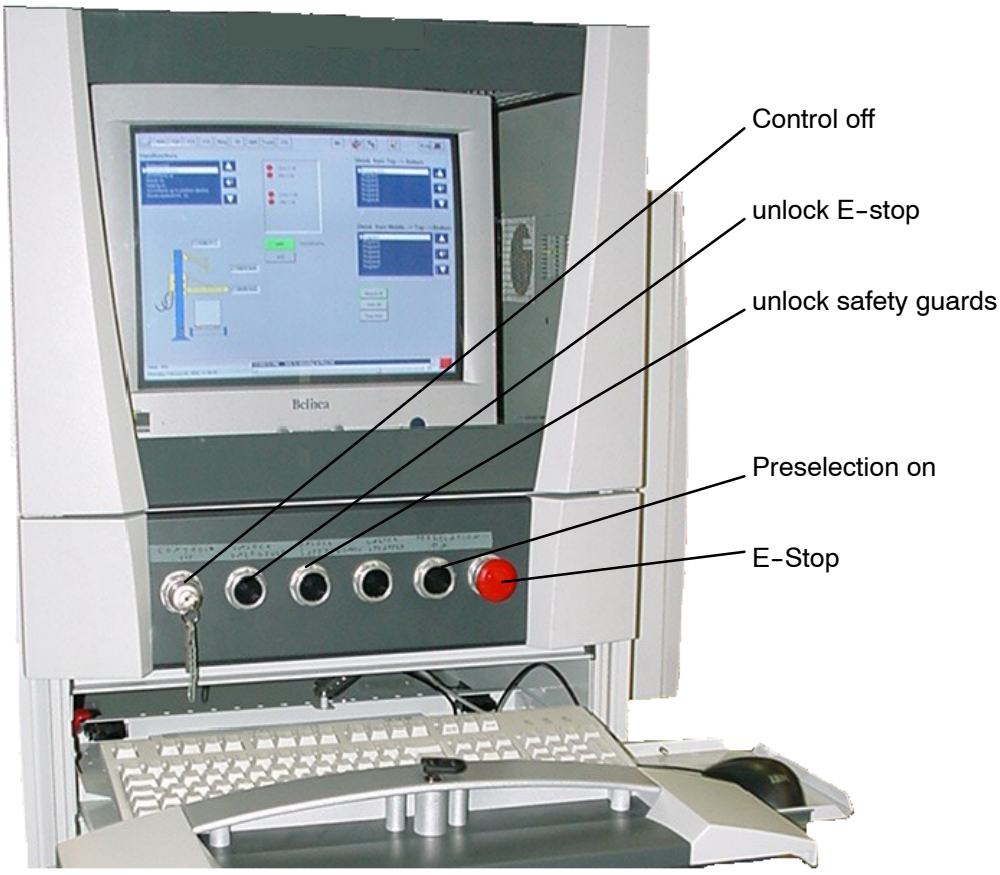


Figure 9 The Control cabinet

4 .1 .1 Inspection before placing into operation

CAUTION

Check whether the MSK packaging system is in proper working order before switching on the system.

Check list:

1. Check whether the entire system, in particular its safety devices, are in proper working order.

2. Check whether there is no person in the danger zone of the system inside the protection guards.

3. Check whether there are no parts on the conveyors.

4 .1 .2 Placing into operation for the first time

CAUTION

An MSK installation engineer must always conduct an acceptance test before placing the MSK packaging system into operation for the first time.

First, operate all functions of the system individually. The system must be switched on as described in the following chapters. In order to do this, select all functions one after the other. Check that the sequence is correct. Remedy any defaults, errors and malfunctions.

4 .1 .3 The Toolbar

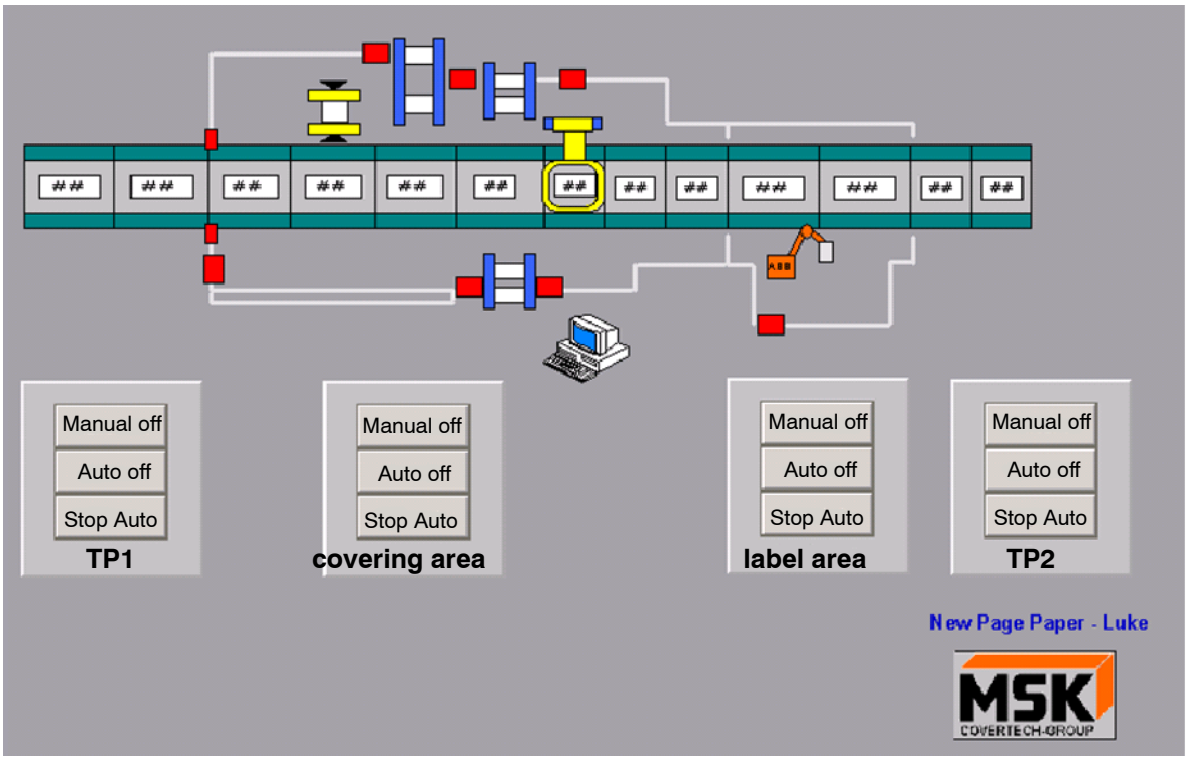


Figure 10 Shrinkwrap overview

The TopToolBar allows you to navigate to the pictures and special functions of the machine. The BottomToolBar shows you the logged User, the time and the latest fault message. The button AckAll quits the faults in RSVIEW and in the PLC.

The pallet Info is touch animated. If you click on a conveyor, an display pops up with the Info of the placed pallet.

4 .1 .4 Parts of the Shrinkwrapping line

The Top Sheet Dispenser

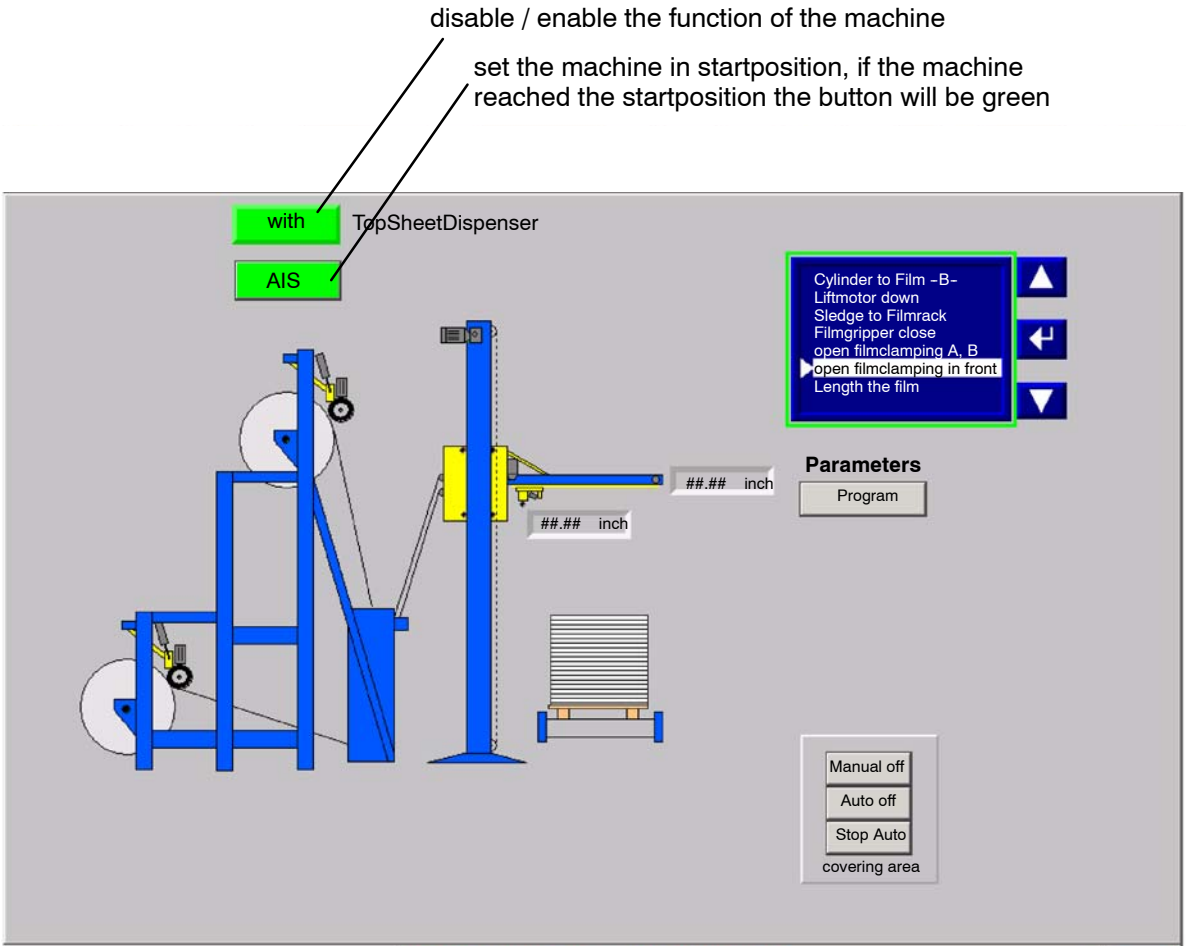


Figure 11 Topsheet dispenser

Parameters
If you push the button “Parameters”, a window opens. There you can change the parameters for the film length, the height scanner and for lift down to give the film.

The Flowtech

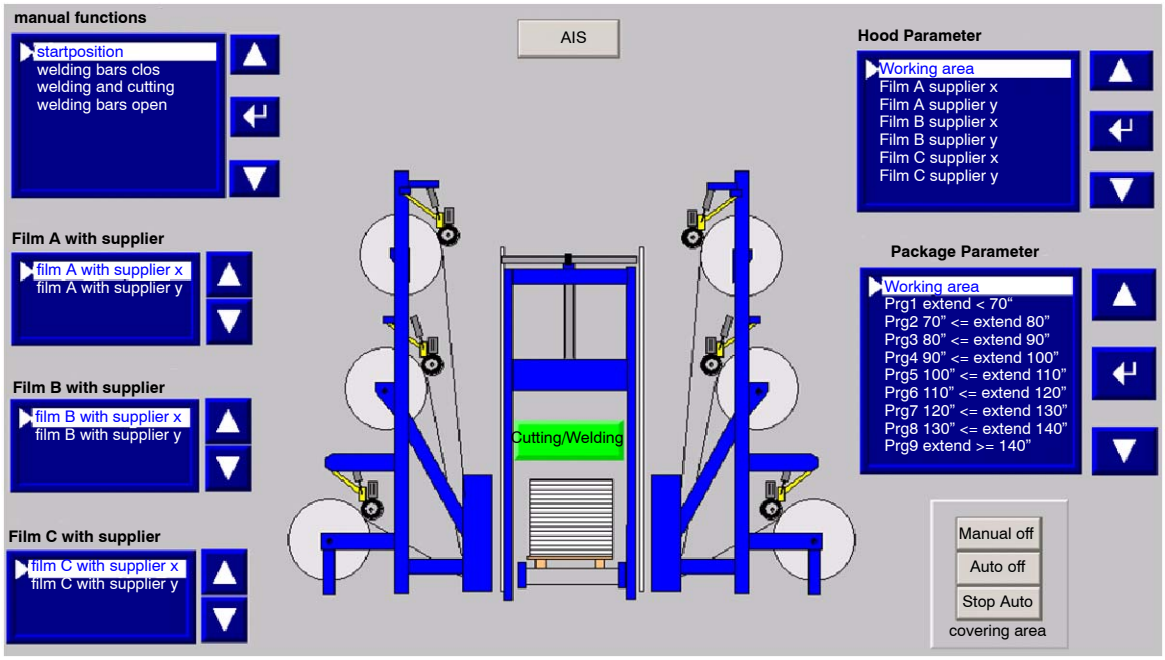


Figure 12 Flowtech

Parameters

If you push the button “Parameters”, a window opens. There you can change the following parameters:

Welding time of welding bars infeed side:
The time for which the welding beam is switched on at the intake side (max. 5 sec.).

Welding time of welding bars outfeed side:
The time for which the welding beam is switched on at the outtake side (max.5sec.).

Cooling time
The time for which the welding beams remains closed after the welding phase in order to press the foil together.

The Shrink frame

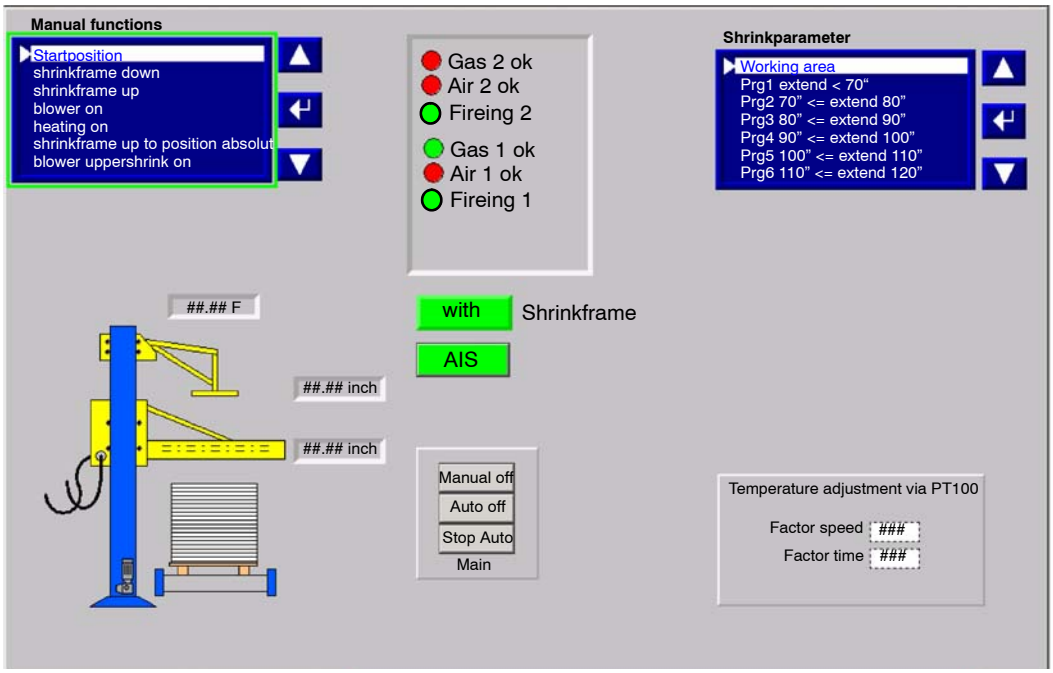


Figure 13 Shrink frame

Temperature adjustment
The ambient temperature is measured with a sensor. In the program the speed for the shrink frame and the time for heating is automatically adjusted.

Formula Speed: (Temp * 100) / (Operating Temperature) * Factor speed %
Formula Time : 1 / (Temp. * 100) / (Operating Temperature) * Factor time %

The operating temperature is 40degrees Celsius.

Transport section

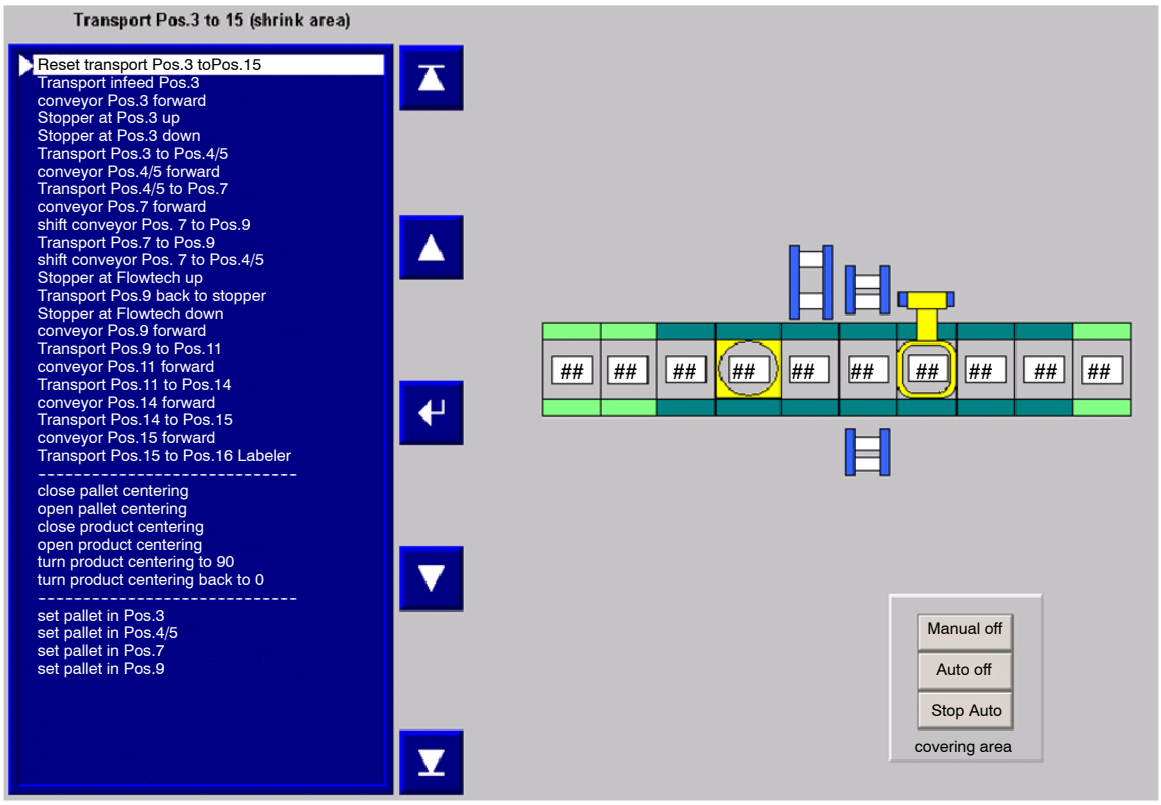


Figure 14 Transport from pos. 20 to pos. 26

Manual on/off : disabled/enabled the manual function from the RSView-Desk
Auto off/on : disabled/enabled the Automatic function from the RSView-Desk
Stop Auto / **Start Auto** : stops/starts the Automatic function from the RSView-De

The Lable Applicator

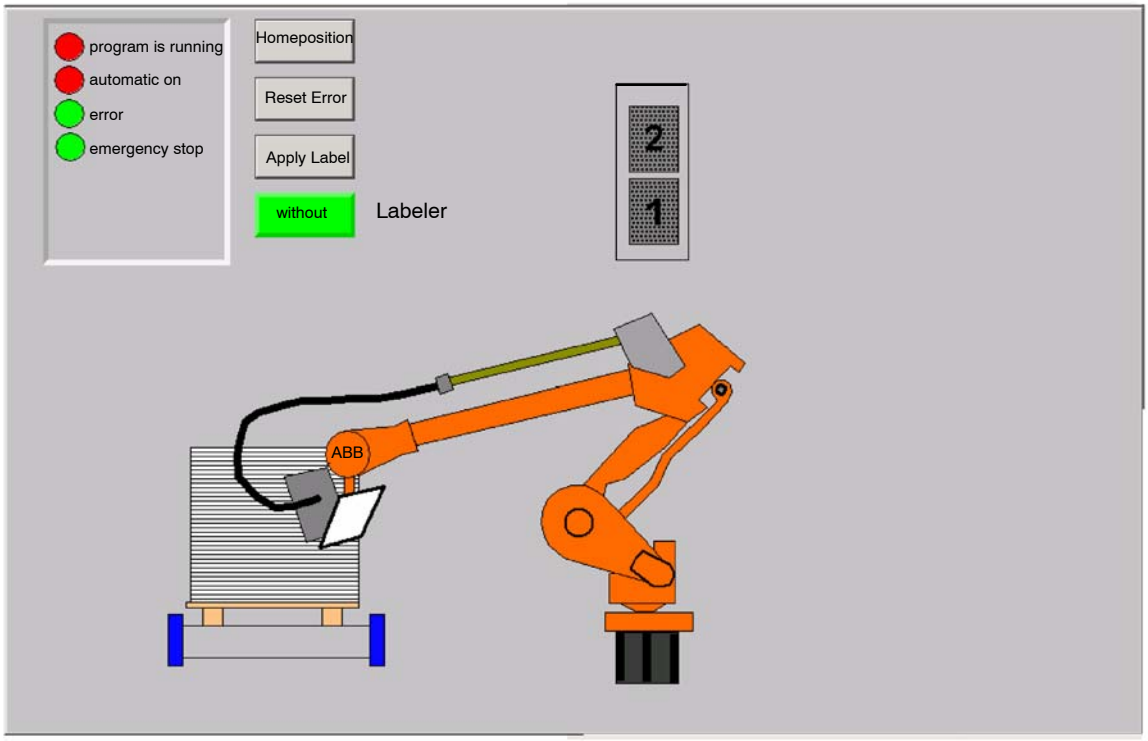


Figure 15 ABB Labeler

Homeposition :	Press button to set the robot in his homeposition (only in automatic mode of the robot)
Reset Error :	Reset the fault of the Robot
Apply Label :	To apply the label on the pallet (manual mode).
With / Without Labeler :	enable/disable the functionality of the labeler

4 .1 .5 User login

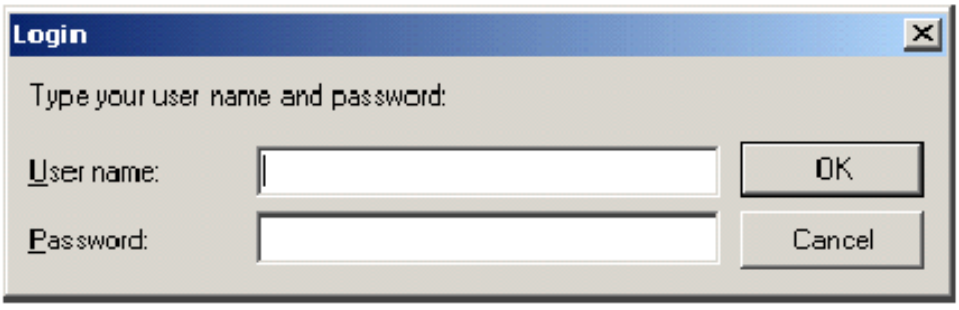


Figure 16 User login

4 .1 .6 Setting the parameters of the MSK Shrinkline

4 .1 .6 .1 The parameters of the TopSheet Dispenser

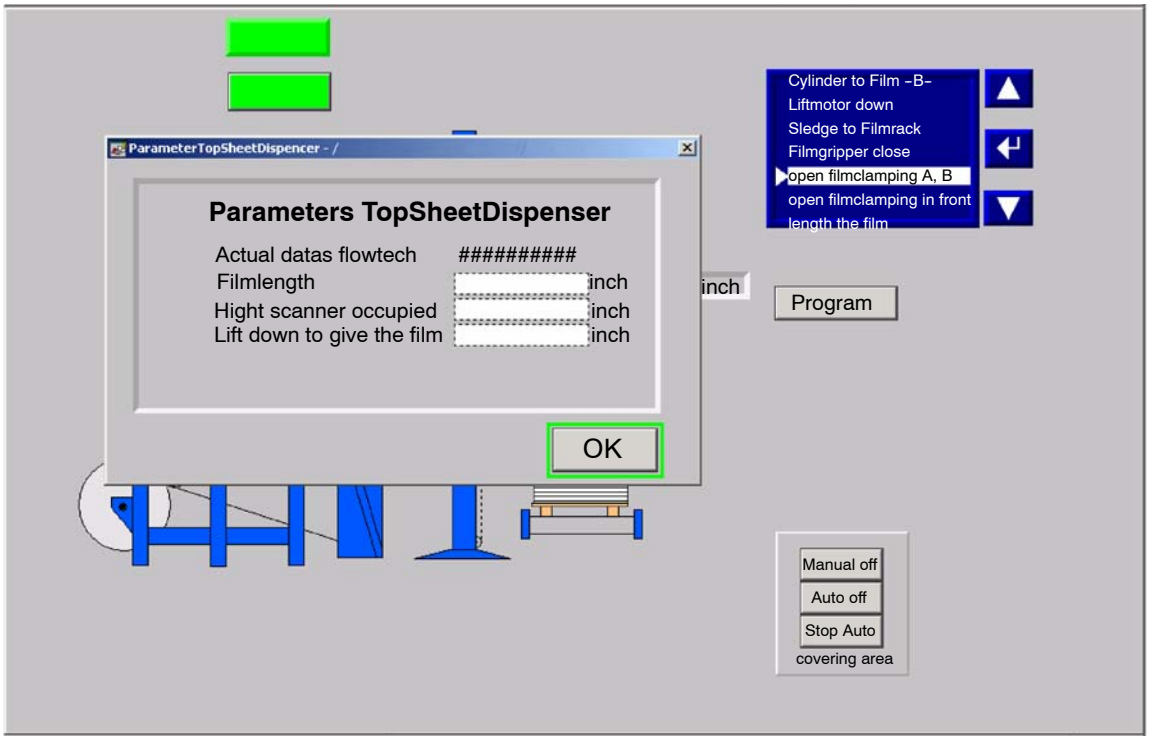


Figure 17 Parameter of the TopSheet Dispenser

Parameter TopSheetDispenser

Filmlength: additionallength to the pallet length for the top

Hight scanner occupied: additional length to go down with the hight scanner is occupied

Lift down to give the film: after placing the topsheet the lift goes down

4 .1 .6 .2 The parameters of the Flowtech

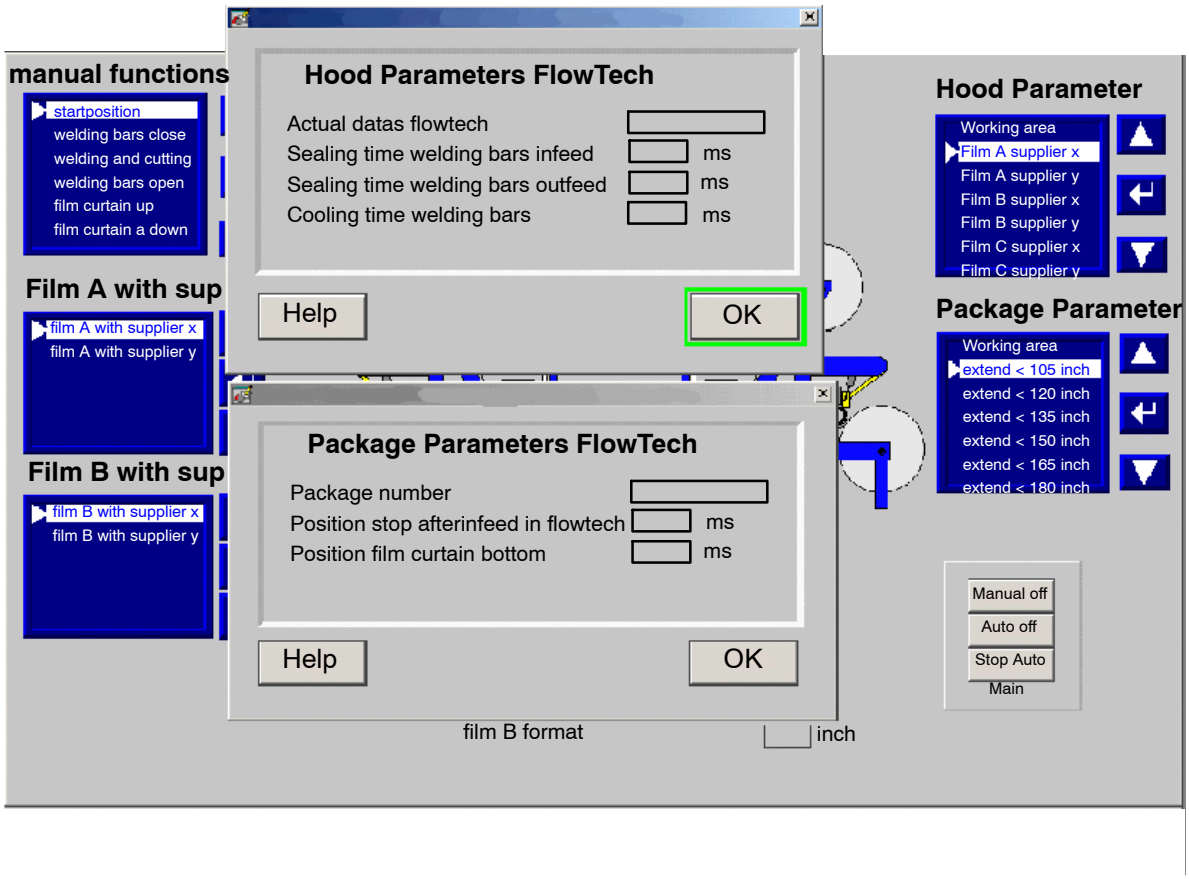


Figure 18 Hood and package parameters of the Flowtech

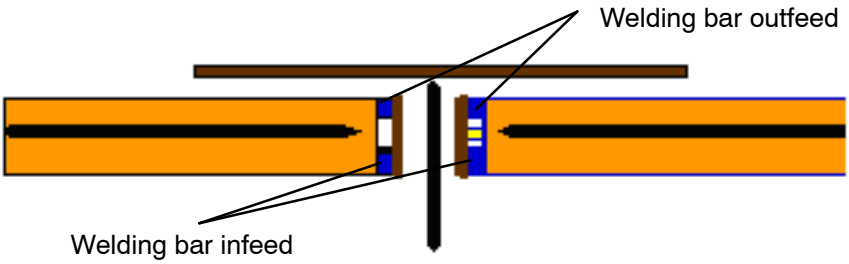
Flowtech: Film Parameters

ComboBox:

Film A, B, C, D with supplier : each film has his own behaviour, so you can store the parameter of each film from 2 suppliers. You only decide which Film is inserted.

All parameters of the film can be changed via RSView at any time after input the password.

The following parameters can be changed:



Sealing time welding bar infeed

Input of the sealing time welding bar infeed in ms.

Sealing time welding bar outfeed

Input of the sealing time welding bar outfeed in ms.

Cooling time welding bar

Input of the cooling time welding bar in ms.

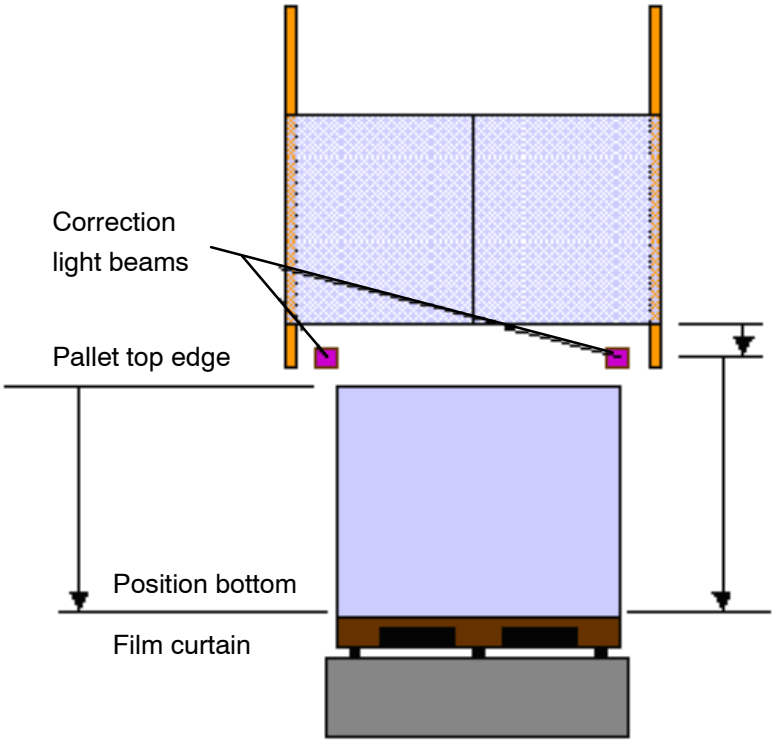
Flowtech: Package Parameters

All parameters of the package can be changed via RSView at any time after input the password.

The following parameters can be changed:

Position stop after infeed in Flowtech

During transport into Flowtech a counter will start after release the special light beam for trailing edge of pallet. The pallet stops after reaches the stop position which was entered.



The film curtain moves down with slow speed until both light beams are occupied. A correction value will be set. The film curtain stops after reaches the stop position which was occupied.

4 .1 .6 .3 The parameters of the Shrink machine

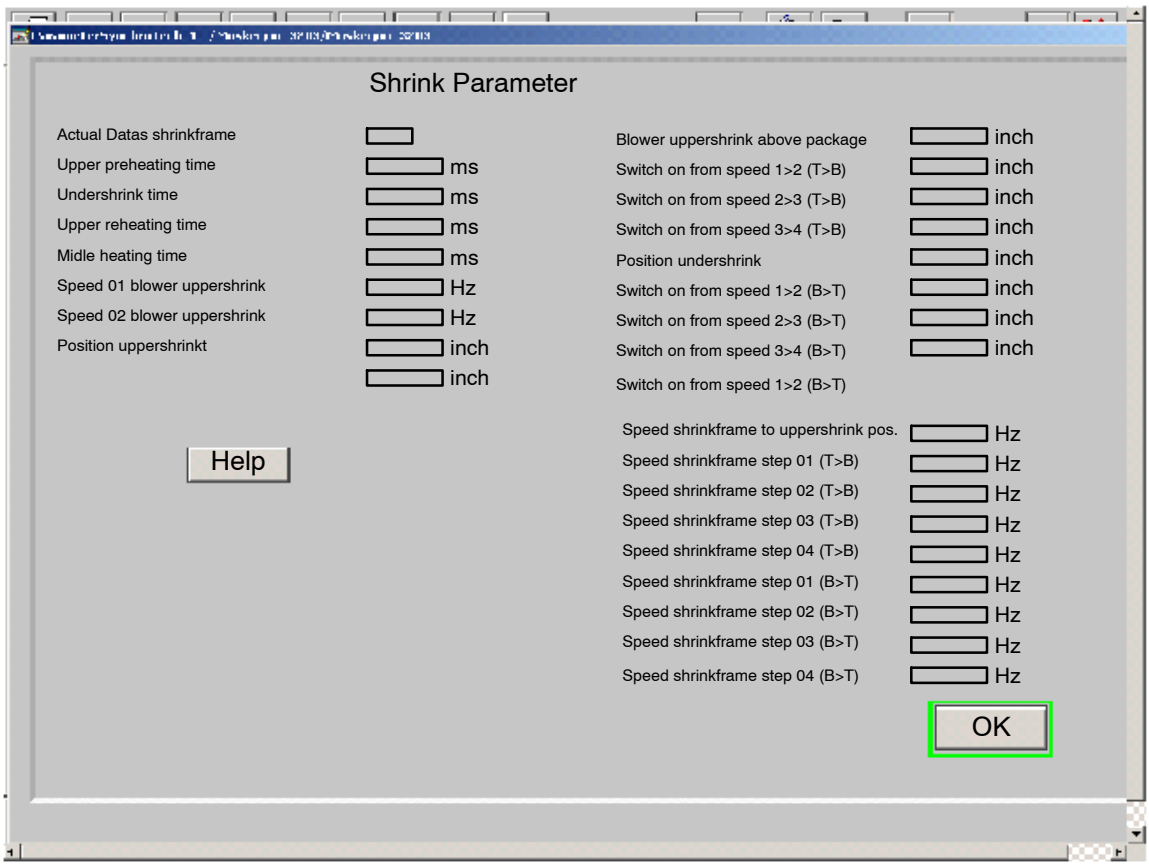


Figure 19 Shrink parameter

Parameters Shrinkframe

All shrinkframe parameters can be changed via RSView at any time after input the password.

The following parameters can be changed:

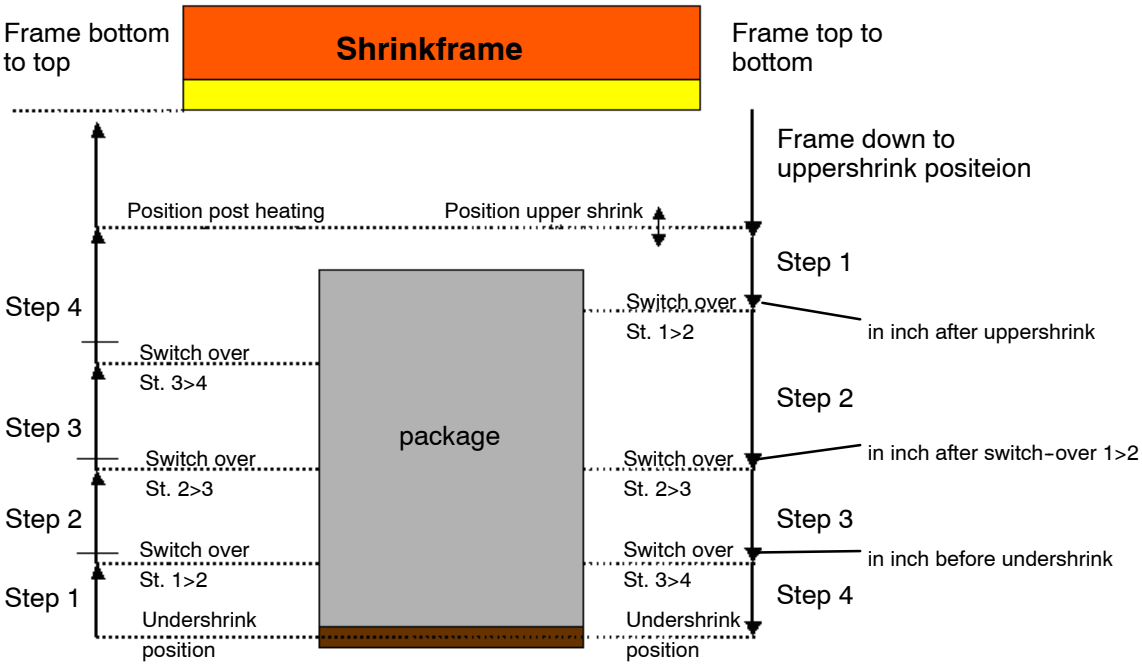


Figure 20 Shrink steps from Top to Bottom

Upper preheating time

After the upper preheating time entered in ms, the frame moves down to the next step.

Undershrink time

After the undershrink time entered in ms, the frame moves up to the next step.

Upper reheating time

After the reheating time entered in ms, the frame moves up back to the start position.

Middle preheating time

After the middle preheating time entered in ms, the frame moves down to the next step.

Blower uppershrink above package

Position of the topshrink blower above the package entered in inch during the uppershrink process.

Position uppershrink

Position uppershrink entered in inch for making the uppershrink.

Blower uppershrink speed 02

Blower speed 02 entered in Hz for the uppershrink.

Switch from speed 1>2 (Top>Bottom)

Position shrinkframe for switch-over speed 1>2 entered in inch.

Switch from speed 2>3 (Top>Bottom)
Position shrinkframe for switch-over speed 2>3 entered in inch.

Switch from speed 3>4 (Top>Bottom)
Position shrinkframe for switch-over speed 3>4 entered in inch.

Position undershrink
Position undershrink entered in inch for making the undershrink.

Switch from speed 1>2 (Bottom>Top)
Position shrinkframe for switch-over speed 1>2 entered in inch.

Switch from speed 2>3 (Bottom>Top)
Position shrinkframe for switch-over speed 2>3 entered in inch.

Switch from speed 3>4 (Bottom>Top)
Position shrinkframe for switch-over speed 3>4 entered in inch.

Speed shrinkframe to position uppershrink
Speed shrinkframe to position uppershrink entered in Hz.

Speed shrinkframe step 01 (Top>Bottom)
Speed shrinkframe from position uppershrink to step 01 entered in Hz.

Speed shrinkframe step 02 (Top>Bottom)
Speed shrinkframe from position step 01 to step 02 entered in Hz.

Speed shrinkframe step 03 (Top>Bottom)
Speed shrinkframe from position step 02 to step 03 entered in Hz.

Speed shrinkframe step 04 (Top>Bottom)
Speed shrinkframe from position step 03 to position undershrink entered in Hz.

Speed shrinkframe step 01 (Bottom>Top)
Speed shrinkframe from position undershrink to step 01 entered in Hz.

Speed shrinkframe step 02 (Bottom>Top)
Speed shrinkframe from position step 01 to step 02 entered in Hz.

Speed shrinkframe step 03 (Bottom>Top)
Speed shrinkframe from position step 02 to step 03 entered in Hz.

Speed shrinkframe step 04 (Bottom>Top)
Speed shrinkframe from position step 03 to position uppershrink entered in Hz.

4 .1 .7 Moving to start position

CAUTION

The manual function ”Automatic to startposition” is only available in the menu for manual functions!

By pressing the function key ”Manual” the sentence for the preselection of the manual function will be shown. Now by pressing the respectively preselection number (nr. 02 – move horizontal burner unit up) the machine part can be moved into the start position.

CAUTION

Before moving the MSK packaging system to start position check that no fault is active. In case of a fault first clear the fault before moving the MSK packaging system to start position.

Always move the MSK packaging system to this start position before switching over to automatic mode.

Additionally move the MSK packaging system to start position before shutting down the system.

4 .1 .8 Manual mode

For operating in manual mode follow these steps:

1. Open gas supply.
2. Open the compressed air supply.
3. Switch on the master switch.
4. Switch on the control voltage (key switch) to ”On”.

When lowering the hot air ring in manual mode, ensure that it cannot collide with any other component (e.g. off–center material on the pallet). Check that the sequences are correct.

Note: In order to prevent faults different preselection functions may be locked in defined conditions.

Activate the manual function

The menu in which the manual functions can be seperately selected is activated by pressing the corresponding functionkey. This is acknowledged by the lid LED. In the display is written a line, in which the disered number can be typed directly, or by paging using the + and - keys.

After pressing the ENT-key the function will be activated.

4 .1 .9 Automatic mode

Activate the automatic function

1. The control voltage must be switched on, and there may not be an errormessage activated!
2. The machine must be in startposition.
3. Set the switch manual/automatic from the operator panel to automatic
4. The start/stop lamp will be flashing
5. Push the start/stop button, if the automatic mode is active the lamp will be static on

De-activate the automatic function

Push the start/stop button, if the automatic mode is deactivated the lamp will be flashing.

CAUTION

Function of the lamp “malfunction” : If there is any fault in the operating section, the lamp “malfunction” will be flashing.

De-activating the manual function

The manual function is de-activated by pressing again the corresponding functionkey.

4 .1 .10 Temperatur–adjustment

The ambient temperature is measured with a sensor. In the program the speed for the shrink frame and the time for heating is automatically adjusted.

4 .1 .11 Shutting down the system

Always move the MSK packaging system to start position before shutting down the system.

Shutting down the system

1. Press the function key ”Manual” respec. ”Automatic”.
2. Switch off the MSK packaging system at the main switch (position ”0”).
3. The main switch must be secured by a padlock.

CAUTION

Components inside the control cabinet will still be alive even after the MSK packaging system has been switched off.

In addition certain frequency inverters take a further 60 seconds until the voltage has dropped below 65 V.

Shut off the compressed air supply and open the quick–release valve on the pneumatic conditioning unit (compressed air will escape from the machine).

Shut off the gas supply at the main valve.

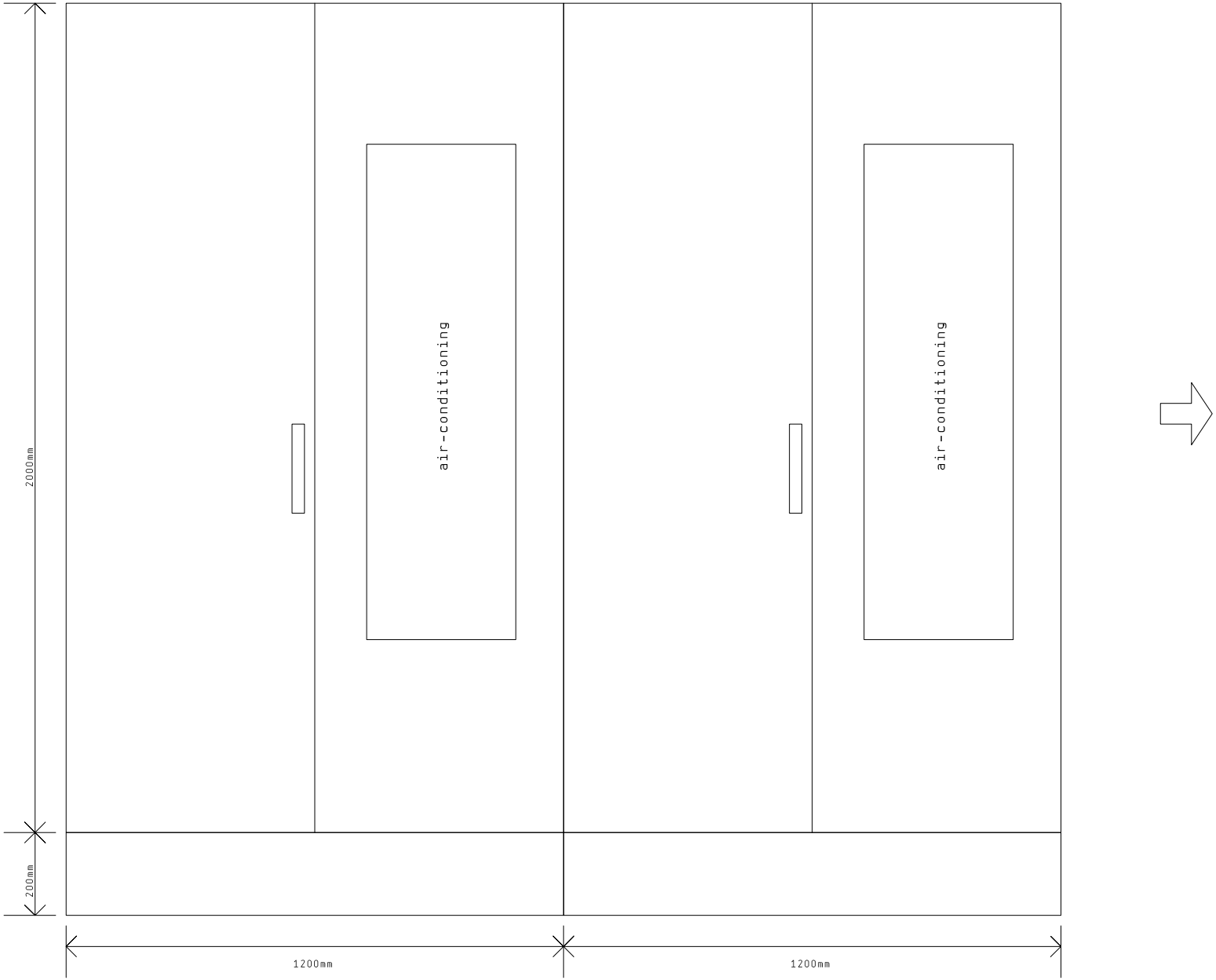
CAUTION

Before entering the danger zone, ensure that the padlock on the main switch cannot be removed by other persons, e.g. with a spare key.

- The welding beams of the welding– and cutting device are behind.
- The separating wire between the welding beams is behind (option).
- The cutting knife is up or down (option).
- The stopper (integrated in the conveyor) is at the bottom.

4 .2 Overview of the control elements in the control desk/control cabinet

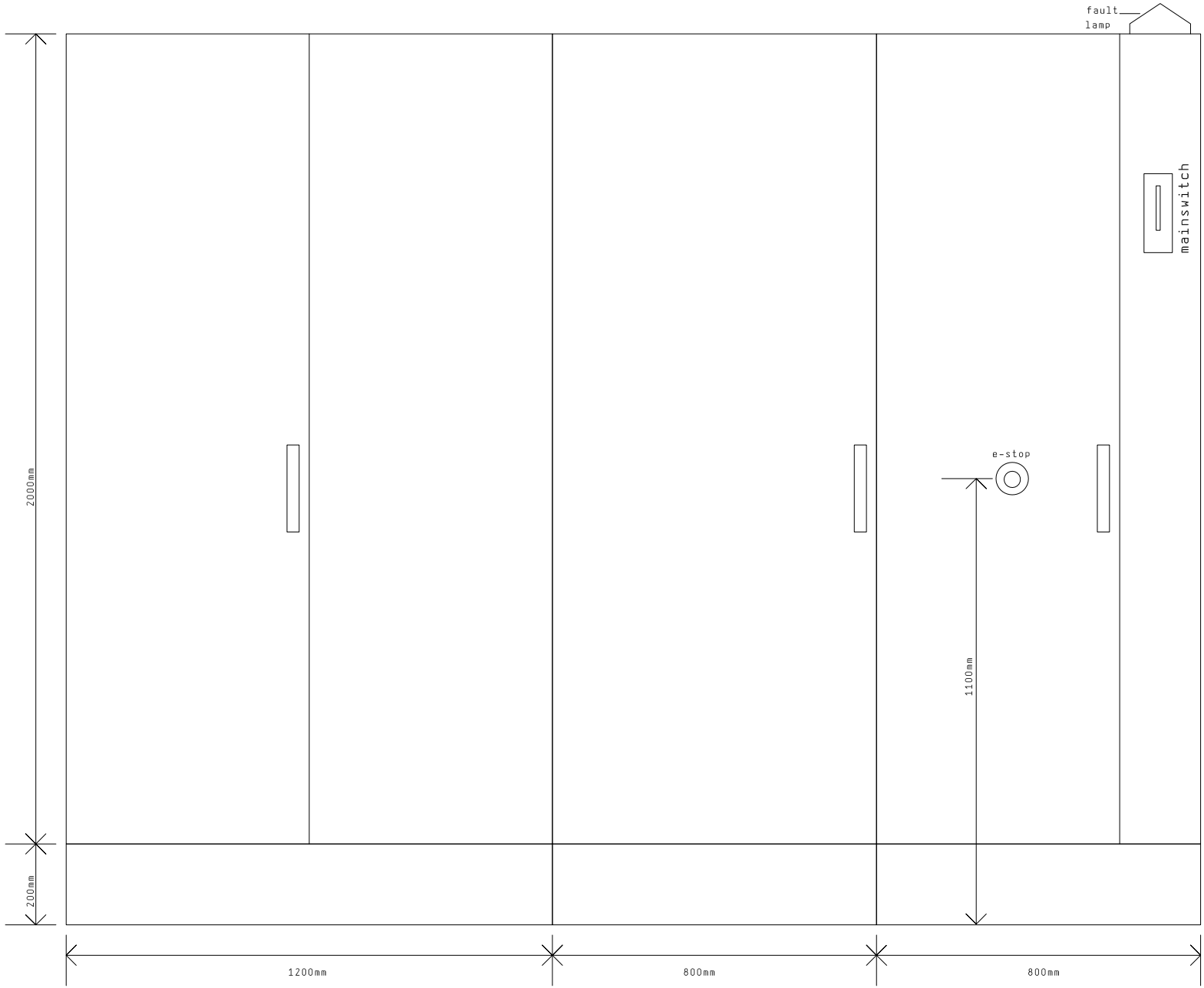
Brake-Resistors



+CAB/1410

1402

electrical engineer	MWI	Com.: 399600	MSK Covertech	overview controlpanel outside	399600. 09. 2008	= +GEN	
		type: Flowtech			revision:		Bl. 1401
last editor	MWI						1406 Bl.
last change	13. Jun. 2008						



1401 1403

electrical engineer	MWI	Com.: 399600	MSK Covertech	overview controlpanel outside	399600. 09. 2008	= +GEN
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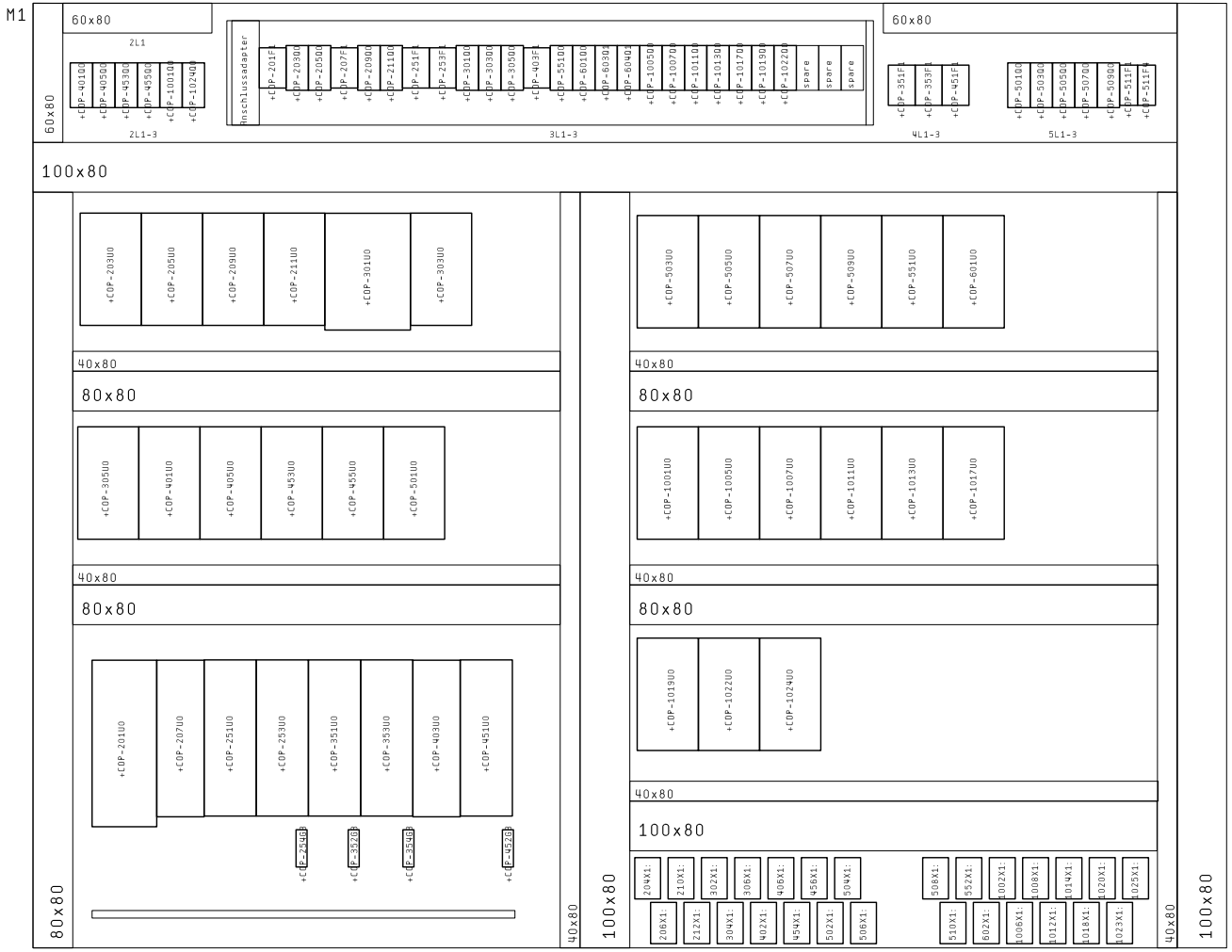
last change	13. Jun. 2008					1406 Bl.



1402

1404

electrical engineer	MWI	Com.: 399600	MSK Covertech	overview controlpanel inside	399600. 09. 2008	= +GEN
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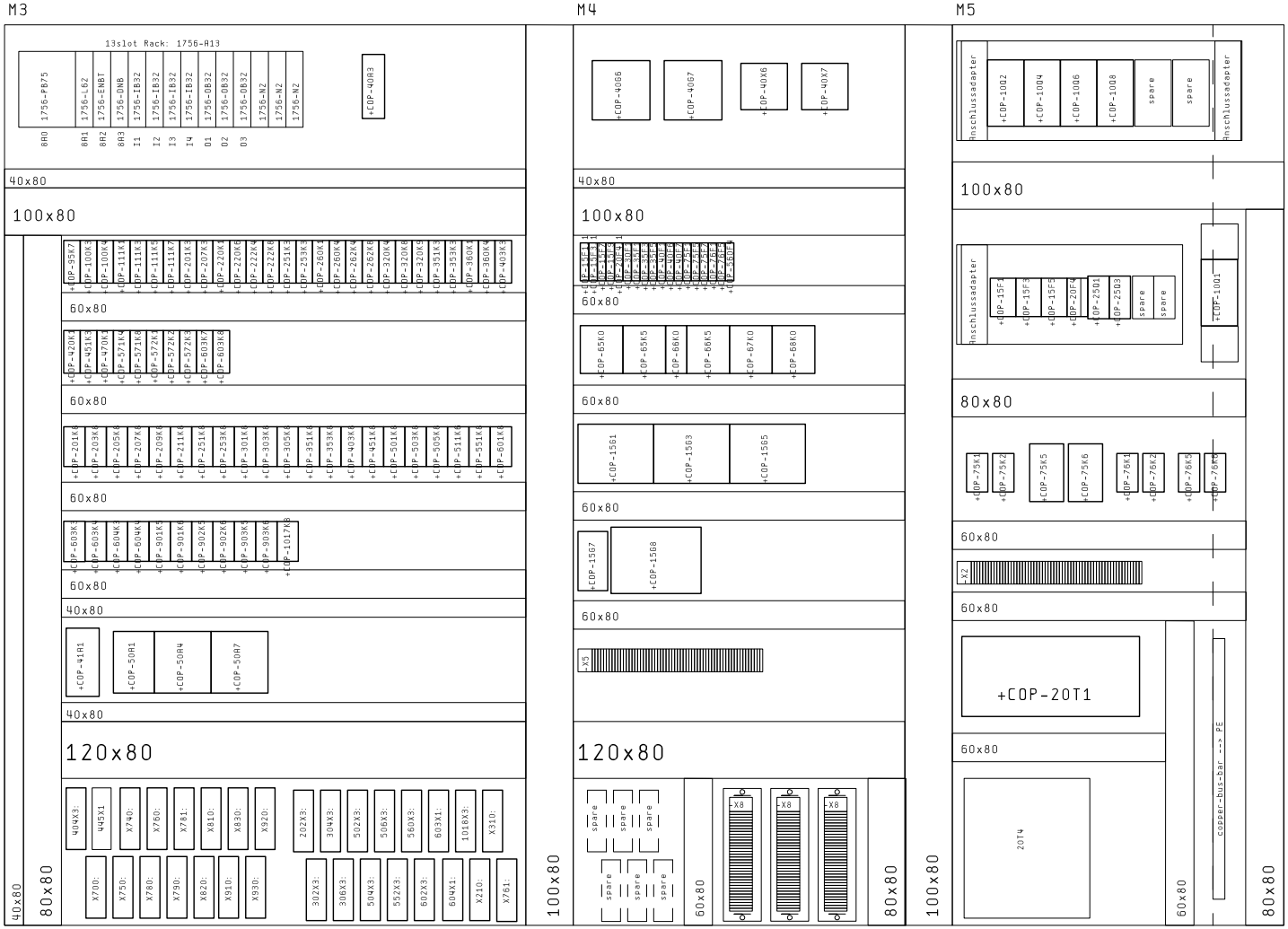
last change	13. Jun. 2008					1406 Bl.



1403 1405

electrical engineer	MWI	Com.: 399600	MSK Covertech	overview controlpanel inside	399600. 09. 2008	= +GEN
		type: Flowtech			revision:	B1. 1404
last editor	MWI					1406 B1.
last change	13. Jun. 2008					

4 .3 Sequence of motions MSK packaging system

4 .3 .1 General sequence of motions

Product detection

1. The product is centered laterally and identified.

Formation of the foil wrapping

2. The product is transported to the MSK FLOWTECH film wrapping machine wrapped by a film curtain which is supported by two vertical welding beams. Because of the transporting movement the products are first wrapped on three sides.
3. Once the product has passed the welding beams a light barrier is no longer interrupted and the conveying movement is stopped. A stopper is lifted just behind the welding beams.
4. The welding beams are moved towards each other and closing the film curtain behind the product.
   After the welding beams are moving towards each other the product is conveyed back towards the welding beams and positioned against the stopper just in front of the welding beams.
   The film curtain is thus wrapped closely and accurately around the product even in the event of different lengths.
5. The welding is carried out with a double seam, separated in the middle such that the film wrapping is produced and a new film curtain formed in one single operation.

Shrinkage process

6. The centered pallets are positioned on the conveyor for transport to the shrinkage place.
7. Gas firing is started and the lifting platform elevates the pallet.
8. The shrink frame moves down. During this descending movement first the top shrinkage and then the side shrinkage is formed along the product from top to bottom.
9. The vacuum blower sets in and the under shrinkage is formed.
10. The lifting platform lowers the pallet, the shrink frame moves up.
11. Formation of an additional side shrinkage.
12. The shrink frame moves to initial position.

Cooling

13. After completion of the shrinking process the wrapped product is transported on the chain conveyor to a cooling place before it is taken over by the following conveying system.

4 .3 .2 Lift downward speed of the MSK SYNCHROTECH

The lift speed of the shrink wrapping machine can be adjusted by changing the parameters via the RS VIEW.

4 .3 .3 Under shrinkage

The downtime of the hot air ring located in the lower part of the pallet area and needed to produce the under shrinkage can be determined via the shrink program. For safety reasons, these parameters may not be changed without previous consultation with MSK.

CAUTION

During the under shrinkage process there is a fire risk for non-protected pallets (wood, carton, etc.).

Theref.: - do not use defective pallets
- do not exceed the indicated loading and pallet dimensions
- do not change any parameters in the shrink program without a previous consultation with the MSK-Service

The film should protrude some 150 mm to 200 mm over the lower and upper edge of the pallet, so that the the top and the bottom of the pallet can be sufficiently wrapped up.

During the under shrinkage the lifting platform (if available) is at its upper position and descends once the protruding film is heated up, such that the folds produced by the vacuum are glued.

After lowering the product to be packed the hot air ring stops in lowest position until the film is tight and plain.

4 .3 .4 Shrink speed

The shrinkage speed can be set via the RS-View.

CAUTION

An excessive reduction of the lift speed causes a fire risk, since the product to be packed is overheated.

An optimum lifting speed depends particularly on the following factors:

- film thickness
- film quality
- charge dimensions
- ambient temperature

The lift speed should be adjusted such that the film wraps around the product tightly and plainly when heated up.

The heating-up zone (see Figure 21) must be approximately 100- 200 mm beneath the bottom edge of the heat air ring.

The limit of the heating-up zone is indicated by the state of the film: in the hot area the film is tight and plain, in the cool area it is hanging loosely.

If the lifting movement is too slow, the heating-up zone is too close to the burner and may lead to perforation.

If the lifting movement is too quick, cold zones will occur. These zones have not been sufficiently heated up which results in a buckled film due to insufficient shrinkage.

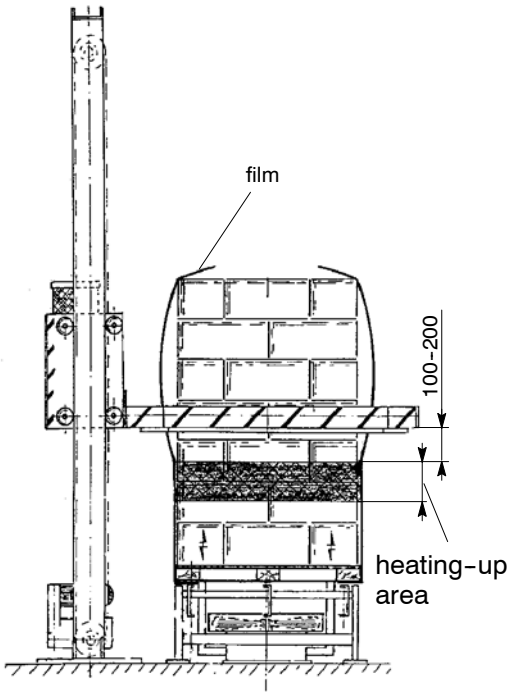


Figure 21 Optimum lifting speed of the hot air ring

4 .3 .5 Top shrinkage

The downtime of the hot air ring located in the upper area and needed to produce the upper shrinkage is electronically controlled and can be adjusted via the RS-View.

The film should protrude some 150 mm bis 200 mm over the lower and the upper edge of the pallet to ensure correct wrapping around the upper and lower side of the pallet.

The distance between the lower edge of the hot air ring and the upper edge of the product to be wrapped should be appr. 150 - 250 mm.

The under, lateral and upper shrinkage operations are controlled by means of a "Safety time". If one of the above-mentioned operations exceed the set safety time the MSK Synchrotech is automatically stopped.

4 .3 .6 Lift upward speed for initial position

The lift upward speed can be adjusted via the RS-View.

4 .3 .7 Emergency stop of the firing system

In order to prevent the product to be packed from being locally overheated in the event of a lifting movement fault, the system is provided with pulse generator to control the motion of the hot air ring. In the event of an unintentional standstill of the machine the firing system will be stopped.

4 .3 .8 Emergency stop of the lifting movement

Beneath the hot air ring and the carriage of the MSK RECOTECH a safety switching-off sheet is mounted.
This sheet is vertically shiftable and actuates limit switches via operating pins.

In the event of bumping against an obstacle - e.g. the pallet is not centered - the sequence of motions is immediately interrupted and the safety valves closed.

Please note that the switching travel to the actuation of the limit switch is approx. 70-100 mm.

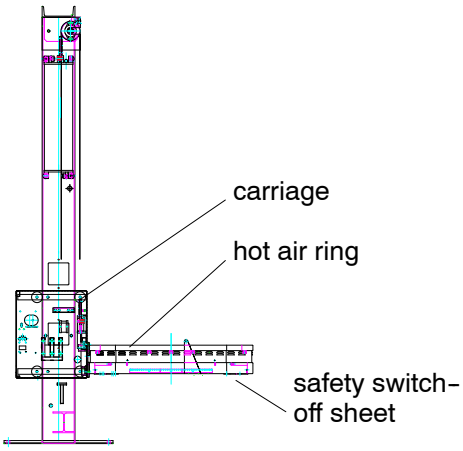


Figure 22 Safety switching-off sheet

After release of the emergency stop the shrink wrapping machine must be moved to initial position in manual mode.

4 .4 Insertion of the film

4 .4 .1 Preparation

1. Switch off the “automatic mode” at the RS-View via function key.
2. Switch the MSK packaging system over to “manual mode” as described in chapter 4 .3 .
3. Then open the safety guard door.

4 .4 .2 Change of the film reel

1. Both ends of the film reel shaft are equipted with s-green plastic blocks.
2. Loosen taper 4 on one side of the film axle shaft 1 by opening clamping lever 4a and remove the old film reel 5 (for this purpose lift up the film drive 2), see Figure 23.
3. Slip the film axle shaft 1 into the new film reel, mount taper 4 and lock it.
   Note: In any case one taper and one star grip screw should be loosened only to maintain the central position of the film reel.
4. Lift up the film drive 2 and hook the film reel into the film unwinding frame (ensure that the film is wound in the correct direction), turn the star grip screw 2 (the clearance between the film axle shaft 1 and the star grip screws 2 shall be abt. 2-3 mm!) and secure the star grip screw with tommy nut 2a.

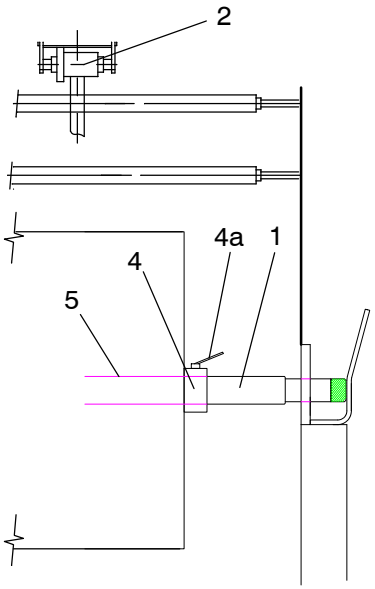
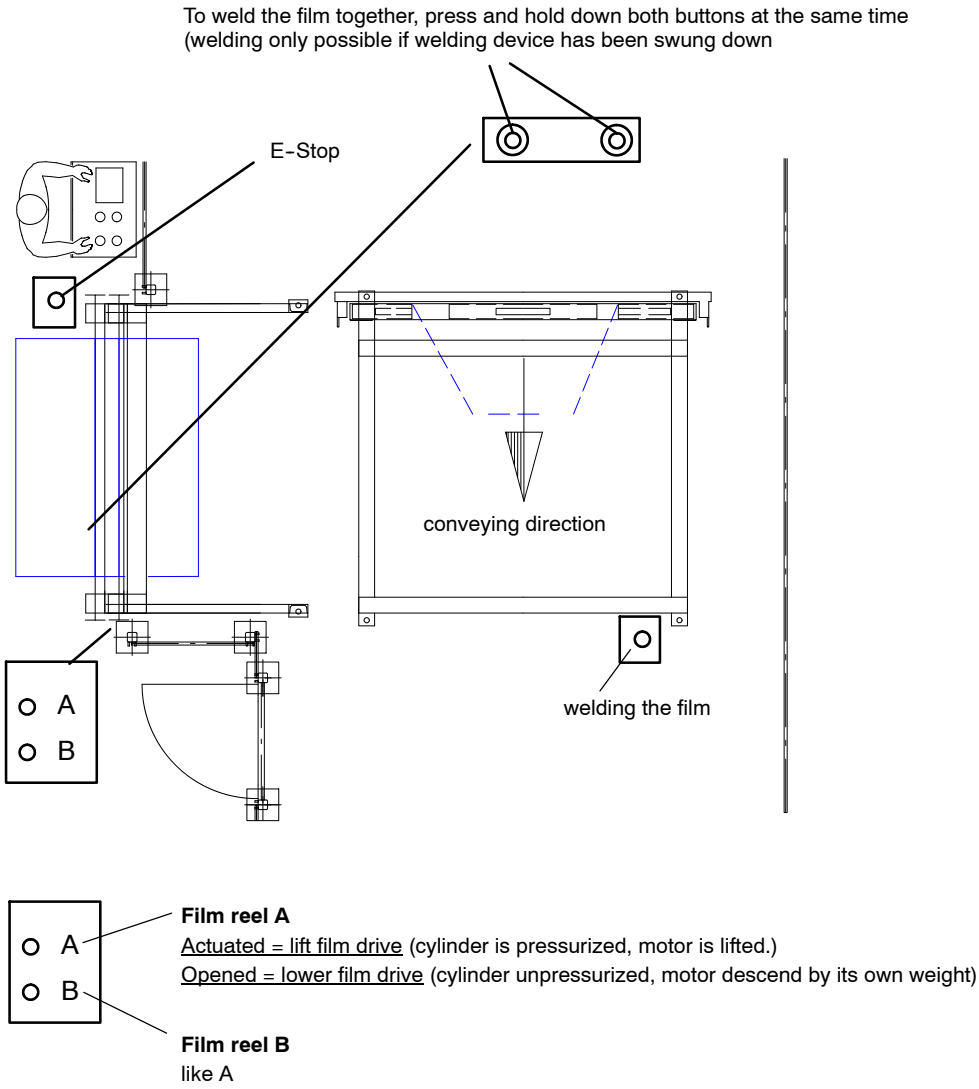


Figure 50 Film unwinding frame

5. Finally check the central position of the film reel in the film unwinding frame, and lower the film drive.

4 .4 .3 Operator control elements at the MSK Flowtech



Film reel A
Actuated = lift film drive (cylinder is pressurized, motor is lifted.)
Opened = lower film drive (cylinder unpressurized, motor descend by its own weight)

Film reel B
like A

Figure 24 Operator control elements at the MSK Flowtech

4 .4 .4 Insertion of the film (see Figure 25)

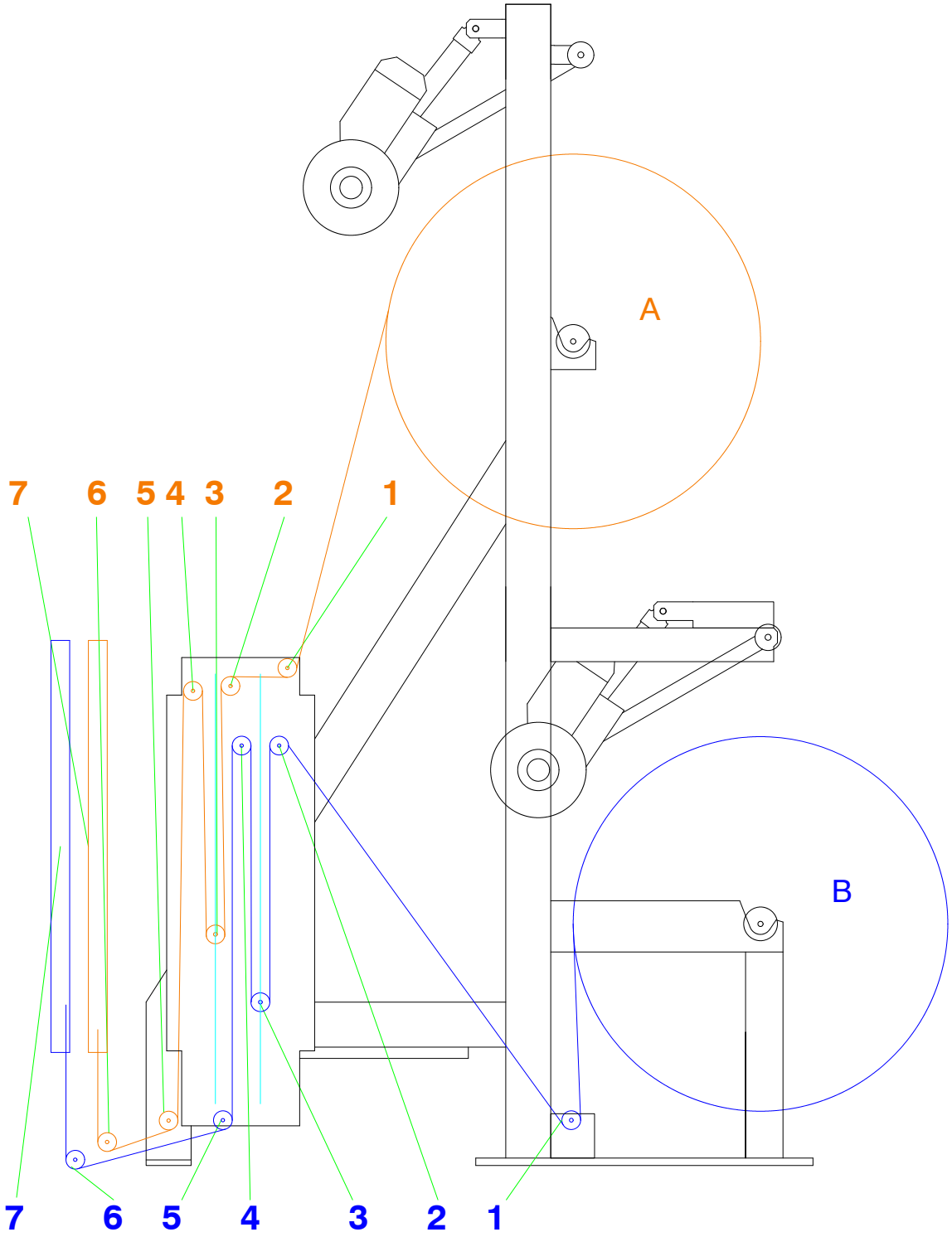


Figure 25 Film course diagram the MSK Flowtech (2-format sample)

Procedure the same for both film formats

1. Switch off “automatic mode” at the RS–View. Switch over to “manual mode”. Move the moveable (shiftable) roller conveyor to position “close welding beams”. Enter the safety guard.
2. Unwind approximately 5 m off the desired film reel by hand thereby lifting the film drive.

Reel A = B = C :

3. Lead the film under the deflection roll A/B/C_1.
4. Over roll A/B/C_2 and under dancer roll A/B/C_3.
5. Then over roll A/B/C_4 and under the rolls A/B/C_5 and A/B/C_6.
6. Lead the film behind the inclined film deflection device A/B/C_7.
7. Pull both ends of the film (Format A, B or C) through the opened welding and cutting device and fasten at the rear side of the corresponding welding beam by a magnet.
8. Activate the ”Set up film” press button (within Flowtech) and keep activated! The program will then implement the following steps:
   a Sealing bars are closed
   b Sealing bar closure is closed
   c Welding ON
   d Excess film length is cut off (by knife)
   e Sealing bar closure is opened
   f Sealing bars are opened
9. Release the ”Set up film” press button (within Flowtech), remove magnets and cut off film.
10. All persons within the danger zone of the system (especially within the protective grating) must leave this zone.
11. Lower the film driving mechanism.
12. Close protective grating door(s), unlock system at operating console and switch to automatic.

CAUTION

If there is a recurrent fault in the formation of the film curtain please see chapter 4 .4 .6 ”Correction film curtain“.

4 .4 .5 Replace film (for nearly empty film roll)

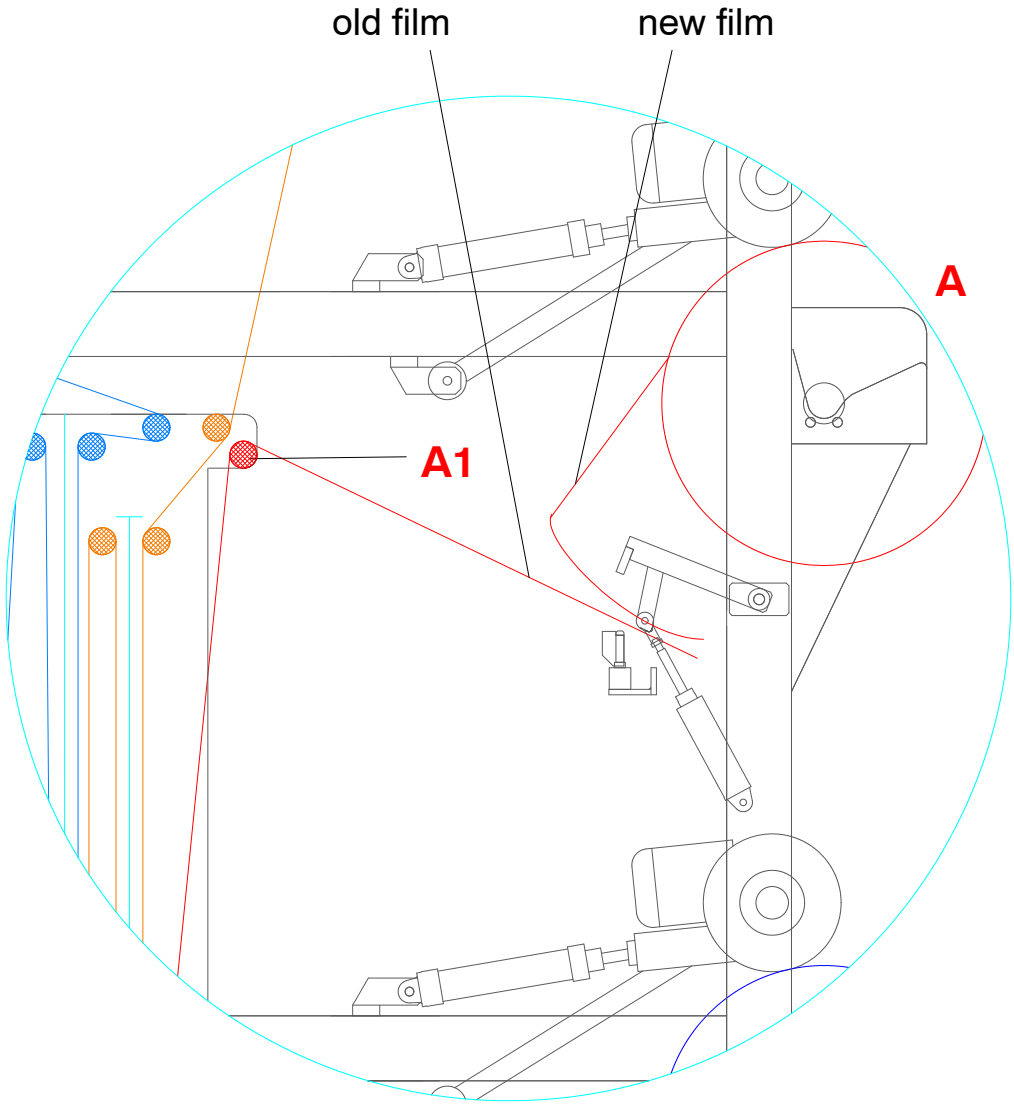


Figure 26 Weld film after roll has been replaced

1. Switch to manual operation (at the RS VIEW by using the ”manual mode” function button) and move to basic position. Turn off the MSK packing system as well in accordance with Chap. 4 .1 .11.
2. Cut off the film (with a remainder of 2–3 m) at the empty roll and place the film end in the welding support.
3. Then remove the empty roll from the unwinding stand and insert the new film roll.
4. **Replace the upper roll:**
   Place the beginning of the new film **over** the end of the old film in the welding device (aligned at the sides) and close the welding device.
5. **Replace the lower roll:**
   Place the beginning of the new film **under** the end of the old film in the welding device (aligned at the sides) and close the welding device.

6. The operator must now press both knobs (simultaneously) on the frame of the unwinding stand (see Figure 24) and thus welding the films together. Before the welding device can be opened again, the excess film length (of the two open, cut off film ends) must be removed. Re-open the welding device.
7. Finally, the new foil roll must be wound up until the film is taut between the film roll and the film storage.
8. Turn on the MSK system in accordance with Chap. 4.1 and switch to automatic operation.

CAUTION

If the same film format is run top and bottom in one unwinding stand, the upper film roll can be welded to the lower film roll (or vice versa) by using an (optional) selection switch (see Figure 27).

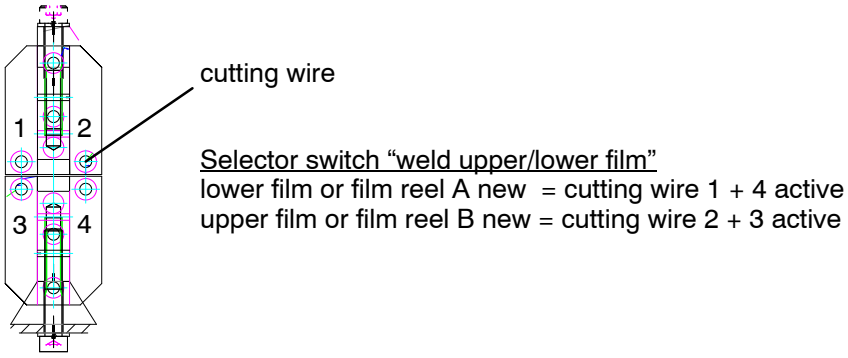


Figure 27 Welding and cutting device

Film change from film reel B to film reel A (option)

1. Set the selector switch “weld upper/lower film” to upper film.
2. Actuate the illuminated pushbutton “weld the film” and then remove the cut film.
3. Unlock the machine and start the automatic mode.

4 .4 .6 Correction of the film curtain

A correction of the film course/film curtain is necessary when:

1. Both film ends are not aligned in the welding and cutting device.
2. The film should evenly project over the top and the bottom of the pallet (for the top shrinkage and the under shrinkage).
   The film curtain must be corrected vertically.

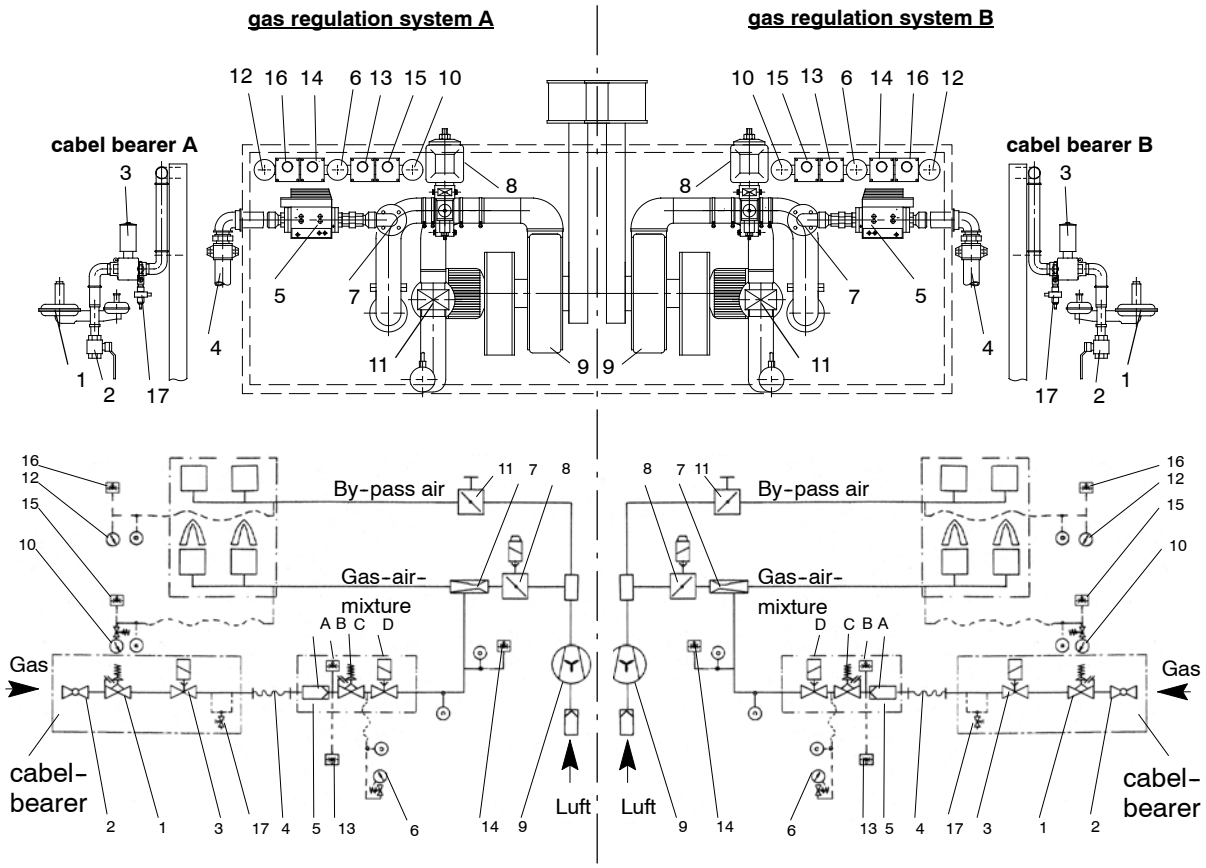
Shifting of the film reel

The film reels are adjusted on the film shaft by the fixed cone, such that a correction is not needed under normal circumstances.

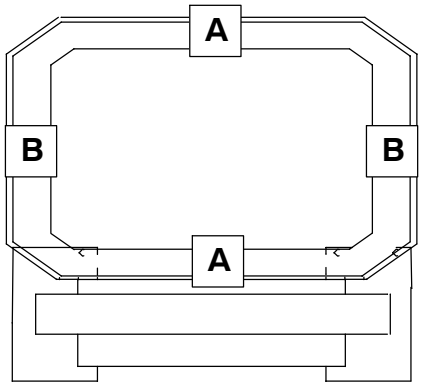
Adjustment of the inclined film deflection device

By adjusting the inclined film deflection device the film curtain can be adjusted upwards or downwards.

4 .5 Description of the gas system



1 Gas pressure regulator (option)
(Use only when the gas supply pressure at the control unit > 70 mbar)
2 Manual valve
3 Solenoid valve
4 Orangeflex-hose
5 Compact control unit
A) Gas filter/ B) Pressure switch
C) Gas pressure regulator/ D) Solenoid valve
6 Pressure gauge: Flow pressure
(is grabed at the exit of the control unit)
7 Venturi-nose pipe
8 Volume regulating butterfly valve
9 High pressure blower with air filter
10 Pressure gauge: Gas-air-mixture
(is grabed at the pressure switch 15)
11 Sluice valve: By-pass air/Blast air
12 Pressure gauge: By-pass air/Blast air
(is grabed at the pressure switch 16)
13 Pressure switch: Orangeflex-hose-monitoring
DWG 150 U, min. 50 mbar)
14 Pressure switch: Low gas pressure
(DWG 10 U, max. 1 mbar)
15 Pressure switch: Gas-air-mixture
(DWG 50 U, min. 5 mbar)



16 Pressure switch: By-pass air/Blast air
(DWG 50 U, min. 25 mbar)
17 Valve for tightness-checking

Figure 28 Overview of the gas system

Design and operation

The controlled systems of gas A + B are placed in the carriage of the MSK SYNCHROTECH. The arrangement of the gas system is shown in Figure 28.
Air is sucked in by high pressure blower 9. The air is distributed to the by-pass air line and the gas-air-mixture line. In the Venturi-nose pipe 7 gas is sucked in by the flowing-in air. A gas-air mixture is formed.
The gas-air mixture is to be burned at the burners and the by-pass air blows the combustion gas to the foil (also see Figure 29).

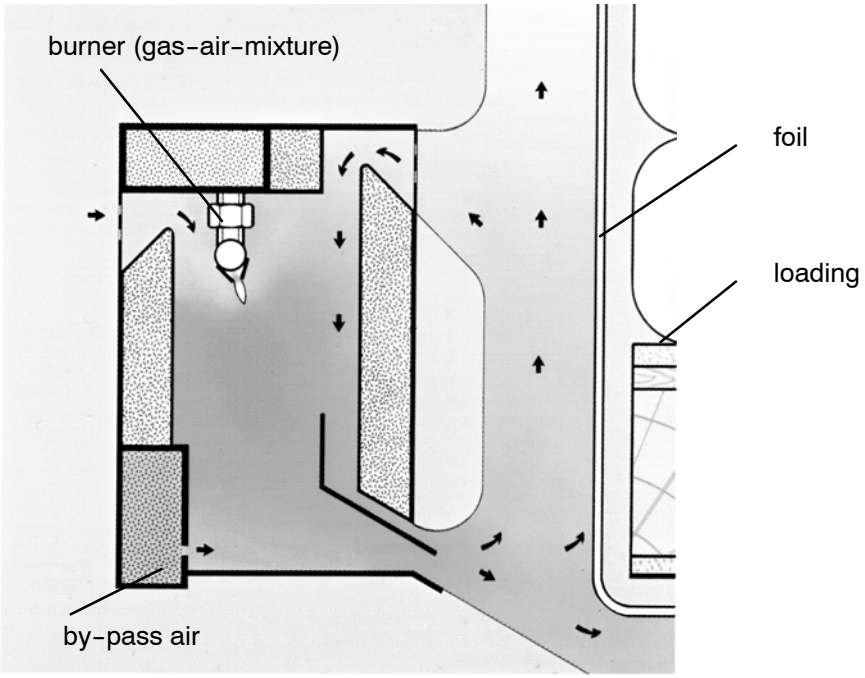


Figure 29 Cross section of hot air ring

Temperature setting

Attention

Only the specialists of MSK are authorized to change the secondary atmospheric pressure or the temperature setting.

An electric volume control valve 8 (see Figure 28) is installed for temperature setting and automatically changes the air supply and thus the temperature. Additional to be done by changing the set point of the frequency converter. The larger the angle of the volume control valve, the higher the heating capacity. Since the temperature setting has already been adoped to your foil by our specialists, the angular position should not be changed.
The bigger the flowing air volume, the bigger is the heating temperature. The bigger the frequency, the bigger is the heating temperature (min. 40 Hz / max. 55 Hz).

Attention

The frequency converter has to be adjusted to min. 40 Hz and to max. 55 Hz.

If you have any questions regarding the temperature setting, please contact our after-sales service.

Flame monitoring

The flame is monitored (ionisation principle) at four corners of the hot-air ring. The monitoring electrodes will shut down the firing system (gas supply is shut-off) when the gas-air mixture does not ignite. The warning light "Gas firing system failed" lights up or is indicated on the text display.

The automatic firing system can be unlocked upon elimination of the trouble. The automatic firing system is arranged in the switch cabinet. It is unlocked when the red "Failure" botton is pressed.

See also Chapter "Trouble shooting".

Attention

Work in the switch cabinet may be carried out only by trained, skilled personnel.

Gas pressure monitoring

In order to ensure the desired gas-air mixture, the inlet pressure is continously checked by the gas pressure regulator B of the compactcontrol unit 5 (see Figure 28) for observance of minimum value and lack of gas. If the gas pressure falls below the fix setted minimum value, the gas pressure regulator activates the shutdown of the firing system.

Attention

In any case the inlet pressure of the compact unit must not exceed 70 mbar.

Low pressure switch 13 at the compact control unit (see Figure 28) monitors the tightnes of the gas hose. In case the gas pressure drops below a fix setted value (gas inlet pressure at the customer site - 10%) at standstill of the MSK SYNCHRO-TECH (solenoid valves 3 und 5 D are closed), the solenoid valves remain closed when the MSK SYNCHROTECH is switched on and the pilot lamp "Gas pressure" extinguishes or a fault indication is shown on the text display). See also Chapter "Trouble shooting".

Note: The pilot lamp "Gas pressure" lights when the gas pressure is correct and it extinguishes when the gas pressure is too low.

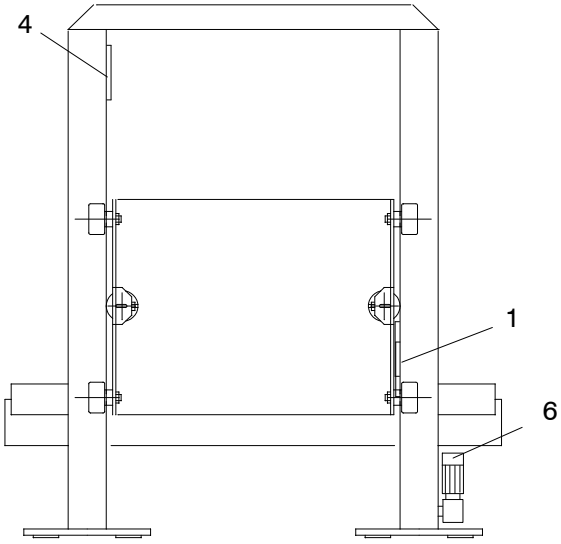
Atmospheric pressure monitoring

Low pressure switch 16 (see Figure 28) monitors the by-pass air. When the pressure is too low - e.g. contamination of the air suction filter - the gas firing system is switched of. The pilot lamp "Atmospheric pressure" extinguishes or a fault indication is shown on the text display). See also Chapter "Trouble shooting".

4 .6 Overview of proximity switches and light barriers at the MSK SYNCHROTECH

Proximity switches

Please pay attention to the fact that the following are standard overviews and may vary in arrangement and function of the proximity switches and light barriers.



Proximity switches are actuated by the proximity of iron or magnetic steels. A LED (part of the switch) indicates the position of the switch.
The proximity switches 1a and 4a in the carriage MSK SYNCHROTECH (see Figure 31) have the function to control the lifting motion of the hot-air ring. The appertaining switch lugs 1 and 4 (see Figure 30) activate the following functions. The movement of the carriage is supervised by a pulse generator on the driving unit (Pos.6).

Figure 30 Overview of switch lugs

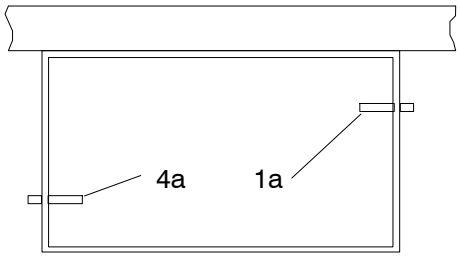


Figure 31 Overview of proximity switches in the carriage (top view)

Functions:

1 Switching off the lift of hot air ring in absolut down position (Reference point)

4 Emergency stop in the top position

6 Scanning the travel and monitoring the motion of the hot-air ring

Light barriers

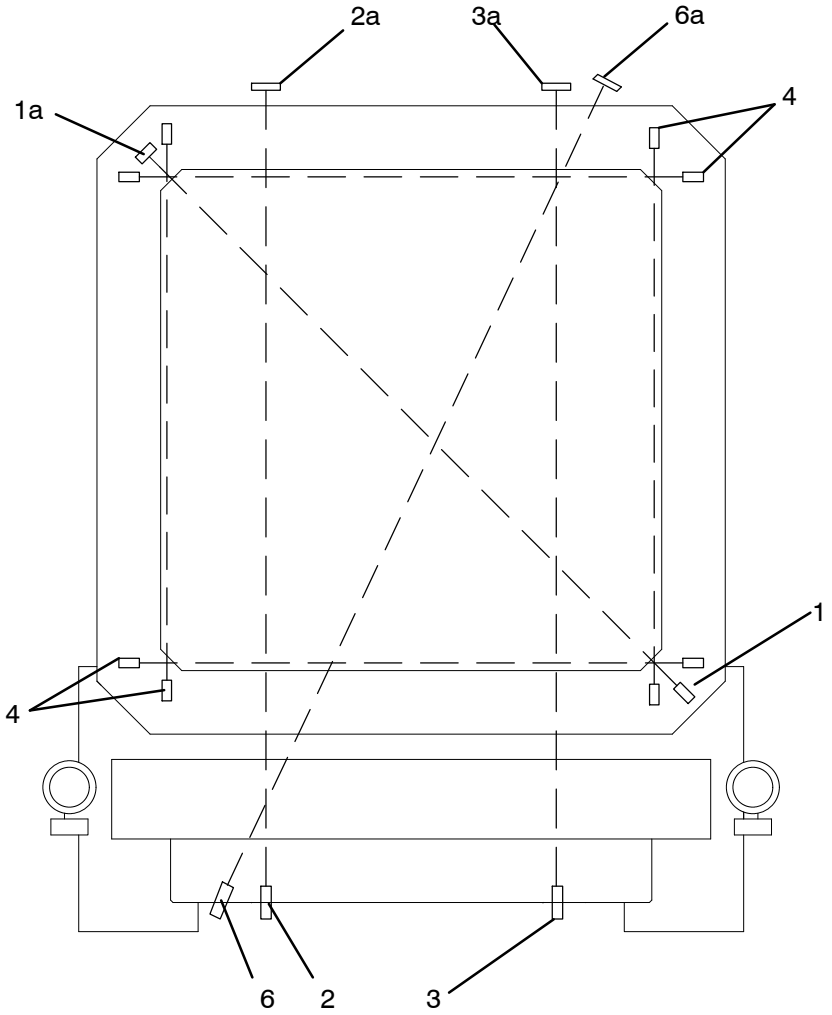


Figure 32 Overview of light barriers at the MSK SYNCHROTECH

The light barrier 1 with its reflector 1a has the function to scan the height of the pallet load, so that the hot air ring stops in order to form the top shrinkage. Light barriers 2 and 3 and the appertaining reflectors 2a and 3a are used to check whether the pallet is centrically on the shrinkage place in longitudinal direction. Light barriers 2 and 3 and the appertaining reflectors 2a and 3a are used for the sides traverse to the conveyors. Light barrier 6 and reflector 6a are used to check whether the shrinkage place is occupied.

The light barrier 1 with its reflector 1a has the function to scan the height of the pallet load, so that the hot air ring stops in order to form the top shrinkage. Light barriers 2 and 3 and the appertaining reflectors 2a and 3a are used to check whether the pallet is centrically on the shrinkage place in longitudinal direction. Light barriers 4 and 5 and the appertaining reflectors 4a and 5a are used for the sides traverse to the conveyors. Light barrier 6 and reflector 6a are used to check whether the shrinkage place is occupied.

5 Trouble shooting

5 .1 Generallities

CAUTION

Only appropriately qualified and authorized, skilled personnel may remedy faults!

Always determine the cause and remedy the cause before eliminating faults and resetting the machine. Note the safety information in Chapter 1 and the references to the corresponding sections!

Before recommissioning the MSK packaging system, the preselection function “Elimination of faults” is to be selected or you can clear the fault message with the “Clear” button

A default at the film dispenser is shown by lighting the default light.

CAUTION

It is expressly pointed out that the danger area within the protective guards is only to be entered if the MSK packaging system is switched of according to the procedures indicated in Chapter 4.1.

5 .2 Faults at the MSK packaging system

5 .2 .1 Faults in general process

General

A failure of the MSK packaging system may have many causes (pallet loading, film, operation). We like to point out that a properly serviced machine is a main condition for perfect functioning (see Chapter 14 ”Maintenance”).

The load is not centered properly

The contour check guarantees that only properly centrated pallets are to be packed. If the pallet stands not in the center of the shrinkage place the MSK packaging system is stopped and the text display indicates the failure.

1. The MSK packaging system is to be switched off.
2. Align the pallet and the loading.
3. Leave the danger area through the doors in the protective guards and close the doors.
4. Switch on the MSK packaging system in manual mode.
5. Check the contours of the loading in manual mode.
6. If the contours are o.k. start in automatic mode again.

A door in the protective guards is opened

If the protective guards are delivered by MSK, the doors in the protective guards are equipped with a limit switch. The MSK packaging system switches off as soon as one door is open. Recommissioning is only possible when all doors are closed.

CAUTION

Before closing the doors in the protective guards make sure that there is no person in the danger area within the protective guards.

After closing the doors press the push–button switch ”Unlocking door limit switch” or select the appertaining function with the preselection switch.

”Emergency Shut–down” is operated

When the emergency shut down is actuated, all movements are stopped immediately (pneumatic cylinders stop after reaching their final position). What to do in case of emergency shut down see Chapter 1 ”Safety information”.

The trouble cannot be located

If the source of trouble cannot be located, move the MSK packaging system to normal position and start in automatic mode again. In case the trouble cannot be localized and eleminated, please contact the MSK service department for advice.

5 .2 .2 Faults at the MSK SYNCHROTECH

- Check whether the spark plugs are o.k.
- Check whether the monitoring electrodes strike the casing or the burner (ground fault).
- Check and clean if necessary the gas filter in the compact control unit.
- Check if the gas pressure is o.k. and if the air pressure of the blower is okay.

Only the specialists of MSK are authorized to change the settings in the controlled system of gas.

CAUTION

Before blowing through filter cartridges put on safety goggles.

The automatic firing system can be unlocked upon elimination of the trouble. The automatic firing system is arranged in the switch cabinet. It is unlocked when the red ”Failure” botton is pressed and the manual function ”gas firing on” (see Chapter 8 .2 , Description of the automatic gas firing system) .

CAUTION

Work in the control cabinet may be carried out only by trained, skilled personnel.

Before recommisioning the MSK packaging system, the function ”Elimination of faults” is to be selected (recommissioning see Chapter 4 .1). Use the preselection to quitt the error.

The control light ”Gas pressure” turns off (at a text display there is no display of ”gas pressure”) if the gas pressure gets under a minimum limit.

This means that not enough gas is available.

- Check whether a sufficient gas pressure is available.
- Check whether the flow pressure on the pressure gauge drops after the burners are switched on (gas pressure too low).

The control light ”Air pressure” turns off (at a text display there is no display of ”Air pressure”) if the side chanel blower of the gas system gets under a minimum limit.

This means that the fan carries not enough air.

- Check whether the air filter is dirty (clean or replace the filter if necessary).

The MSK SYNCHROTECH does not lift

- Check whether the safety plate was operated; did the hot air ring move onto the packaged material?

5 .2 .3 Faults at the MSK Flowtech

General

To avoid failures in the film feeding system, pay attention to a good quality of film. Characteristics of film quality are:

- Low tolerance in film thickness
- The edges of the film reel must be straight
- The film must not paste

Please refer to the maintenance hints in Chapter ”Maintenance”.

The film is pulled crookedly

Check and adjust if necessary the horizontal position of the deflection pulleys and the vertical position of the deflection pulley at the film deflection.

The film is not separated properly

CAUTION

Separating wires remain hot for a while after the device has been switched of. Danger of causing burns.

First, check the separating wires. If the separating wire is damaged, replace the wire.

Check the temperature of the separating wire with a piece of film (film must be separated by the heated wire) and if necessary, adjust the temperature.

Clean the separating wire (remove film residues).

Check if fault was caused by a short circuit in the separating wire (due to defective teflon coating).

The seal is uneven or the film sticks to the teflon tape

If the Teflon tape, the silicon rubber or the strip heater are damaged, they must be changed (see Chapter 6 .4 ”Maintenance”). If the welding temperature is too high, change in the programm the impulse time and pressing time.

The film becomes blocked

Check the running of the film in accordance to the film arrangement plan.
Always pay attention to a good quality of film.

6 Maintenance

6 .1 Maintenance minutes

Installation and initial operation

Installation	on:	by:
Initial operation	on:	by:

Maintenance and testing:

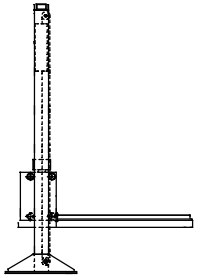
Mechanics	Electrical plant	Gas assembly
date signature	date signature	date signature

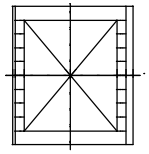
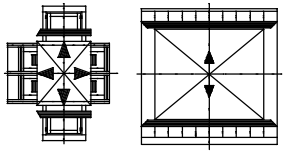
List of parts exchanged:

Description	Date	Signature

6 .2 Lubrification- and maintenance plan complete

Component	Maintenance point	Maintenance rate. By extremly soiling the cleaning must follow with shorter rates.						Maintenance equipment
		week	month	3 month	6 months	years	cycles	
Complete system We recommended you to make a maintenance contract with MSK. With the regular control of your MSK system you choose a economic solution which ensure you a long-range of good quality of the products. When carrying out maintenance work of any description on the MSK packaging system, it must always be shut down with the help of the master switch and the compressed air supply and the gas supply must be shut off before the danger zone is entered. **On no account may maintenance work be carried out as long as the system has not been properly shut down and switched off!**	**Visual inspects at**							
	All moving parts.		X					
	Power supply chains.		X					
	Stop buffers.		X					
	Moving cables.		X					
	All chains; the chains are to be tightened if necessary.		X					
	Check the interference fit of the screws, approximity switches and light barriers.		X					
	Light barriers and reflectors. Shut the control-LED of one of the light barriers flicker, is the reflected light-current to low. Isn't the flicker removeable by cleaning of the light barrier and the reflector, the direction of the matching positions must be checked and if necessary adjusted.		X					
	Check fuzes, signal lamps and fuze elements (defective fuzes must only be replaced by fuzes with the same values).		X					
	Cleaning							
	The total area of the system well-swept.	X						
	Clean the filter mat of the control cabinet.			X				
	Motors cooled with outside air must always have a perfect supply of cooling air to the cooling fins. These air passages are to kept clean.			X				
	Maintenance							
	Grease the drive- and transport-chains. The chaines used by MSK are maintenance low. A regreasing is recommandable according to the operation rate (approx. 3-6 months).			X				Chain lubricant e.g. - SYN-Setral-54 NF - Fluid-Setral SHT 260 MT - Oel-Gleit
	Check the chain tension (chain slack around 1 % from the distance of axle).		X					
	Change the oil of the motors respec. gears.					4		Gear oil e.g. - FINA PONTONIC SAE 85W-140 - FINA HYDRAN CIN 46 - ARAL VITAM DE 46

Component	Maintenance point	Maintenance rate. By extremly soiling the cleaning must follow with shorter rates.						Maintenance equipment
		week	month	3 month	6 months	years	cycles	
Shrink machine MSK Recotech / Synchrotech 	**Checking of the gas firing system:** Gas-fired machines are subject to statutory provisions. Therefore the MSK Shrink machines **must be inspected at least once a year by qualified personnel following to the 'safety checklists for gas fireing systems'**.					1		
	Reneuw the **Orangeflex-hose.**					5		
	Clean the **safety plate**, if necessary remove foreign particle.		X					Industry vacuum cleaner
	Clean the **openings of the burners**. Pay attention: the outlet openings, should be free.		X					Industry vacuum cleaner
	Check the tightness of the gas lines, valves, fittings and connection pieces.				X			Gas leakage spray
	Check the tightness of the solenoid valve at the cable bearer of the shrink machine.				X			With the help of a glass filled with water (see chap. 6 .3).
	The **supervision electrode** is bent gently to and fro by hand. If there is a defect in the electrode, it will break off in this test. Note: Before the electrodes' functioning is tested in this way new electrodes should be to hand in sufficient number to avoid lengthy stoppages!			X				
	Clean the **air filter cartridge** of the blower (in the carriage of the shrink machine).		X					Wear safety glasses! By blowing out (from the inside to outside) and punch out by hand.
	Changs the **air filter cartridge** (respec. according to the grate of soil).					1-3		
	Check abrasion of the **S-green guide rolls** at the counter weights and exchange if necessary.			X				
	Check wear of the **vulkolan wheels**.			X				
	Check damage of **toothed belts** at the lifting carriage.			X				
	Remove sediments from the **toothed belts**.	X						
	Check tight fitting of the screws of the **toothed belt clamping device**: - check if screws are well tightened at the window (A/B) (counter weight is below when lifting carriage is up) - check toothed belt fixing (clamping plate) at the lifting carriage.		X					
	Check tooth wear of the **toothed-belt pulley**.		X					
	Change the **toothed belt**.					4		

Component	Maintenance point	Maintenance rate. By extremly soiling the cleaning must follow with shorter rates.						Maintenance equipment
		week	month	3 month	6 months	years	cycles	
Roller conveyor 	Check the **sprocket wheel lever** and the **stopper** (if existing) for easy moving, grease and change the spring if necessary.			X				Grease e.g. BEL-RAY Amber Grease 2.
	Remove objects (film, wood, glass etc.) from the **chain connection** respec. the **rolls**.			X				Wear safety glasses! Blow out with pressure air.
Centering device 	Check the **chains** at the centering beams and retension if necessary.			X				

6 .3 Maintenance of the MSK SYNCHROTECH

CAUTION

When carrying out maintenance work at the Synchrotech please observe
- the safety instructions in chapter 1
- the switching on and off procedures in chapter 4 .1 .11 .

6 .3 .1 Maintenance schedule

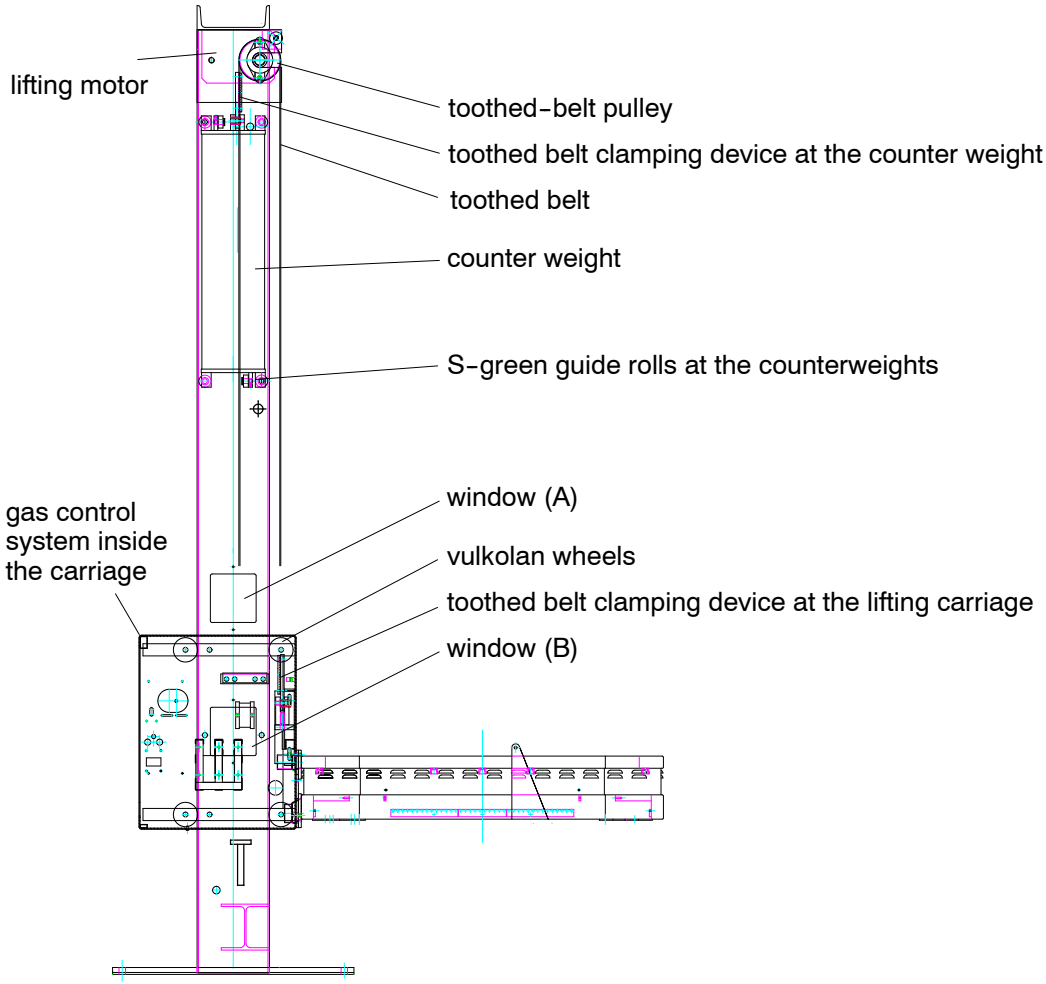


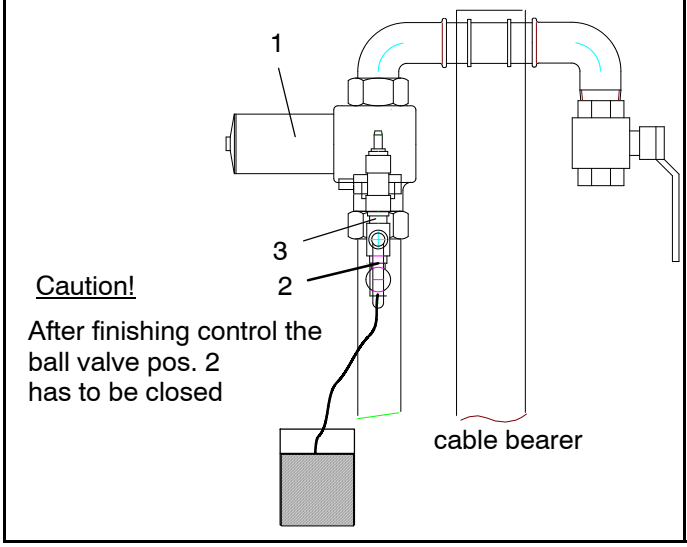
Figure 33 Maintenance of the MSK SYNCHROTECH

6 .3 .2 Maintenance points of the MSK SYNCHROTECH

CAUTION

When carrying out work at the MSK shrink wrapping machine the counterweights must be secured with safety bolts. The carriage must also be secured against lifting/falling by appropriate safety means.

Maintenance	Week	Month	3-Months	1-Year	4-Years
Checking of the gas firing system: Gas-fired machines are subject to statutory provisions. Therefore the MSK SYNCHROTECH **must be inspected at least once a year by qualified personnel following to the safety checklists for gas fireing systems.**				X	
The tightness of the gas supply tubing has to be checked at least once a year.				X	
Visual check / inspection: - in principle all mobile parts - power supply chains / mobile cables - rubber buffers - stopping point of the carriage, if the slowing down distance has increased, readjust the motor brakes (see chapter 8 .1)	X				
Cleaning: The entire area of the MSK packaging machine, especially the inside space of the hot air ring, must be cleaned with an industrial vacuum cleaner, light barriers and reflectors must be cleaned with a rag. Intense pollution should be cleaned at shorter intervals.	X				
Check wear of the vulkolan wheels (the adjustment of the carrying wheels is described in chapter 6 .3 .3).			X		
Check abrasion of the S-green guide rolls at the counter weights and exchange if necessary.			X		
Check damage of toothed belts at the lifting carriage.			X		
Remove sediments from the toothed belts.	X				
Check tight fitting of the screws of the toothed belt clamping device: - check if screws are well tightened at the window (A/B) (counter weight is below when lifting carriage is up) - check toothed belt fixing (clamping plate) at the lifting carriage (the toothed belt is tightened by the weight of the lifting carriage).		X			
Check tooth wear of the toothed-belt pulley.			X		
Exchange the toothed belts. Choose toothed belt length according to old toothed belt length. Ensure correct overlapping toothed belt/clamping device. After exchanging the toothed belt adjust the anti-skipping device (deep-groove ball bearing on shaft) leaving a distance of 1-2 mm between ball bearing and toothed belt.					X

Maintenance	Week	Month	3-Months	1-Year	3-Year
Gas filter element: The gas filter element is part of the compact unit. An obstructed gas filter element leads to a gas shortage. The corresponding fault message appears on the text display. **Cleaning may only be carried out by qualified and skilled personnel.** Please observe the description of the compact unit in chapter 8 .2 .		X			
Check regularly if the orangeflex hose type 2L (80.03.C 390) (black gas hose) shows any visible damage. For safety reasons this should be exchanged after approx. 5 years or 500.000 cycles.				X	
Leakage test of the gas hoses, valves and connection pieces. For this purpose apply gas leakage spray to the corresponding points. Leakages are indicated by bubbles.			X		
Leakage test of the solenoid valve: The tightness of the solenoid valve 1 can be checked by means of a water glass and the feeding pipe. The end of the hose is fixed to the control valve 3 and the other end of the hose is immersed in the water. Afterwards, open the ball valve 2, actuate the control valve 3 by pressing the button and let the remaining gas flow out. If there are still gas bubbles after 1 minute, the solenoid valve must be exchanged because it is not tight.  <u>Caution!</u> After finishing control the ball valve pos. 2 has to be closed			X		

Maintenance	Week	Month	3-Months	1-Year	3-Years
At regular intervals, at least every 3 Months, an optical and functional check should happen. Visual inspection and function testing of the monitoring electrodes. Remove grey-black discoloration by hand. The electrodes' functioning can be tested by manual bending. The electrode is bent gently to and fro by hand. If there is a defect in the electrode, it will break off in this test. Note: **Before the electrodes' functioning is tested in this way new electrodes should be to hand in sufficient number to avoid lengthy stoppages!**			X		
It's recommended to change the spark plugs and sensing electrodes once per year.				X	
Air filter element: Cleaning of the air filter element should be carried out as required. An obstructed air filter element leads to air shortage within the gas control system. Exterior indicators are insufficient heating performance of the burners and a flame aspect with a long, sometimes yellowish flame (with cover sheet open). The air filter element must be cleaned every 10,000 cycles and exchanged after 100,000 cycles as per manufacturer's specifications. Cleaning of the filter is carried out by blowing out and beating out manually. The above-mentioned values are mean values which may vary depending on the dust content of the air. **Wear safety glasses when blowing out the air filter!**			X		
Carry out maintenance work at the geared motors according to the specifications of the manufacturer.					oil change

6 .3 .3 Mechanics

6 .3 .3 .1 Rollers

The rollers of the carriage have to roll on the columns with low pressure only. The rollers must be readjusted when the hot-air ring leaves its horizontal position. In addition, the equal distance between carriage and both columns is important. If this distance changes, the distance between the proximity switches and the switch lugs - 3 mm - is not guaranteed anymore.

Readjusting the distance (see Figure 34):

Roller A

- Slightly loosen nut 1.
- Twist the eccentric bolt by means of the auxiliary bore, pay attention to the equal twisting of the right and left roller.
- Tighten nut 1.

Roller B

- Move the carriage to the lower position.
- Loosen counter nut 3.
- Turn the hexagon socket screw 1 on both rollers until the roller has no contact.
- Move the hot-air ring and the carriage to the correct position by placing spacers 20 mm wide between columns and carriage on both sides.
- Push roller B with the hand.
- Slightly tighten hexagon socket screw 4.
- Tighten counter nut 3.
- Move the hot-air ring and check whether the rollers B are too loose and readjust them if necessary.

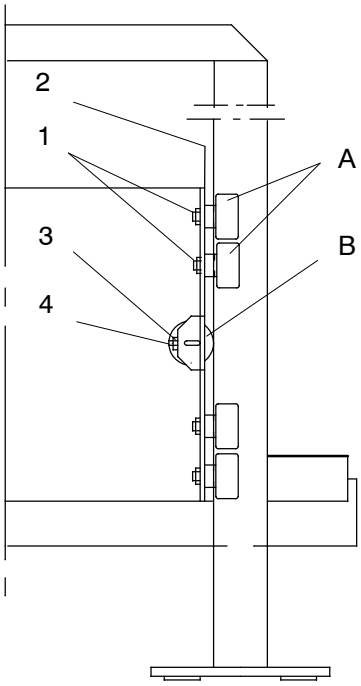


Figure 34 Adjusting the rollers

6 .3 .3 .2 Alignment of the hot-air ring

- Check that the two columns are still vertical and parallel to each other.

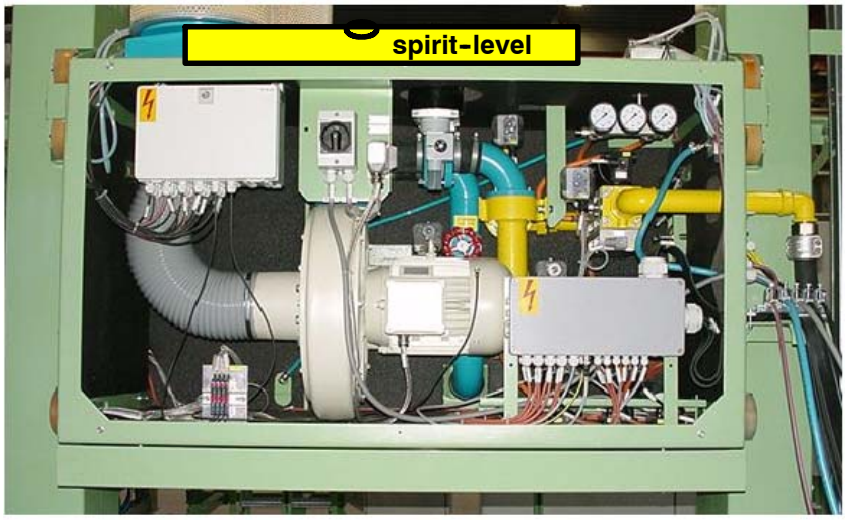


Figure 35 Check the slide for horizontal alignment

- Check that the slide is horizontally aligned. For this purpose use a spirit level once lengthwise on the slide and once across it (see Figure 35).
- If the slide is not horizontal, level the **slide** up again with the double Vulkolan wheels (as described in chap. 6 .3 .3).
- Then check that the ring is hanging horizontally. For this purpose use a spirit level once lengthwise on the **ring** and once across it.
- If the ring is not level (when the spirit level is placed on the ring in the direction of flow) , loosen the fixing screws > **2** < a little and then screw the adjustment screw > **3** < in or out until the ring is level again. Then tighten the fixing screws > **2** < again (use securing glue e.g. Weicon AN302-42 [blue]).
- If the ring is not level (when the spirit level is placed on the ring across the direction of flow), loosen the counternut at position > **4** < a little, then screw the fixing screws in or out until the ring is level again. Lastly, tighten counternut 4 (use securing glue e.g. Weicon AN302-42 [blue]).

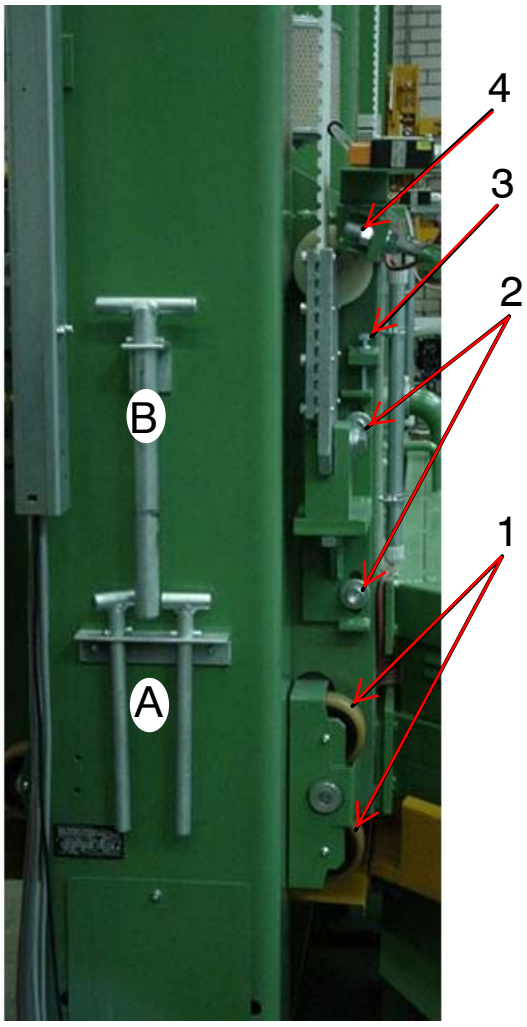


Figure 36 Checking the horizontal alignment of the hot air ring

6 .3 .3 .3 Changing the toothed belt

CAUTION

When changing the toothed belts there exists a higher danger of accident. In any case the safety bolts are to be inserted in the corresponding borehols.

Procedure (see Figure 37):
- Move the hot-air ring in the upper position.
- Insert the two bolts **A** into their bores **A** on both sides of the rack.
- Move the hot-air ring **slowly** upwards until the counter weights rest on these bolts (A).
- Insert the safety bolts **B** fully into the borehols **B** to lock the ring (on both sides!).
- Hold the carriage in this position with a crane or a fork-lift.
- Loosen the clamping plates **C** (see Figure 37) at the hot-air ring and at the counter weights.
- Take out the tooth belt and adjust new tooth belt to the same length.
- Put in the new tooth belt around the tooth belt rolls. Fix the tooth belt with the clamping plates to the counter weights
- While screwing on the weights, put attention to the correct function of the tension control / demolition control (roller switch) above the clamping section.
- After having screwed on all screws sufficiently strong, you can take out the safety bolt **A** / **B**, the tooth belt is put under tension automatically.

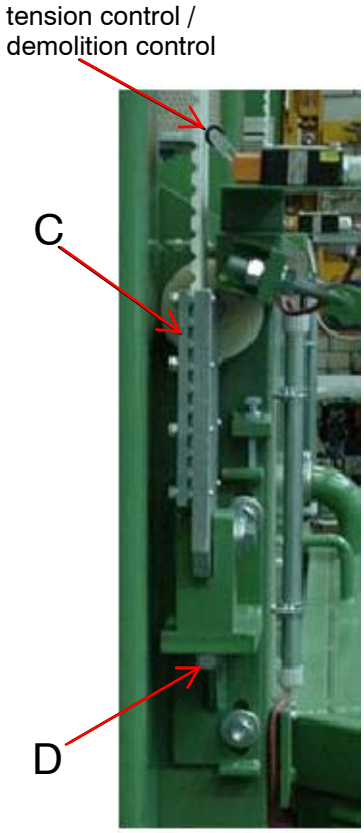


Figure 37 Checking the alignment of the hot-air ring

CAUTION

After having exchanged the tooth belt, check if the lifting slide is in a horizontal position.

For aligning the slide after having exchanged the tooth belt, please follow information given in chap. 6 .3 .3 .2 .

6 .4 Maintenance of the MSK Flowtech

CAUTION

When carrying out maintenance work at the MSK Flowtech please also read
- the safety instructions in chapter 1
- the switching on and off procedures described in chapter 4 .1.

6 .4 .1 Maintenance schedule

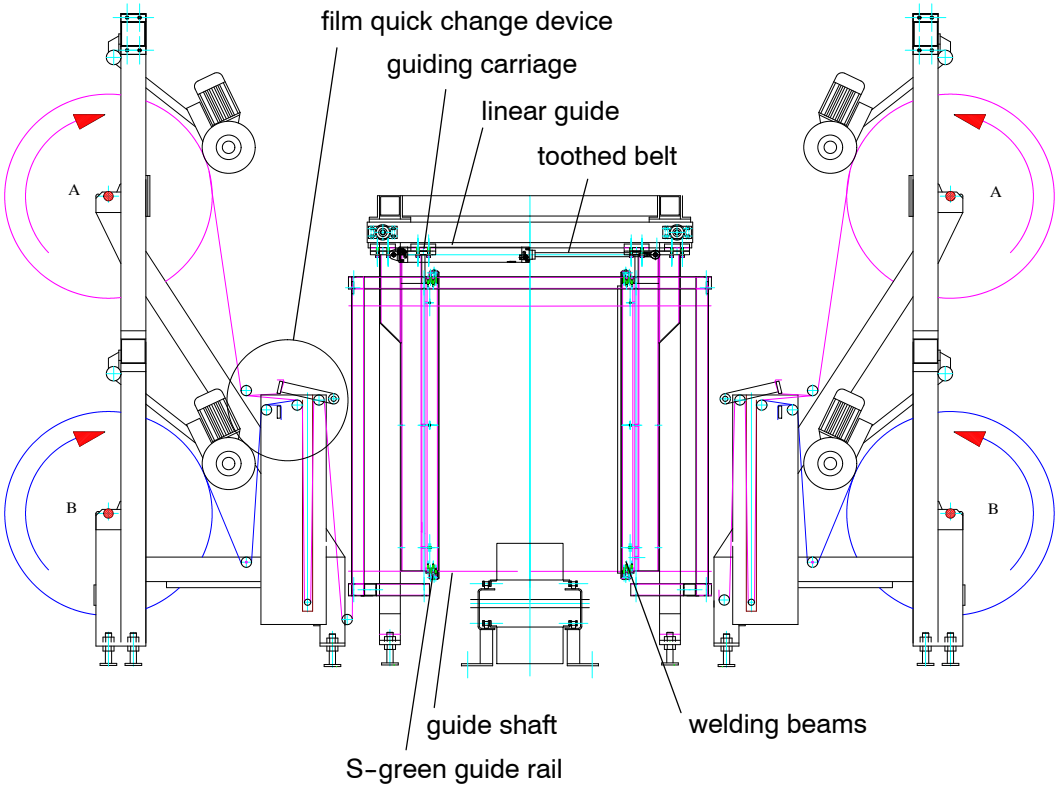


Figure 38 Maintenance of the MSK Flowtech (2-format samlpe)

6 .4 .2 Maintenance points of the MSK Flowtech

Maintenance	Week	Month	3-Months	4-Years
Visual check / inspect: - in principle all mobile parts - power supply chains / mobile cables - rubber buffers	X			
Attention! **Separating wires remain hot for a while even after switching off the machine, danger of burns!** Check the separating wires - at the vertical welding beams - at the film quick change device if there are film remainders and clean if necessary with a rag or a brush. After that apply a little bit silicone oil.	X			
Check if teflon coatings of the separating wires are damaged, exchange, if necessary	X			
Check the teflon strip/strip heater of the film welding device - at the vertical welding beams - at the film quick change device For more information about the maintenance of the film welding device see chapter 6 .4 .3 .		X		
Check tension of the separating wires at the welding beams and adjust if necessary.		X		
Check if the toothed belt at the drive of the welding beams is damaged.			X	
Remove sediments from the toothed belts.	X			
Check tight fit of the screws at the toothed belt clamping devices.		X		
Check the toothed belt tension and adjust if necessary.		X		
Exchange the toothed belts. Adjust toothed belt length according to old toothed belts. Ensure correct overlapping of the toothed belt/toothed belt clamping device.				X
Check abrasion of the S-green guide rails at the horizontal welding beams and exchange if necessary.			X	
Clean and grease the guide shaft of the welding beams.		X		
Grease the guiding carriage of the linear guide (i.e. grease with Lithium grease no. 2).		X		
Check smooth running of the film deflection rolls at the vertical welding and cutting device.			X	
Check the pneumatic system, empty the water separator/oil separator.	X			
Carry out maintenance work at the geared motors according to the instructions of the manufacturer.				3 years oil change

6 .4 .3 Maintenance of the film welding device

Exchange of the teflon strip

The teflon strip 2 with which the strip heater is covered is subject to wear. If the teflon strip is burnt, it must be exchanged. We deliver the complete teflon strip provided with adhesive tapes on both edges adhered to a cover film. After removal of the cover film the teflon strip can be adhered to the welding beam.

Application of silicone rubber to the welding beam

After a long-term usage the silicone rubber 4 between the strip heater and the welding beam may be damaged by the constant temperature influence of the strip heater. In this case, a new silicone rubber must be fixed (with contact adhesive, e.g. Weicon type VA-100). The welding beam must be cleaned (exempt from grease) before adhering the silicone rubber.

CAUTION

When using contact adhesives please observe the relevant safety and use instructions on the package and label.

Mounting of the strip heater

The strip heater may burn through after a long-term usage. After removing the strip heater 3 check smooth running of the bar flaps 1.
To mount the new strip heater the locking pins must be inserted into the holes 7 of the bar flaps heads. This keeps the pressure spring tight. The edges of the strip heater are rounded off at one side in order to avoid notching along the edge of the welding seam. When mounting the new strip heater note that the rounded off edges are facing the film.
The strip heater should be well tightened. The strip heater must be tightened again after some welding impulses. This is absolutely necessary. The strip heaters are tightened by winding up the protruding ends of the strip heater above the clamping piece 8 by means of pointed pliers.

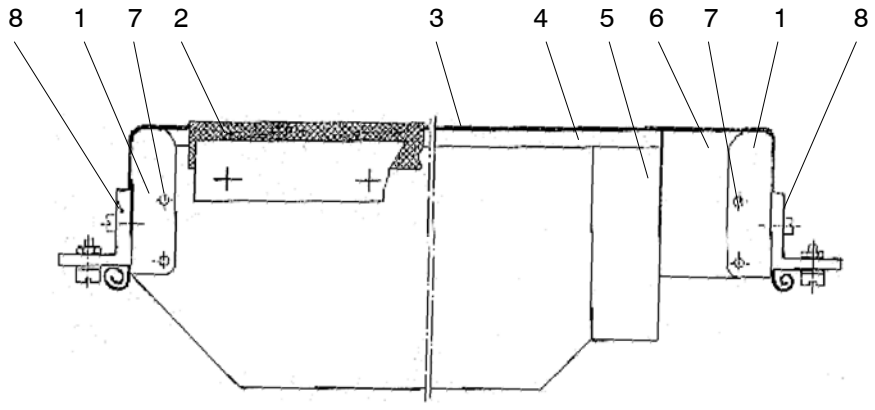


Figure 39 Welding bar

6 .4 .4 Maintenance of the linear guide

With normal speed rates there will not occur any heating problems so that a forced lubrication is not needed.
We recommend internal greasing of the carriage, as the grease sticks easily to the bar of the shaft. In the event of oil lubrication we recommend to use viscous oil.

Grease	Lithium grease no. 2
Lubrication	Turbine oil ISO VG32 to 68
	or equivalent

Small losses of the used grease or lubricant during operation make a refilling at adequate intervals or a drip–feed lubrication necessary.

We recommend to keep to an appropriate regreasing term taking into consideration the operating conditions. Under normal circumstances a distance of 100 km may be taken as guidance.

6 .4 .5 Changing the Welding and Cutting Unit on the MSK Flowtech

CAUTION

Before entering the danger area:
- **Switch off the control voltage.**
- **Switch off the main switch and secure with a padlock to prevent it from accidentally being switched on again.**
- **Then shut off the supply of compressed air at the main valve and open the quick-action ventilating valve at the pneumatic service unit.**
- **Shut off the gas supply.**

CAUTION

The welding bar may still be hot even after the machine has been switched off. To avoid burn injuries, maintenance personnel should wait a while after shutting down the machine to allow the welding bars to cool down.
Always wear heat-proof safety gloves when performing installation work.

Disassembly at the Cutter Side

See Figure 40

The welding rails have a plug connector (1) at the top end; the welding rails (3) are supplied with power via this plug connector. At the beginning of disassembly work, the clips on the plug connector (1) must be released first. The plug connector can then be disconnected.

Each of the two welding rails (3) is secured with three M8x20 button-head screws (2). The two bottom screws must be slackened and removed first. When the last, top screw has been slackened, thewelding rail can be removed bymoving the welding rail toward the middle of the machine and then removing the last, top screw.

Theseworking stepsmust be repeated for each of thewelding bars to be changed.

Installing the Welding Rails at the Cutter Side

When attaching thewelding rails (3), it is important tomake sure that they are positioned correctly. Slide the welding rail back into the holder and screw in the top fastening screw (2) first. Now push the welding rail against the stop in the welding bar mount, screw in the remaining two screws and tighten evenly.

The cable lugs (1) for the welding connection must be reattached to the two welding rails. It is important to make sure that the cable lugs are fitted correctly in order to ensure perfect contact and to prevent short circuits to ground.

These working stepsmust be repeated for each of thewelding rails to be changed.

Disassembling the Resilient Welding Rails Opposite the Cuter Side

The resilient welding rails also have electrical connections (1) at both ends; the welding rails (3) are supplied with power via these electrical connections. At the beginning of disassembly work, the connections (1) must first be removed by slakkening the hexagon socket screw.

Each of the two welding rails (4) is secured with five M8x20 button–head screws (2). The four bottom screws must be slackened and removed first. When the last, top screw has been slackened, thewelding rail can be removed bymoving the welding rail toward the middle of the machine and then removing the last, top screw.

These working stepsmust be repeated for each of thewelding rails to be changed.

Installing the Resilient Welding Rails Opposite the Cuter Side

When installing the welding rails (4), it is important tomake sure that they are positioned correctly. Slide the welding rail back into the holder and secure the welding rail using only the top screw first of all (screw in the screw slightly). Now push the welding rail against the welding bar mount and screw in the remaining four fastening screws (2) (screw in the screws only slightly). It must still be possible to move the welding rails by applying pressure.

The cable lugs (1) for the welding connection must be reattached to the two welding rails. It is important to make sure that the cable lugs are fitted correctly in order to ensure perfect contact and to prevent short circuits to ground.

These working stepsmust be repeated for each of thewelding rails to be changed.

Aligning the Resilient Welding Rails

On the side opposite the cutter, the **two** resilient welding rails are secured only loosely with the fastening screws (2) (screw in the screws only slightly). As a result, these welding rails (4) can move when pressure is applied, and adapt automatically during alignment with the adjusted welding rails (3).

CAUTION

All personnel must now leave the area inside the protective grille. Before switching on the machine in the way described in Chap. 4.1, make sure that nobody is in the danger area (inside the protective grille) of the machine.

In manual mode (preselection switch 'Close welding bar'), the welding rails must be closed; the resilient side (4) automatically aligns with the adjusted welding rails (3). With preselection the switch 'Open welding bar', the welding bar is moved apart again.

Opening the door in the protective grille triggers the emergency–stop circuit and shuts down the machine. Personnel can again enter the area inside the protective grille.

All five screws (2) in the replacement resilient welding rails (4) must now be retightened evenly.

CAUTION

Opening the doors in the protective grille always triggers the emergency stop and shuts down the machine. The emergency stop should therefore not be used to shut down the machine in automatic mode as stopping the machine too frequently in automatic mode has a detrimental effect on the service life of the packaging machine.

The welding rails can also be aligned in several steps, whereby the warnings and safety instructions must always be observed.

Completing Welding Bar Installation

CAUTION

All personnel must now leave the area inside the protective grille before the door in the protective grille is closed again. Before the machine can resume automatic operation in the way described in Chap. 4.1, make sure that nobody is in the danger area (inside the protective grille) of the machine.

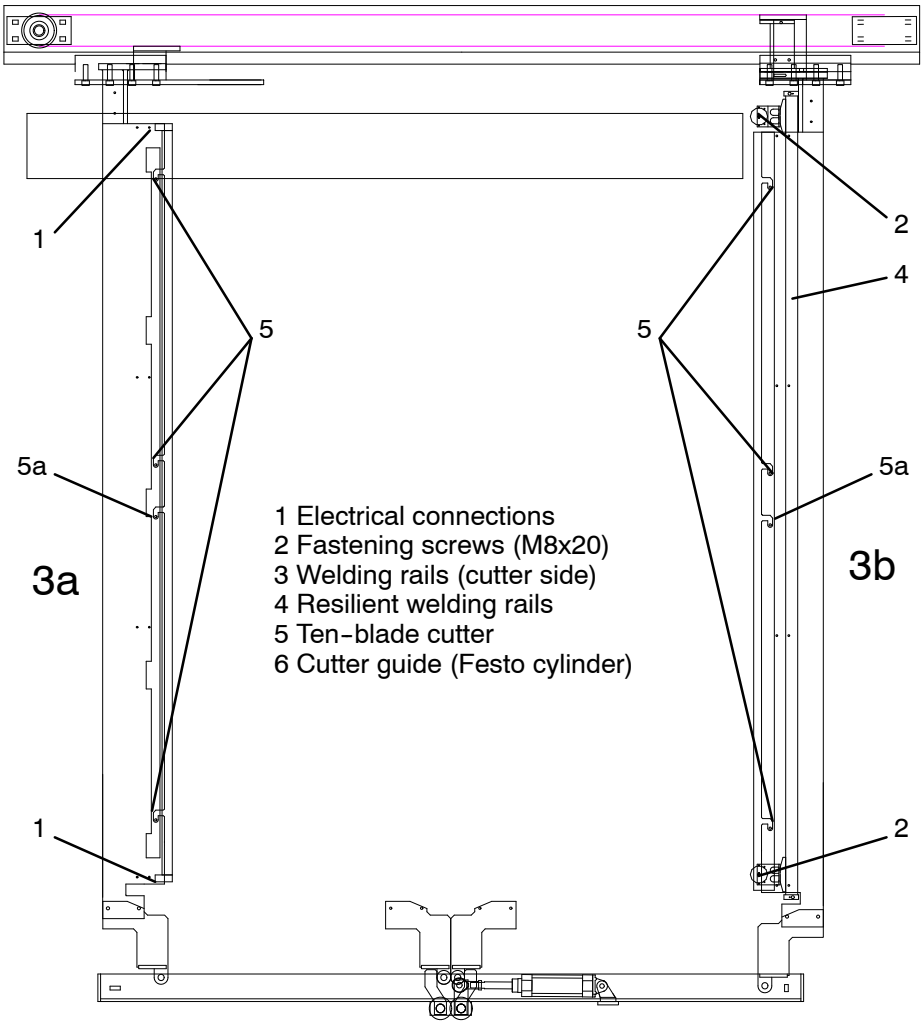


Figure 40 Installing the welding rails

Rotating the Cutter

See Figure 41

Carefully slacken the four fastening screws on the cutter holder. Then rotate the cutter by 1/10 turn until a sharp cutting blade is available at the cutting position.

CAUTION

The cutter is extremely sharp. It is therefore essential to wear suitable finger protection when rotating or changing the cutter.

CAUTION

It is advisable to rotate the cutter clockwise.

Tighten the screws securely so that the cutter cannot rotate during operation and the film is always cut properly. Check that the cutter is fitted securely.

Changing the Cutter

Slacken and remove the four fastening screws. Then carefully detach the cover plate and remove the cutter. Fit the new ten-blade cutter on the spindle and reattach the cover plate using the four screws. Tighten the screws securely so that the cutter cannot rotate during operation and the film is always cut properly.

Check that the cutter is fitted securely.

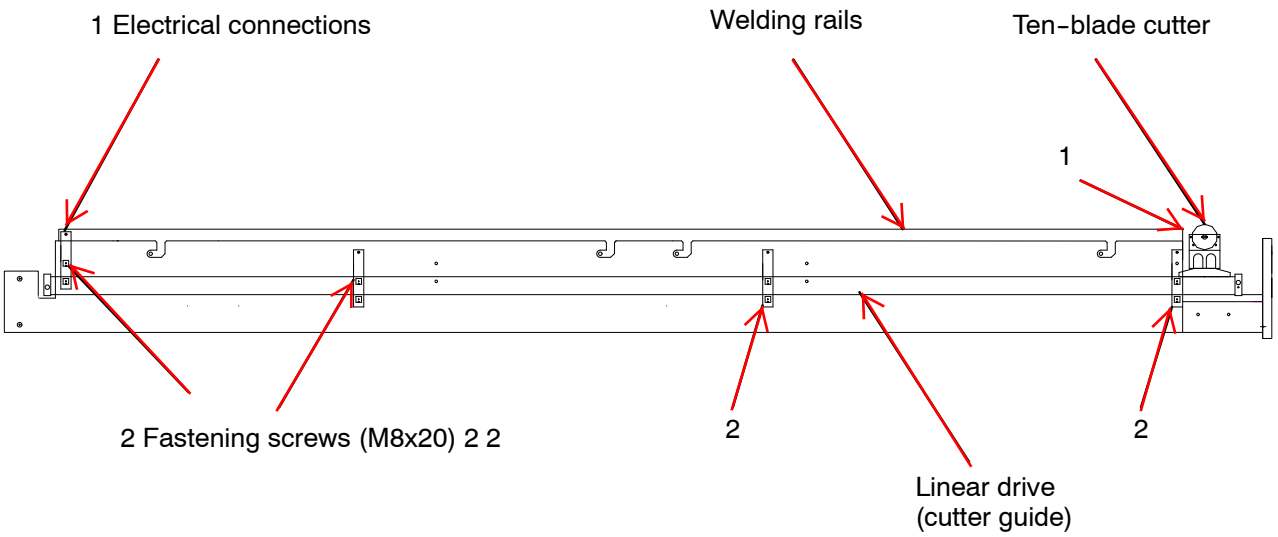


Figure 41 Installing the cutter

CAUTION

All personnel must now leave the area inside the protective grille before the door in the protective grille is closed again. Before the machine can resume automatic operation in the way described in Chap. 4.1, make sure that nobody is in the danger area (inside the protective grille) of the machine.

6 .5 Maintenance work

6 .5 .1 Maintenance of the conveyors

The drives of the conveyors are to be lubricated in accordance with the manufactorer's information (see Chapter 8 .1).
Check the oil every 3.000 power-on hours, at least every 6 months. Change the oil of the motors respec. gears every 12.000 power-on hours, at least every 3 years (see Chapter 8 .1).

The chains must be lubricated with SYN Setral 54 NF every 50,000 cycles.

Check regulary the chain tension. Chain slack around 1 % from the distance of axle.

6 .5 .2 Maintenance of the electrical drives

CAUTION

All maintenance work on the electrical drives must be carried out by authorized specialists only! The MSK packaging system must be switched off.

Maintenance of the drive units is to be carried out in accordance with the manufactorer's instructions. If the slowing time of the motors gets too long the brakes are to be resetted (refer Chapter 8 .1).
Check the oil every 3.000 power-on hours, at least every 6 months. Change the oil of the motors respec. gears every 12.000 power-on hours, at least every 3 years (see Chapter 8 .1).

Motors cooled with outside air must always have a perfect supply of cooling air to the cooling fins. These air passages are to kept clean.

6 .5 .3 Maintenance of the pneumatic equipment

CAUTION

Maintenance work on the pneumatic equipment only is to be carried out when the pneumatic air supply is shut off.

The pneumatic plans of the MSK packaging system are related to the corresponding position number in chapter "Spare parts".

1. Check the pneumatic system for tightness (leakage spray).
2. Checks carried out on the maintenance unit:
   a) Check the water separator and drain the condensate water.
   b) Check the sintered filter of the maintenance unit and clean it, if necessary. The precise procedure of steps a-b is indicated in the manufactorer's instructions (see Chapter 8).
3. Exhaust silencer
   Virtually the exhaust silencer is used to remove the oil from the exhaust air. If necessary, remove the screw plug at the lower end of the sight glas, drain the oil and screw in the screw plug.

6 .5 .4 Maintenance of the electrical equipment

CAUTION

All maintenance work on the electrical aquipment must be carried out by authorized specialists only!

When carrying out maintenance work, check that the proximity switches are firmly mounted.

Also check the function of the fan in the switch cabinet and the indicator lamps.

The light barriers and reflectors are to cleaned with a cloth.

Check electric lines for external damage. Check electric connections for tight fit.

Remove dust and dirt from electrical appliances from time to time because otherwise there is a risk of creeping current.

Check fuzes and fuze elements, (defective fuzes must only be replaced by fuzes with the same values).

Maintenance of the battery of the automation device (control) refer to the separate description of the S5 or S7 control.

6 .5 .5 Maintenance of the Spark plugs and Monitoring electrodes

At regular intervals, every 3 months at the latest, the electrodes should be checked visually and with respect to function.

CAUTION

Grey-black discoloration of the electrodes indicates burn-off, which should be removed by hand.

Function test

The electrodes' functioning can be tested by manual bending.

The electrode is bent gently to and fro by hand. If there is a defect in the electrode, it will break off in this test.

CAUTION

Before the electrodes' functioning is tested in this way new electrodes should be to hand in sufficient number to avoid lengthy stoppages

Spark plugs

The spark plugs are maintenance-free. A defect can be identified if the burner strip does not ignite.

CAUTION

As part of the annual gas technical safety inspection the electrodes and spark plugs should be replaced.

7 Spare parts

7 .1 Complete spare part survey with pneumatic and hydraulic diagrams

The r**e**commended list of spar**e** parts (marked with EE) contains parts subject to **w**ear (marked with W) or parts which are advisible to store for minimizing down–time. As the delivery period for our motors can be more than 12 weeks we would recommend you to keep one of each in stoek.

This list of spare parts gives you a survey of all spare parts with lists and plan of the several machines.

To order spare parts please send to MSK the designition, article number and the desired amount of every part.

List of structural components

No.	Structural Component
	Electrical spare parts of the
22	Control cabinet
23	Operating desk
1	Roller conveyor
2	Roller conveyor
3	Roller conveyor Pneumatic parts pos. 3, 5, 6, 7, 9
4	Roller conveyor
5	Pallet centering system
6	Load centering system
7	Roller conveyor (shiftable)
8	MSK Top Sheet Dispenser Pneumatic parts
9	Roller conveyor
10	Film feeder MSK 320 Flowtech Pneumatic parts
11	Roller conveyor
11.1	Exhaustion

No.	Structural Component
12	Shrink machine MSK 280iS Synchrotech Gas regulation system
13	Top–Shrink plate
13 13.1	Roller conveyor Electromotive top shrink plate
14	Roller conveyor
15	Roller conveyor
16	Roller conveyor
17	Roller conveyor
18	Roller conveyor
19	Roller conveyor
21	Protection guards

	Electrical spare parts of the
22	Control cabinet
23	Operating desk

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Control cabinet
Commission Number:	399600
Position Number:	22

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1		141992		auxiliary switch 1NC/1NO	for LS-switch 140U	7	pc	EE
2		102425		auxiliary switch 1NC/1NO for	140M-C2	36	pc	E
3		144320		circuit-breaker 2A	B charateristic	3	pc	E
4		144321		circuit-breaker 6A	B charateristic	6	pc	E
5		144304		contact-block 1NC	800F/PVC/(PU:10pcs)	2	pc	E
6		144303		contact-block 1NO	800F/PVC/(PU:10pcs)	1	pc	E
7		141948		contactor 100C - 4kW / 24V	auxiliary contact 1NC	33	pc	EE
8		142216		ControlLogix Chassis 13 port	Typ 1756-A13	1	pc	EE
9		141981		ControlLogix Compact Flash Cart	64MB	1	pc	EE
10		141964		ControlLogix DeviceNet Bridge		2	pc	EE
11		141962		ControlLogix Ethernet Bridge	10/100MBit/s	1	pc	EE
12		141958		ControlLogix input module	with 32 inputs 10-31V	4	pc	EE
13		141961		ControlLogix output module	with 16 outputs 10-31V	4	pc	EE
14		141956		ControlLogix power supply		1	pc	EE
15		141971		ControLogix battery module	external	1	pc	EE
16		54308		DeviceNet power branch	activebox with duplicate port	2	pc	E
17		141972		DeviceNet power supply	240W 100-24VAC	2	pc	EE
18		144317		distance-module for 140M	for branch-Circuit (acc.TypeE)	36	pc	E
19		141979		dummy plate	for ControlLogix Chassis	4	pc	EE
20		144301		emergency-stop button	800F-Frontmodule/PVC	1	pc	E
21		102252		emergency-stop extension component	XPS-ECP	2	pc	EE
22		101861		emergency-stop relay XPS-AK	3NC/1NO 24V	1	pc	EE
23		143955		emergency-stop relay XPS-AR		4	pc	E

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
24		144314		emergency-stop ring YELLOW	800F/40mm/(PU:10pcs.)	1	pc	E
25		144504		flame monitor 120V	for earthed and floating network	2	pc	EE
26		141993		flexible operating mechanism	linkage	26	pc	EE
27		143919		flexible operating mechanism	linkage for 140U125A	1	pc	EE
28		104282		front plug 36 poles screw.	controllogix	8	pc	EE
29		144318		fuseholder for Class CC fuses	2pole/up to 30A	5	pc	E
30		144319		fuseholder for Class CC fuses	3pole/up to 30A	2	pc	E
31		144503		gas-firing unit 120V	for earthed networks / Zeit: 5	2	pc	EE
32		143922		Industrial Rail Switch 2	8x10/100BaseTX	1	pc	EE
33		141998		line safty switch C 6A	1-pin	4	pc	EE
34		141999		line safty switch C 8A	1-pin	2	pc	EE
35		142000		line safty switch C 10A	1-pin	1	pc	EE
36		142404		line safty switch C 16A	1-pin	1	pc	EE
37		142623		Logix CPU 1756-L61	main memory 2MB	1	pc	EE
38		102427		motor-circuit switch 0,4-0,63A	100kA 140M-C2E	8	pc	EE
39		102429		motor-circuit switch 1,0-1,6A	100kA 140M-C2E	1	pc	EE
40		102430		motor-circuit switch 1,6-2,5A	100kA 140M-C2E	17	pc	EE
41		102431		motor-circuit switch 2,5-4,0A	100kA 140M-C2E	4	pc	EE
42		102432		motor-circuit switch 4,0-6,3A	100kA 140M-C2E	4	pc	EE
43		102433		motor-circuit switch 6,3-10A	100kA 140M-C2E	2	pc	EE
44		102434		motor-circuit switch 10-16A	50kA 140M-C2E	3	pc	EE
45		144302		mounting-flange	800F/PVC/(PU:10pcs)	1	pc	E
46		143879		open connector for DeviceNet	colour-coded terminals	1	pc	E
47		96647		power supply SITOP	400/24VDC 20A	2	pc	EE
48		141939		power switch 140U 15A	3-pin	4	pc	EE
49		141940		power switch 140U 20A	3-pin	1	pc	EE
50		141942		power switch 140U 50A	3-pin	1	pc	EE
51		141944		power switch 140U 125A	3-pin	1	pc	EE
52		142649		PowerFlex70 0,37kW	400-480V / 60Hz - 3Ph	1	pc	EE
53		144322		PowerFlex70 0,75kW	400-480V / 60Hz - 3Ph	17	pc	EE
54		142650		PowerFlex70 1,5kW	400-480V / 60Hz - 3Ph	3	pc	EE
55		142651		PowerFlex70 2,2kW	400-480V / 60Hz - 3Ph	2	pc	EE
56		142652		PowerFlex70 4,0kW	400-480V / 60Hz - 3Ph	2	pc	EE
57		142653		PowerFlex70 5,5kW	400-480V / 60Hz - 3Ph	1	pc	EE
58		141920		PowerFlex70 Brake Resistor	for 0,37-0,75kW	4	pc	EE

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
59		141921		PowerFlex70 Brake Resistor	for 1,5-5,5kW	3	pc	EE
60		141914		PowerFlex70 Handheld	LCD Display	1	pc	EE
61		61856		pyramid flashing light 24VDC	signal colour: orange	1	pc	E
62		143839		relay 24VDC 3changer + Diode	plugable	28	pc	E, W
63		144502		relay 110VAC 3changer	plugable	7	pc	E, W
64		143840		relay 230VAC 3changer + Diode	plugable	1	pc	E, W
65		86986		relay base		36	pc	E
66		142102		RJ45 Plug female IP67 CAT.6	UL94 V0	1	pc	EE
67		141991		terminal cover for 140U		7	pc	EE
68		101596		transformer 1kVA	prim. 240/480V / sec. 120/240V	1	pc	EE
69		144345		transformer 3kVA	prim. 240x480V / sec. 120/240V	1	pc	E
70		144330		Transformer 3kVA Daykin	prim. 480VAC / 60Hz	1	pc	E

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Operation cabinet
Commission Number:	399600
Position Number:	23

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1		144304		contact-block 1NC	800F / PVC / (PU: 10pcs)	2	pc	E
2		144303		contact-block 1NO	800F / PVC / (PU: 10pcs)	9	pc	E
3		142321		DPD2-PCI	Mirror IDE Raid 1 PCI Adapter	1	pc	E
4		144186		Economy"build-in-Control-Panel	DVI / USB-Extended-interface	1	pc	E
5		144301		emergency-stop button	800F-Front module / PVC	1	pc	E
6		144314		emergency-stop ring YELLOW	800F / 40mm / (PU: 10pcs.)	1	pc	E
7		144294		illuminated push-button WHITE	800F-Front module / PVC	1	pc	E
8		144299		key-switch (2positions)	800F-Front module / PVC	1	pc	E
9		144305		LED module WHITE	800F / 24 VDC / (PU: 10pcs)	1	pc	E
10		144302		mounting-flange	800F / PVC / (PU: 10pcs)	7	pc	E
11		144293		push-button BLACK	800F-Front module / PVC	4	pc	E
12		142932		uninterruptible powersupply	UPS Type 120V	1	pc	E

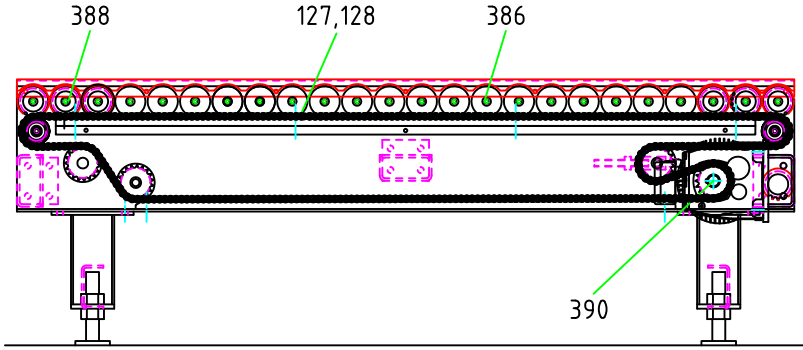
1 Roller conveyor

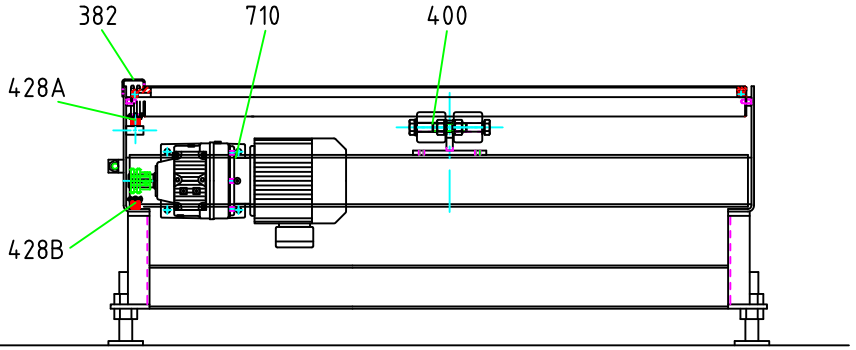
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

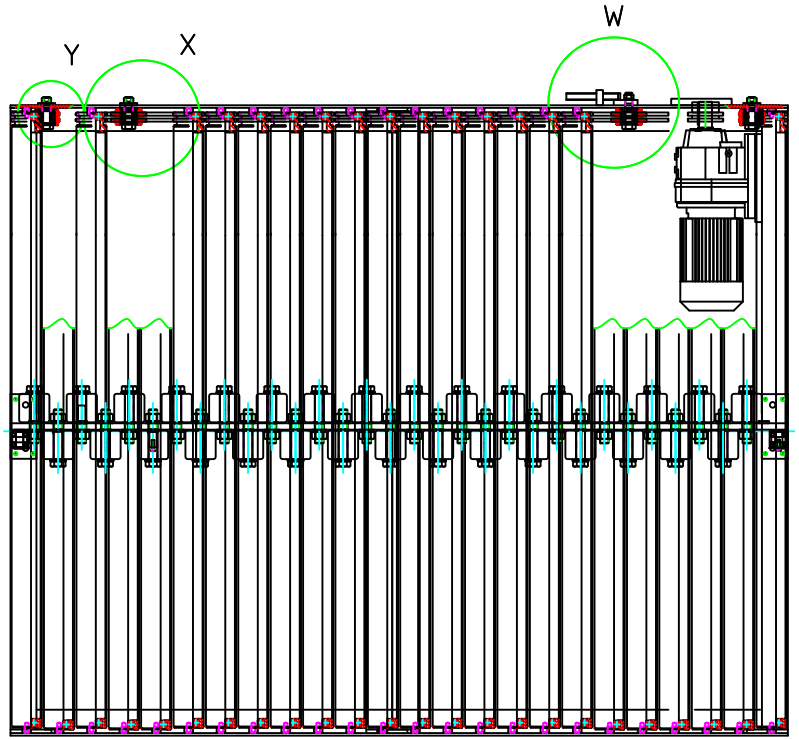
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	1

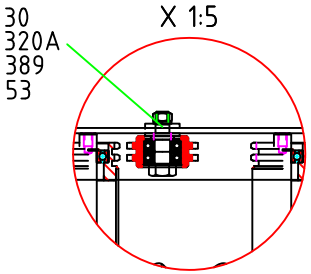
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

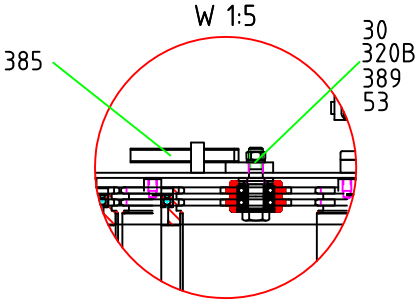
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"x5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"x5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	388	10141379	60590902	Friction roll	D=89 Z=19 ISO 08B-2 X=1848	1	PIECE	E,W
12	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
13	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
14	400	10116554		Supporting roller with bearing	CK 70/066/070/20	22	PIECE	E,W
15	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
16	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
17	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

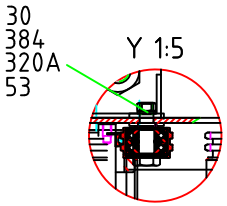












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M S K Verpackungs-Systeme GmbH Benzstr. /47533 Kleve Tel. 02821/506-0		Maße ohne Toleranzangabe nach DIN 7168 mittel	

MSK Covertech

Maßstab 1:10	Position	Menge

Roller conveyor Pos.: 1

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

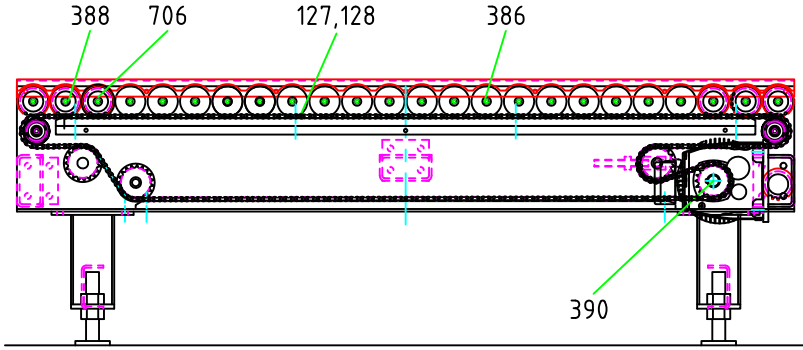
2 Roller conveyor

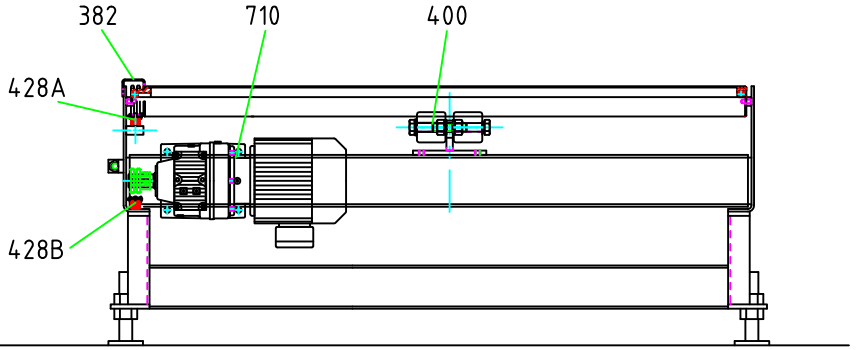
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

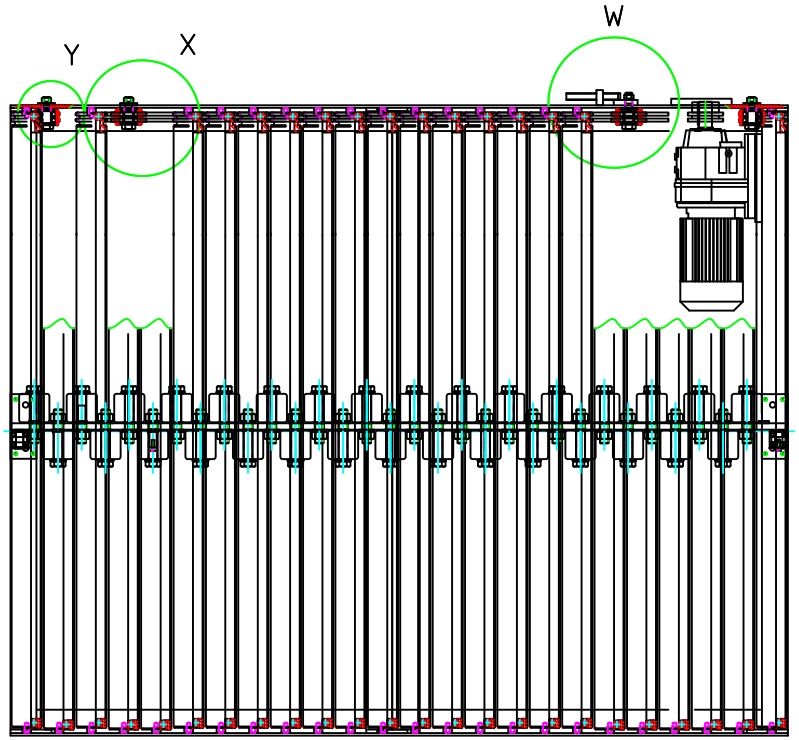
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	2

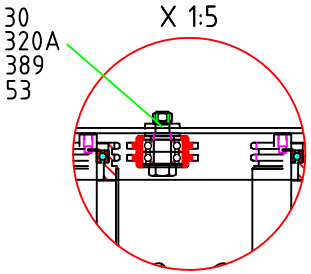
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

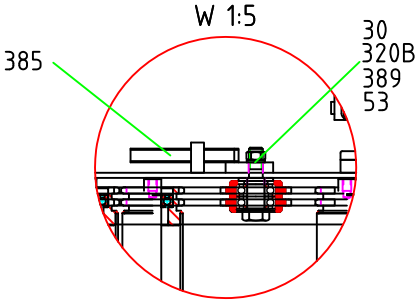
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	388	10141379	60590902	Friction roll	D=89 Z=19 ISO 08B-2 X=1848	1	PIECE	E,W
12	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
13	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
14	400	10116554		Supporting roller with bearing	CK 70/066/070/20	23	PIECE	E,W
15	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
16	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
17	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
18	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

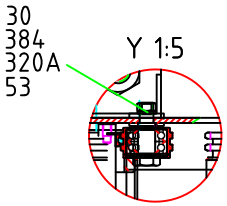












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				Gepr.		
				Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 2

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

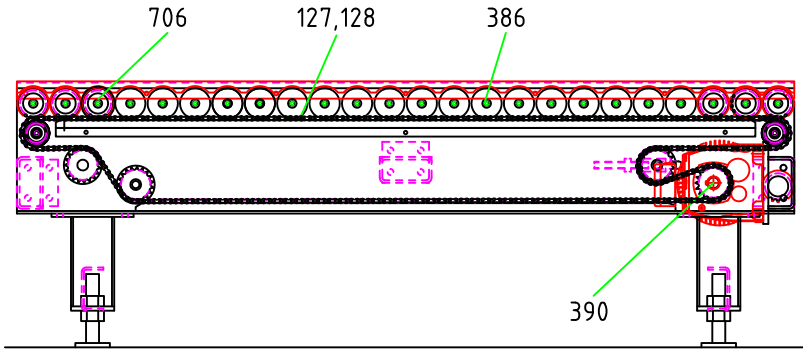
3	Roller conveyor Pneumatic parts pos. 3, 5, 6, 7, 9

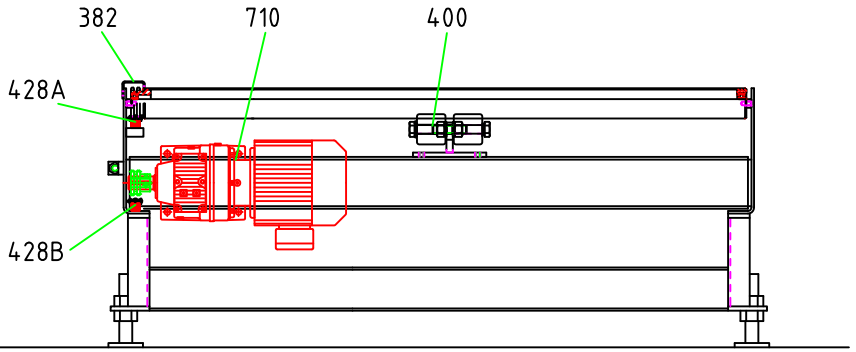
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

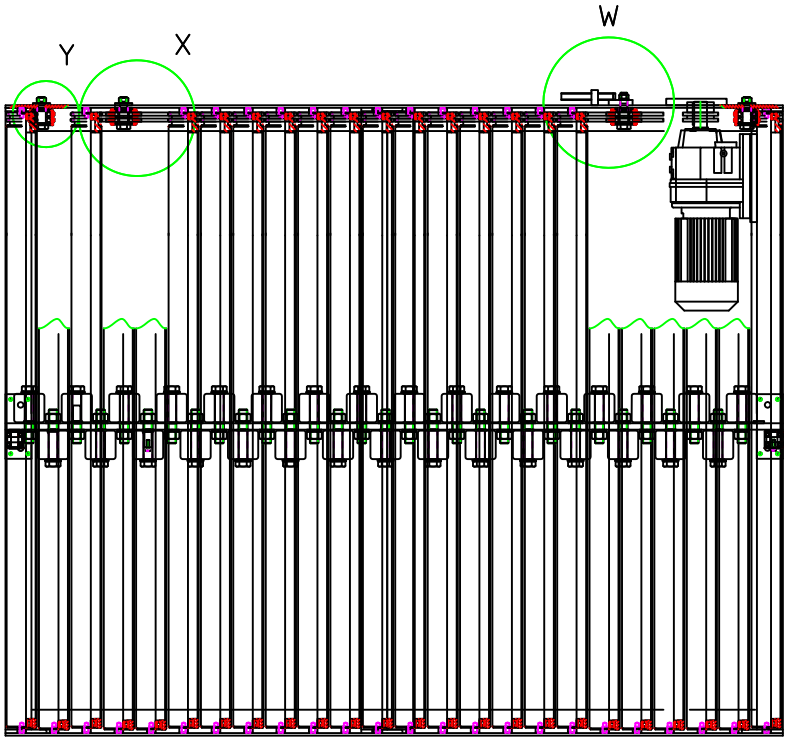
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	3

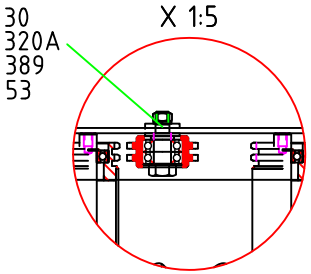
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

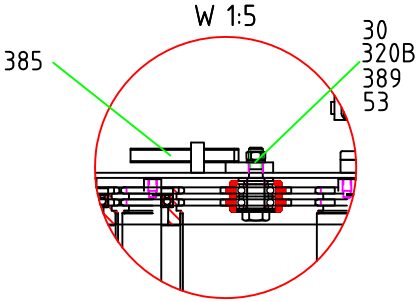
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	6	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10141310	60590503	Chain guard	A=2500 D=F=492 E=3	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	25	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10041791	60535007A	Chain wheel	Z=19 T=12,7 D=30 E=8 F=33,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	25	PIECE	E,W
14	428A	10141307	60550516	Chain slip way	L=2320 N=5 A=45 B=418	1	PIECE	E,W
15	428B	10141308	60550516	Chain slip way	L=1950 N=5 A=25 B=380	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141388		Motor	1R47 DT80N4 277/480V 60Hz N=37/50Hz BF:M5-270° 0,75k IP54	1	PIECE	EE

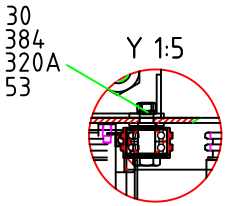












	Datum	Name
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Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 3

Spare part drawing

399600 NewPage Corporation

Blatt Bl

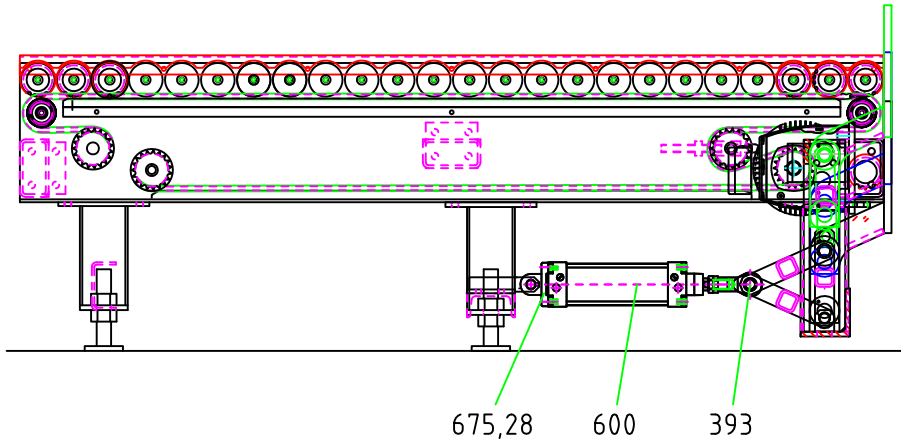
EDV Nr.

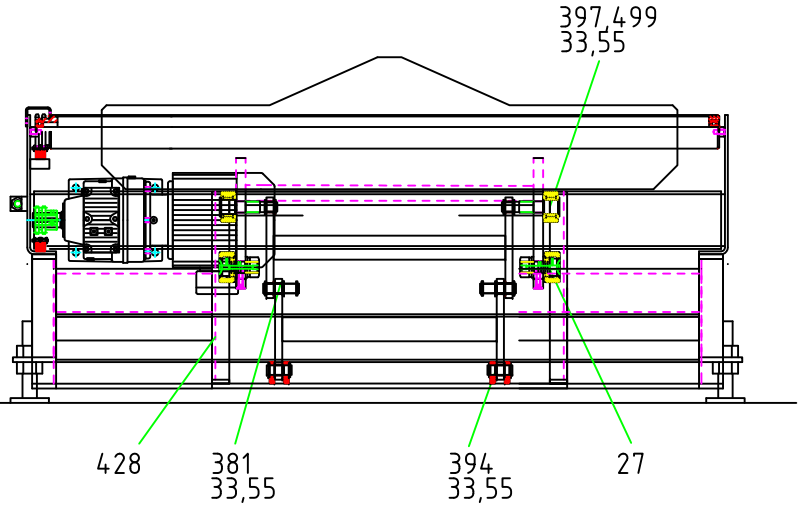
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Pneumatic stop unit
Commission Number:	399600
Position Number:	3

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	27	00060449		Guide roll	NUKR 62	2	PIECE	EE,W
2	28	00060455		Cylindrical bushing	MB 1615 DU	2	PIECE	E,W
3	33	00060459		Bushing	BB 2017 DU	8	PIECE	E,W
4	55	00060883		Safety ring	20x1,2 DIN 471	10	PIECE	E
5	381	10101565	2997.7.007	Bolt	for lifting cylinder	2	PIECE	E
6	393	00062786		Joint head	KJ 20-D M20X1,5	2	PIECE	E
7	394	10101572	60.500.168A	Bolt	B=46 L=52 A=3 d=19 D=20	2	PIECE	E
8	397	10101566	2997.7.008A	Bolt	for NATR 30 PP	2	PIECE	E
9	428	10101571	29977014	Rail	s-green	2	PIECE	E,W
10	499	00060448		Backing rolls with axial guide	NATR 30 PP	2	PIECE	EE,W
11	600	10141495		Pneumatic cylinder	163430 DNC-80-180-PPV-A	2	PIECE	EE
12	675	00053804		Swivel flange	174394 SNCB - 80	2	PIECE	E





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				Gepr.		
				Norm		

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Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Pneumatic stop unit Pos.: 3

Spare part drawing

399600 NewPage Corporation

Blatt Bl

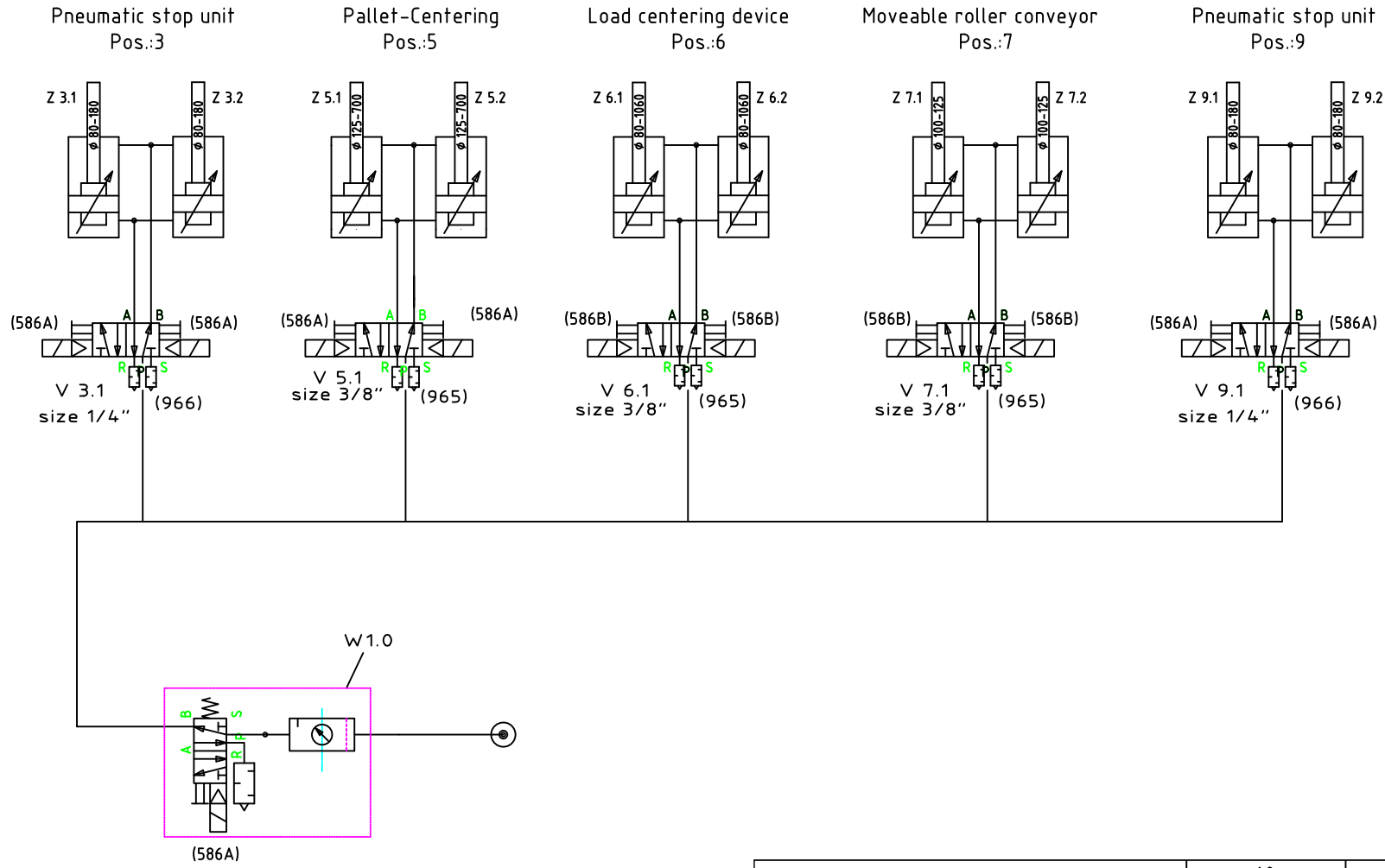
EDV Nr.

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Pneumatic plan
Commission Number:	399600
Position Number:	3, 5, 6, 7, 9

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	586A	110708		Power socket with cable	177677 KMEB 2-24-M12-0,5-LED	7	PIECE	EE
2	586B	10116390		Socket connector without cable	151687 MSSD-EB	4	PIECE	EE
3	965	60267		Silencer	R 3/8"	6	PIECE	E,W
4	966	60266		Silencer	R 1/4"	4	PIECE	E,W
5	V 3.1, V 9.1	110222		Solenoid valve	CPE 18 M1H-5J-1/4 No.163143	2	PIECE	E
6	V 5.1, V 6.1 V 7.1	110709		Solenoid valve	163167 CPE 24 M1H-5J-3/8"	3	PIECE	E
7	W 1.0	10116792		Service unit combination	531030 MSB6-1/2:C3J1:D1:WP	1	PIECE	E,W
8	W 1.0	10112234		Branching module	529853 MS6-FRM-1/2	1	PIECE	E
9	W 1.0	10130383		Mounting bracket	532195 MS6-WP	1	PIECE	E
10	Z 3.1, Z 3.2 Z 9.1, Z 9.2	10141495		Pneumatic cylinder	163430 DNC-80-180-PPV-A	4	PIECE	EE
11	Z 5.1, Z 5.2	10113717		Pneumatic cylinder	163494 DNC-125-700-PPV-A	2	PIECE	EE
12	Z 6.1, Z 6.2	10141622		Pneumatic cylinder	163432 DNC- 80-1060-PPV-A	2	PIECE	EE
13	Z 7.1, Z 7.2	10117395		Pneumatic cylinder	532902 DNCB 100-125 PPV-A	2	PIECE	EE



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Norm		

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Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:2 | Position - | Menge -

-

Pneumatic plan Pos: 3, 5, 6, 7, 9

Spare part drawing

399600 NewPage Corporation

Blatt -

Bl

EDV Nr.

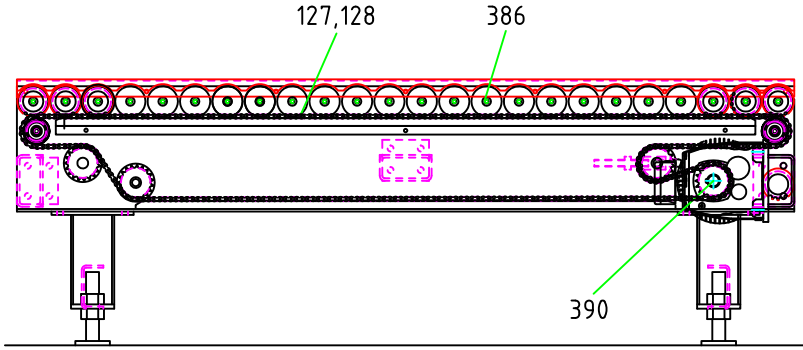
4 Roller conveyor

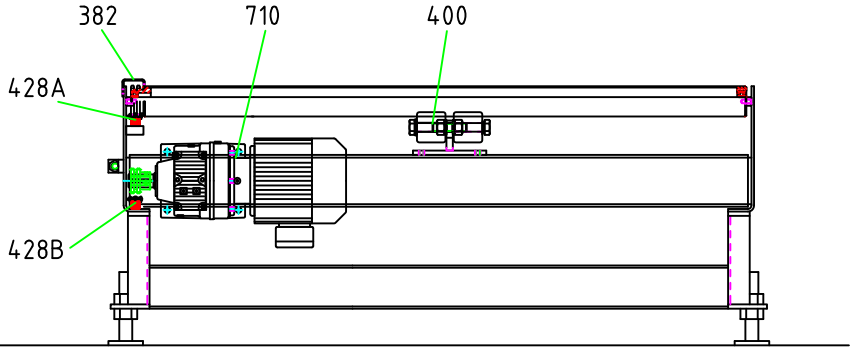
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

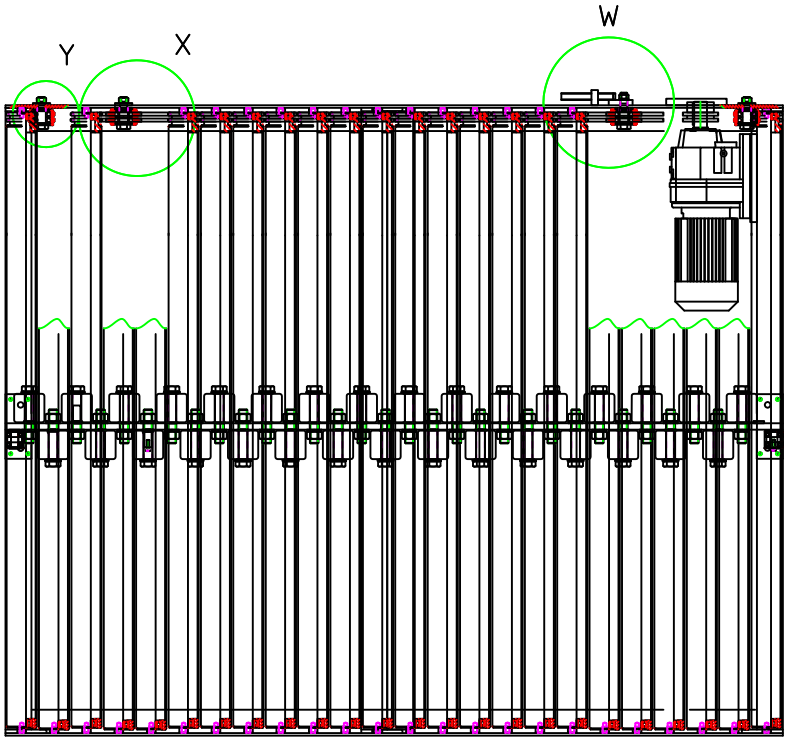
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	4

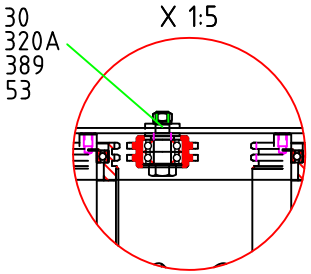
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

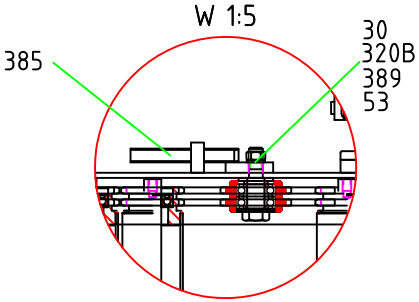
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
2	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
3	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
4	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	8	METER	E,W
5	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
6	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
7	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
8	382	10141418	60590503	Chain guard	A=3700 D=F=610 E=4	1	PIECE	E,W
9	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	37	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10041791	60535007A	Chain wheel	Z=19 T=12,7 D=30 E=8 F=33,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	38	PIECE	E,W
14	428A	10141416	60550516	Chain slip way	L=3520 N=10 A=35 B=345	1	PIECE	E,W
15	428B	10141417	60550516	Chain slip way	L=3150 N=10 A=25 B=310	1	PIECE	E,W
16	710	10141384		Motor	1R47 DT80N4 BMG 277/480V 60Hz N=46/50Hz BF:M5-270° 0,75kW IP54	1	PIECE	EE

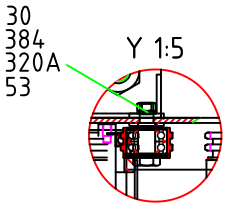












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M S K Verpackungs-Systeme GmbH Benzstr. /47533 Kleve Tel. 02821/506-0		Maße ohne Toleranzangabe nach DIN 7168 mittel	

MSK Covertech

Maßstab 1:10	Position	Menge

Roller conveyor Pos.: 4

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

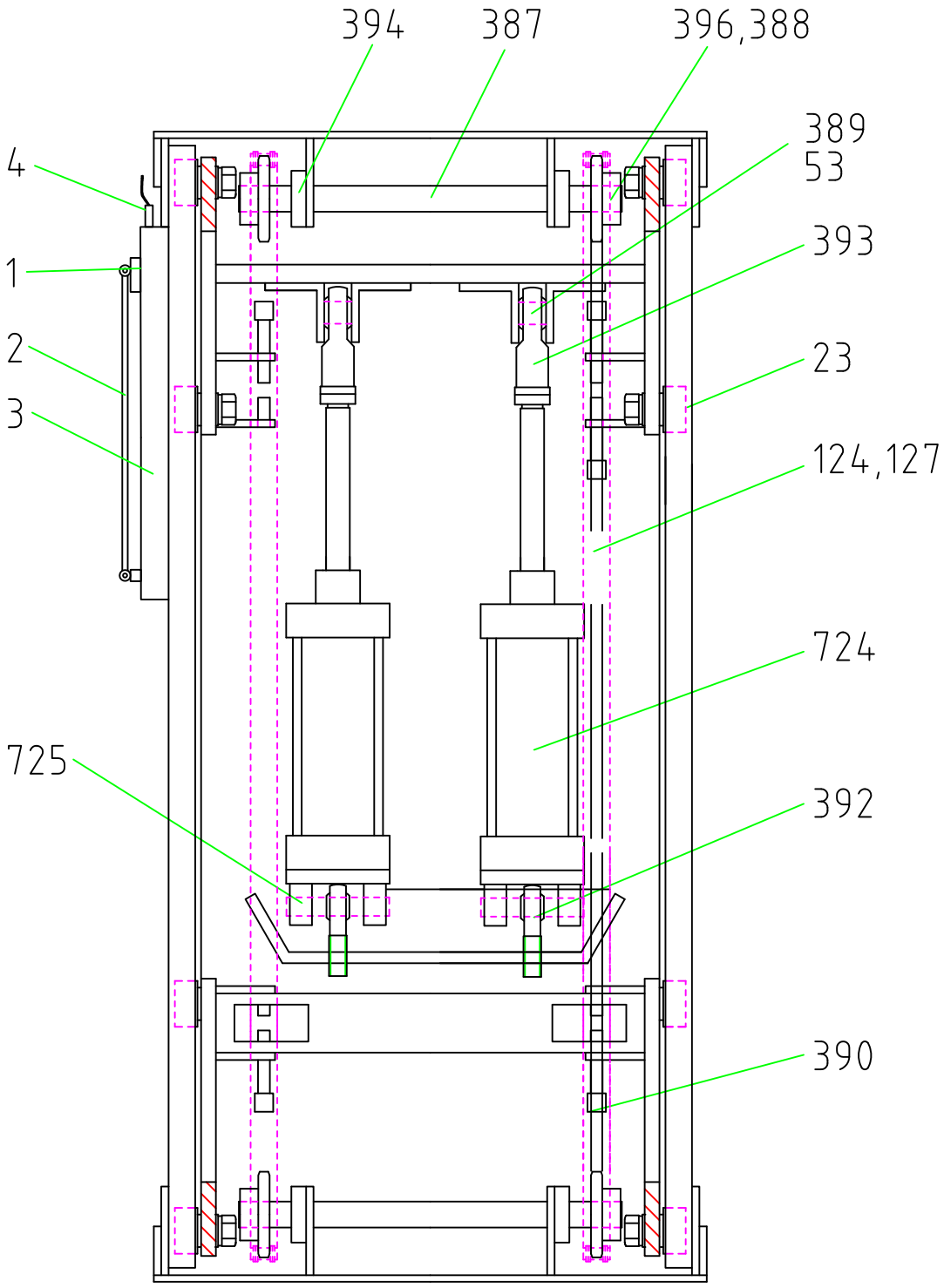
5 Pallet centering system

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Pallet-Centering
Commission Number:	399600
Position Number:	5

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	1	51344		Transducer	BTL5-F-2814-1S	1	PIECE	E
2	2	10041540		Joint rod	BTL2-GS10-0600-A	1	PIECE	E
3	3	10041644		Position encoder	BTL5 - E10 - M0700 - P - S32	1	PIECE	E
4	4	99956		Connector for position encoder	BKS-S32M-00 with 5m cable	1	PIECE	E
5	23	60449		Guide roll	NUKR 62	8	PIECE	EE,W
6	53	60886		Safety ring	30x1,5 DIN 471	4	PIECE	E
7	124	61577		Simple roller chain	1"x17 ISO Nr.16B-1 DIN 8187	8	METER	E,W
8	127	61579		Coupling link with key	1"x17 ISO Nr.16B-1 DIN 8187	8	PIECE	E,W
9	387	67850	61010000B	Shaft	A=518	2	PIECE	E
10	388	67851	61010001A	Chain wheel	1"x13	4	PIECE	E,W
11	389	67852	61.010.003B	Bolt		2	PIECE	E
12	390	67856	61010006A	Grip screw		8	PIECE	E
13	392	67878		Joint head	KA 25-D M 24x2	2	PIECE	E
14	393	67880		Joint head	KJ 30-D M 27x2	2	PIECE	E
15	394	67883		Flanged bearing	ASFW 207	4	PIECE	EE,W
16	396	67889		Cotter	A 10x8x40 DIN 6885 BLANK	4	PIECE	E
17	724	10113717		Pneumatic cylinder	163494 DNC-125-700-PPV-A	2	PIECE	EE
18	725	53805		Swivel flange	174396 SNCB-125	2	PIECE	E



	Datum	Name
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M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10

Position | Menge

Pallet-centering Pos.: 5

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

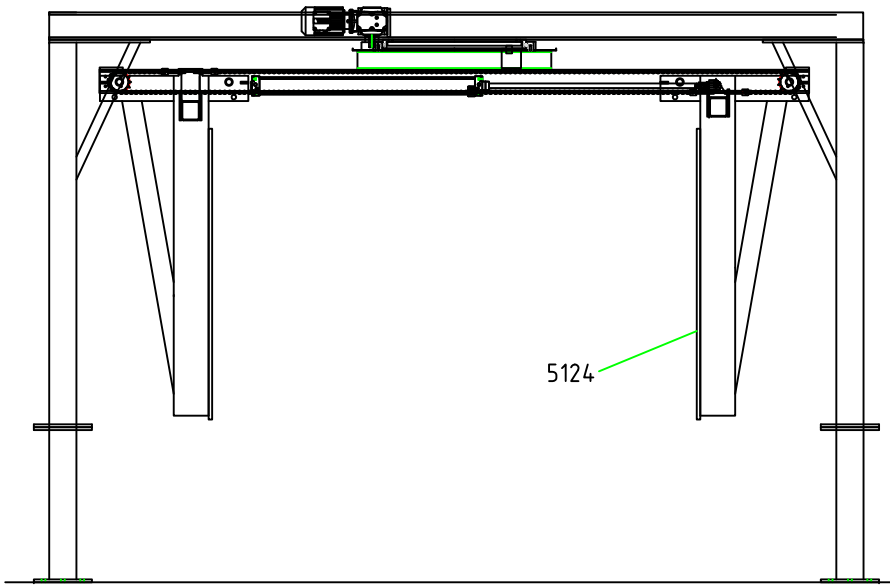
6 Load centering system

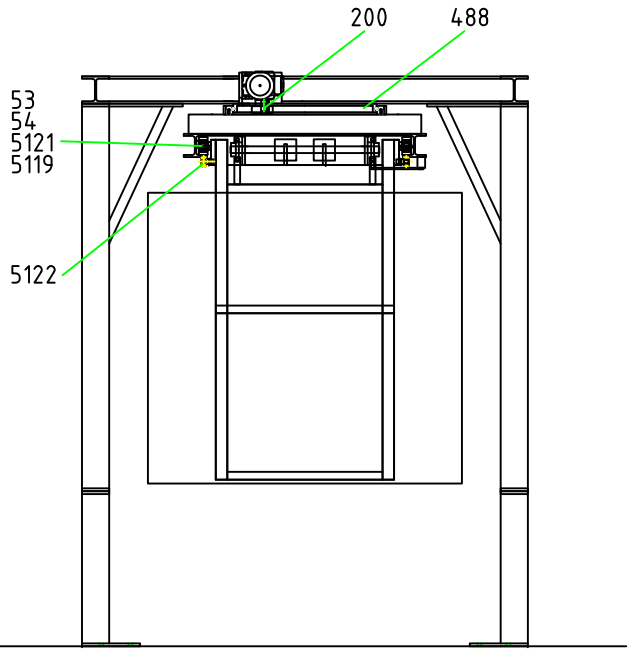
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

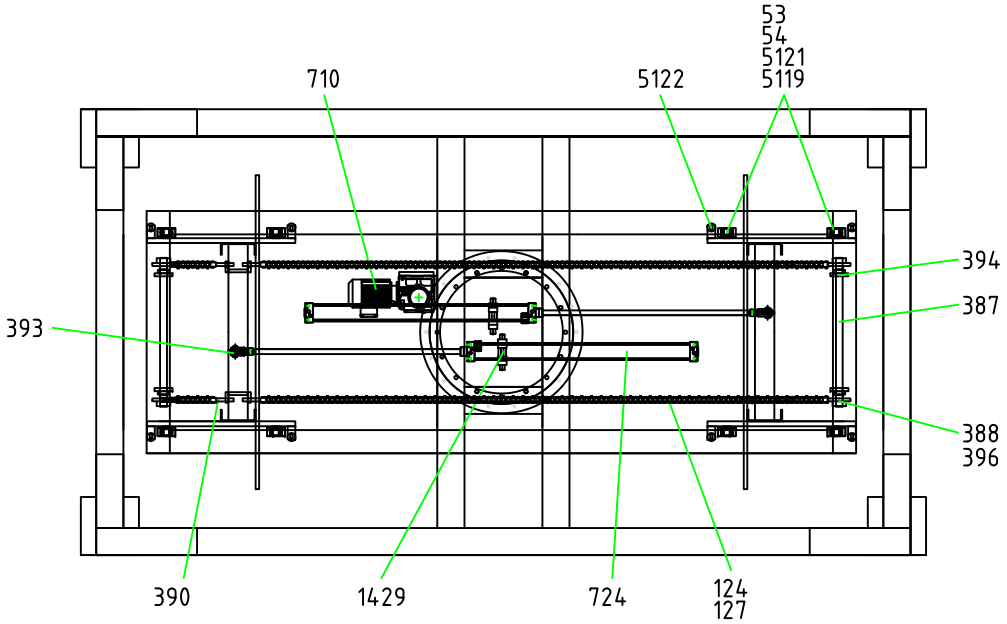
Client:	NewPage Corporation
Type of Machine:	Load centering device
Commission Number:	399600
Position Number:	6

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	53	60886		Safety ring	Ø30X1.5 DIN 471	8	PIECE	E
2	54	60893		Safety ring	Ø62X2 DIN 472	8	PIECE	E
3	124	61577		Simple roller chain	1"x17 ISO Nr.16B-1 DIN 8187	20	METER	E,W
4	127	61579		Coupling link with key	1"x17 ISO Nr.16B-1 DIN 8187	8	PIECE	E,W
5	200	68244	62050004	Pinion		1	PIECE	E,W
6	387	10141587	61010000B	Shaft	A=766	2	PIECE	E
7	388	67851	61010001A	Chain wheel	1"x13	4	PIECE	E,W
8	390	67856	61010006A	Grip screw		8	PIECE	E
9	393	67934		Fork head	M20X1,5 CETOP	2	PIECE	E
10	394	67883		Flanged bearing	ASFW 207	4	PIECE	EE,W
11	396	67889		Cotter	A 10x8x40 DIN 6885 BLANK	4	PIECE	E
12	488	68468		Ball rotating track	DE=840 21.0741.01.ZZ0.O-ROLLIX	1	PIECE	E,W
13	710	10141390		Motor	1S57 DT80K4 BMG 277/480V 60Hz N=25/50Hz BF:M5-A-270° 0,55kW IP54	1	PIECE	EE
14	724	10141622		Pneumatic cylinder	163432 DNC- 80-1060-PPV-A	2	PIECE	EE
15	1429	10045934		Trunnion mounting kit	163529 ZNCM-80	2	PIECE	E
16	5119	10110135	61.540.010A	Roll		8	PIECE	EE,W
17	5121	10126993		Grooved ball bearing	6206 SKF	16	PIECE	EE,W
18	5122	10044064		Backing rolls with axial guide	INA NATV 20 PP	16	PIECE	EE,W
19	5124	10141586	61.560.006A	Centering wall	A=1620 B=1500 M=N=0	2	PIECE	E







						Datum	Name
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					Gepr.		
					Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Load centering device Pos.: 6

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

7 Roller conveyor (shiftable)

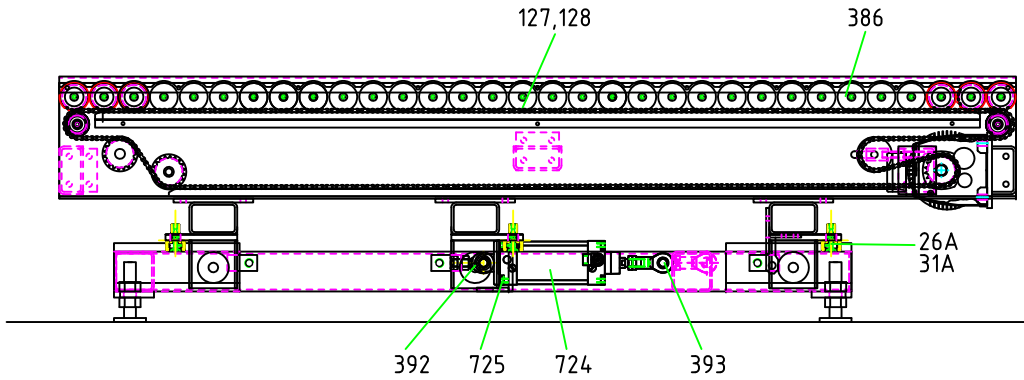
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

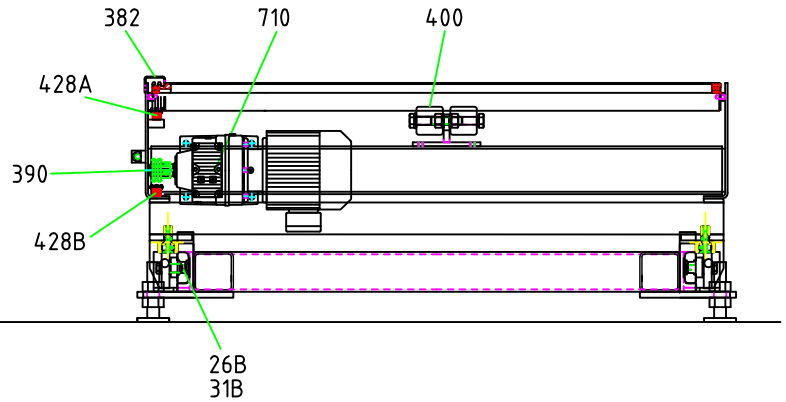
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	7

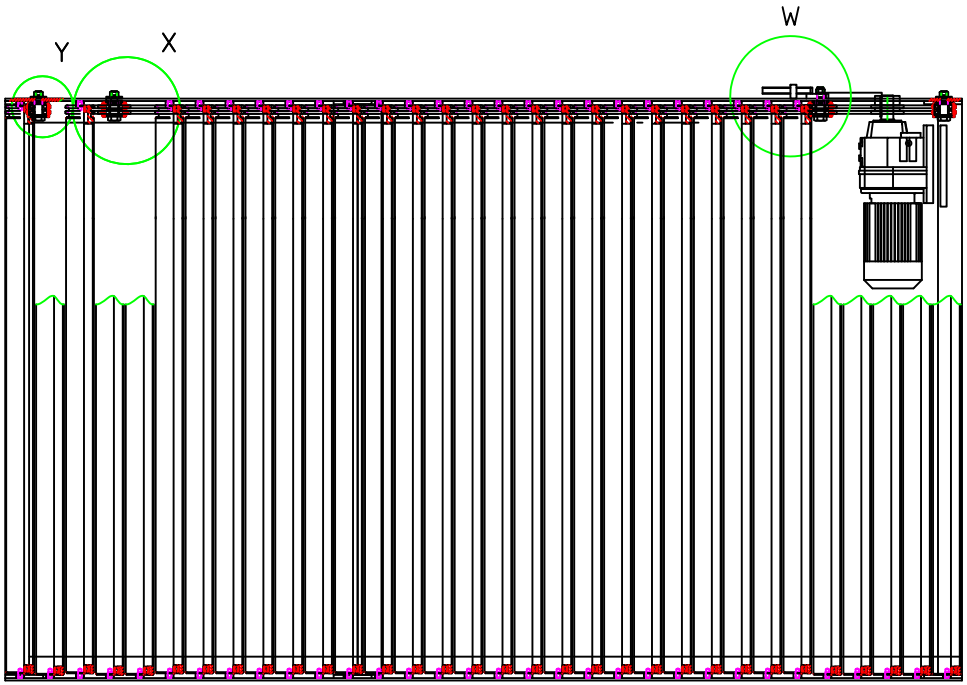
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

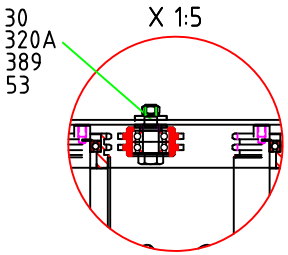
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	26A	10044096		Guide roll	NUKR 47	6	PIECE	EE,W
2	26B	10044141		Guide roll	INA HMTR 28x77,5x28 2RS	6	PIECE	EE,W
3	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
4	31A	10105307	3203.7.035a	Eccentric bolt	for NUKR 47	6	PIECE	E,W
5	31B	10105306	3203.7.036	Eccentric bolt	for HMTR	6	PIECE	E,W
6	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
7	127	69462		Duplex roller chain	1/2"x5/16 ISO.NR:08B-2 DIN8187	8	METER	E,W
8	128	69463		Connection element with spring	1/2"x5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
9	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
10	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
11	382	10141398	60590503	Chain guard	A=3400 D=F=336 E=8	1	PIECE	E,W
12	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
13	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
14	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	34	PIECE	E,W
15	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
16	390	10041791	60535007A	Chain wheel	D=30 E=8 F=33,3 Z=19 T=12,7	1	PIECE	E,W
17	392	00074972		Joint head	KA 20-D M20 STAHL-PTFE	2	PIECE	E
18	393	00062786		Joint head	KJ 20-D M20X1,5	2	PIECE	E
19	400	10116554		Supporting roller with bearing	CK 70/066/070/20	34	PIECE	E,W
20	428A	10141396	60550516	Chain slip way	L=3220 N=8 A=30 B=395	1	PIECE	E,W
21	428B	10141397	60550516	Chain slip way	L=2850 N=7 A=25 B=400	1	PIECE	E,W

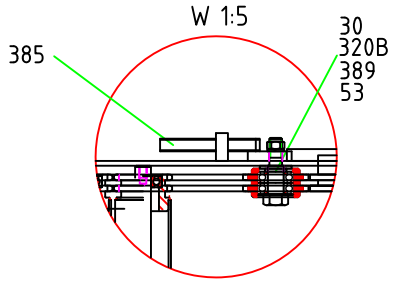
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
22	710	10141386		Motor	1R47 DT80N4 BMG 277/480V 60Hz N=52/50Hz BF:M5-270° 0,75kW IP54	1	PIECE	EE
23	724	10117395		Pneumatic cylinder	532902 DNCB-100-125 PPV-A	2	PIECE	EE
24	725	10044750		Swivel flange	174388 SNC - 100	2	PIECE	E

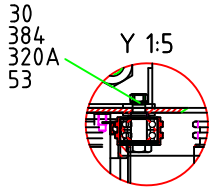












					Datum	Name
				Bearb.	16.07.2008	Vislóczki J.
				Gepr.		
				Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 7

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

8 MSK Top Sheet Dispenser
Pneumatic parts

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Top Sheet Dispenser
Commission Number:	399600
Position Number:	8

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

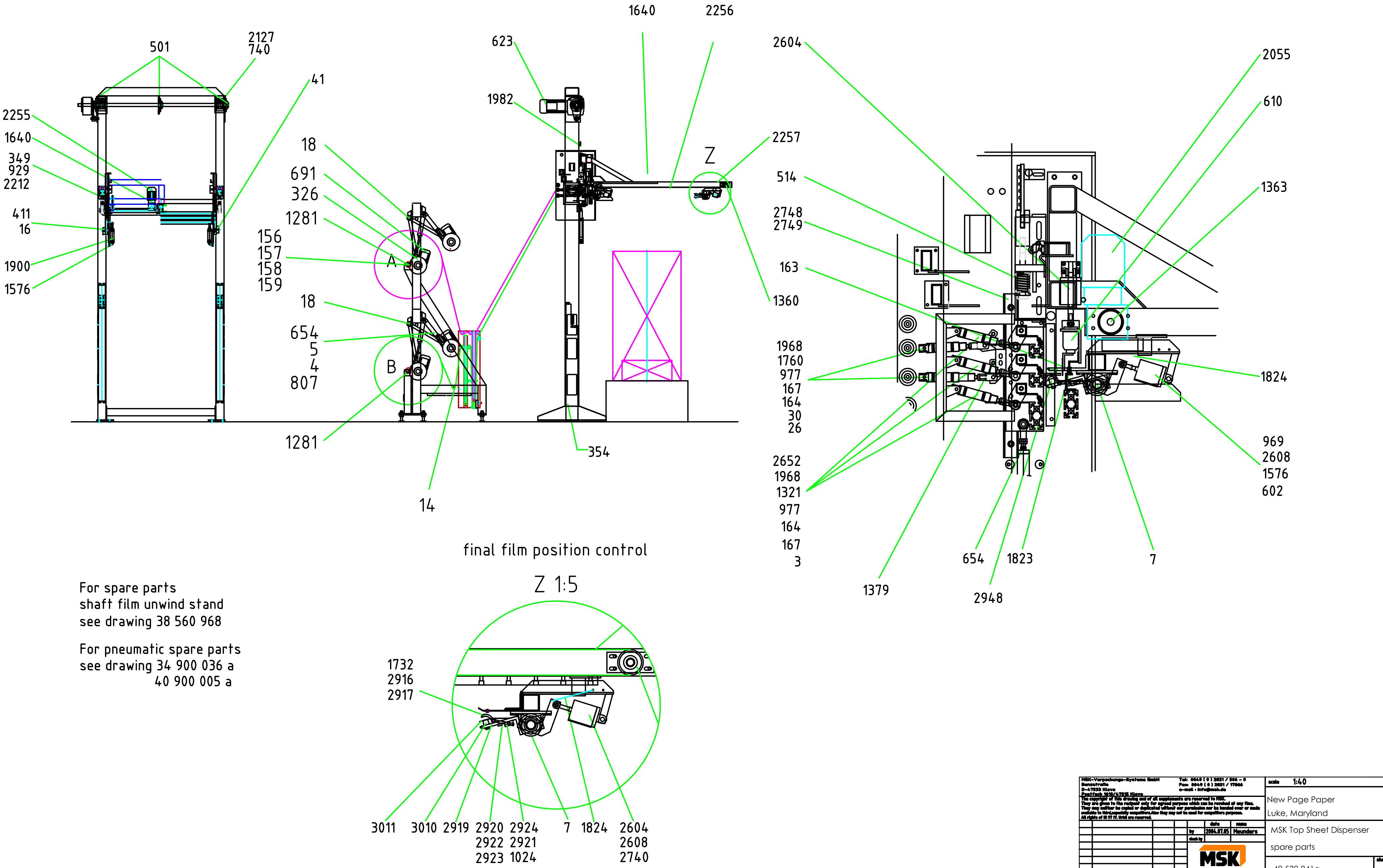
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	3	60413		joint head	KJ 10-D M10X1,25 steel-PTFE	4	pc	E
2	4	60414		joint head	KJ 12-D M12X1,25 steel-PTFE	2	pc	E
3	5	60415		Joint head	KJ 16-D M16	1	pc	E
4	7	60424		pillow block steel plate case	ASPP 206	3	pc	E
5	14	60435		roller bearing	6004-2RS	28	pc	EE
6	16	60437		roller bearing	6304-2RS	12	pc	EE
7	18	60439		roller bearing	6206-2RS	8	pc	EE
8	26	60453		cylindrical bush	MB 1010 DU	2	pc	EE
9	30	60457		bearing bush	BB 1007 DU	6	pc	EE
10	31	103001		Bundbuchse	BB 1612 DU	4	pc	E
11	41	60562		eccentric bolt, rubber wheel	x=10	2	pc	E
12	83	64138		Shaft extension		2	pc	E
13	84	101180	38560030a	Bush	galvanized	1	pc	E
14	159	110320		Release handel stainless steel		2	pc	E
15	161	95819	34540033	silicon pad not sticking	40° shore	6	m	EE, W
16	163	61696		cutter (knife), ten-blade	d=50	1	pc	EE, W
17	164	61817		Fork head galvanized	M10 x 1,25 CETOP	2	pc	E
18	247	101256	38560831b	film shaft	X=2160	1	pc	E
19	326	65920	34560020A	film-drive wheel		4	pc	E
20	349	66730		energy chain, black		2	pc	E
21	411	61626		rollers	100 X 40	6	pc	EE, W
22	501	69593		flanged bearing	UCFL 209 cast metal case	3	pc	E
23	514	100892		pressure spring	5,5x42x102x6,5	2	pc	E

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
24	596	60241		throttling hollow screw	LRV B 1/4S	6	pc	E
25	610	143043		pneum. linear cylinder double acting	25-2150	1	pc	EE
26	616	142498		5/2 solenoid valve	MFH-5-1/4 1-s	1	pc	EE
27	620	76918		pressure switch	V-DS-400010-1	1	pc	E
28	622	61883		reflector	76x96mm	30	pc	EE, W
29	623	118177		Motor	1SH67DV100M4/BMG/TH 277/480V N=47 M1/A/180° 2,2kW IP54	1	pc	EE
30	623	110608		Motor	1SH67DV100M4/BMG/TH 266/460V N=47 M1/A/180° 2,2kW IP54	1	pc	EE
31	644	60265		silencer	R 1/8"	1	pc	E
32	649	60280		Pressure Reducer	WH-R1-1/4"-10 0,5-10Bar	2	pc	E
33	654	53646		double acting cylinder	DNC-40-200-PPV-A	2	pc	EE
34	654	53652		pneum. cylinder double acting	50-200-PPV-A	1	pc	EE
35	682	60240		throttling hollow screw		20	pc	E
36	691	118120		Motor	S W20DR63M4 Z 277/480V N=22 BF:M1AB 0,18kW IP54	2	pc	EE
37	740	76424		Ring Tighten Element	45X75 CCE 2000	4	pc	EE
38	807	53793		Swivel Flange		1	pc	E
39	929	61642		connecting element for energy chain	No. 200.12 1 set (4 pieces)	1	pc	E
40	965	60266		silencer	R 1/4"	4	pc	E
41	977	143222		flange for proximity-switchRTZ1	for cylinder d:20mm	6	pc	E
42	1012	99199		Pur -Duo-hose, polyurethane	6/4 blue/black, calibr.	25	m	E
43	1024	53806		proximity switch	MZT1-03VPS-KP0	22	pc	EE
44	1065	69610		Rapid air-vent valve	6753 SEU-1/4	3	pc	E
45	1127	103706		bearing block type LSN-40	part nr. 5562	4	pc	E
46	1167	105736		Heating Cover 2100 long	4x0,25mm MB=2250	1	pc	EE, W
47	1250	95376		5/2 foot valve		2	pc	EE
48	1279	60250		Polyurthan Tubing pneumatic	8/6 blue	50	m	E
49	1279	99200		Pur -Duo-hose, polyurethane	8/6 bluo/black calibr.	25	m	E
50	1281	77458		curve roll	GCL 40 EE o.	4	pc	E
51	1321	98597		Spring		2	pc	EE
52	1321	78811		tension spring Z-106 C	1.25X13.7X98.7	2	pc	EE
53	1360	75569	50995122A	Belt Deflection Wheel		1	pc	E
54	1363	76378	50995138d	driving wheel		1	pc	E
55	1377	78261		teflon cover strip 1roll=30m	util. width 20mm width 70mm	6	m	EE

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
56	1379	77449		bearing bush		2	pc	E
57	1640	86538		energy chain		3	m	E
58	1688	78197		grip-spring tensioning element		2	pc	E
59	1732	87284		Bearing bush		4	pc	E
60	1760	90330		pneumatic cylinder, double acting	25 - 25	6	pc	EE
61	1823	89592		sealing profile		9	m	E
62	1824	89597		tension spring	1,0x7,3x79,5	2	pc	EE
63	1968	87190		swing flance		6	pc	E
64	1982	93358		toothed belt 75 ATL10/M	1 role = 1.000cm	2000	cm	EE
65	2056	106631		selector switch, black	9301 N-22-S	4	pc	EE
66	2068	93442	50995257	Spur Gear	Z=24 M=2,5	2	pc	E
67	2076	69808		rubber buffer	Type FA70/FA80 ITEM NO 0115932	2	pc	E
68	2127	102026	38501006	Toothed Belt wheel		2	pc	E
69	2208	74843		guide		16	pc	E
70	2255	110607		Motor	1S W20DT71D4 266/460V 60Hz N=119 BF:M1B 0,37kW IP54	1	pc	EE
71	2255	118176		Motor	1S W20DT71D4 277/480V 60Hz N=119 BF:M1B 0,37kW IP54	1	pc	EE
72	2257	99301		toothbelt 25 T 10	1 role = 1000 cm	700	cm	EE
73	2270	51924		5/2 foot valve	SVS-4-1/8	2	pc	EE
74	2279	99588	38570001	excentric disc polyamid		2	pc	E
75	2340	111247		O-Ring	34,0x4,0 72NBR 872	6	pc	E
76	2603	101242		valve cluster TYP 10	10P-14-8A-AE-R-Y-JLJLJLJL+PA	2	pc	E
77	2604	101566		Compact cylinder	ADVU 40-25-P-A	4	pc	EE
78	2608	101564		swing flangeFesto	157323 SUA-40	4	pc	E
79	2632	111981	32550820b	welding bar	B=1750 L=1399	1	pc	EE
80	2632	112771	32550820b	welding bar	B=1750 L=1399	1	pc	EE
81	2634	100185	32540024b	end flap		2	pc	EE
82	2635	100844	32540031	clamping plate - MS NI		2	pc	EE
83	2636	100440		pressure spring	1,6x8x27x8,5	2	pc	EE
84	2637	113181	32550001a	end piece		1	pc	EE
85	2637	113182	32550001a	end piece		1	pc	EE
86	2638	100206	32550002a	fastener for separating wire	L=60	2	pc	EE
87	2639	100439		Pressure spring D=200C	1,25x6,8x36x13,5	2	pc	EE
88	2645	100343		grooved taper pin	DIN 1471-3X20	4	pc	EE

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
89	2704	110488		shim ring	8X14X1 DIN 988	12	pc	E
90	2748	108311		sledge CSW 43	CSW43-190-2Z-T	1	pc	E
91	2748	108310		sledge CSW 43	CSW43-190-2Z-U	1	pc	E
92	2749	108308		bar TLC 43 L=480	TLC43-480	1	pc	E
93	2749	108309		rail ULC 43 L=480	ULC 43-480	1	pc	E
94	2892	113619		star guidance wagon	Nr.1624-714-20 GR 30	1	pc	E
95	2916	108237	40530857e	control lever		1	pc	E
96	2917	108238	40530858d	control lever		1	pc	E
97	2918	51334		set collar	A 6 DIN 705-galvanized	2	pc	E
98	2919	108241	40530082c	control of film-gripper-system		2	pc	E
99	2920	108239	40530081b	buffer for switch lever		2	pc	E
100	2921	63003		flat-haded screw	M3X16 DIN 85-5.8 galvanized	4	pc	E
101	2922	107538		cylinder-head screw A2	M4x20 DIN 912-70	4	pc	E
102	2923	66215		washer		4	pc	E
103	2924	70757		mounting clip for Proximity Sw	BF8 item:100047	2	pc	E
104	2926	105196	32560009	cylindricale bush		2	pc	EE
105	2973	76662		Angle screwing in screw connec	6-1/8 B-WED/MSV swivelling	8	pc	E
106	2979	109065	40530078c	gripper - top part		3	pc	E
107	3010	111204		rubber buffer one-sided M6x5	D=20 H=13,5 Typ E 65° Shore	3	pc	E
108	3011	111205	40530096	film stripper (film clamping)		3	pc	EE
109	3016	110222		Magnet-impulse valve		1	pc	EE
110	3024	110224		Solenoid with cable		3	pc	EE
111	3028	110871	38560043	spacer		2	pc	E
112	3283	86540		connecting element (metall)	1sided 102.12 1set (2pc) IGUS	3	pc	E
113	3284	87375		foot mounting	150731 HP-25	1	pc	E
114	3289	95167		brass side guiding, film role		4	pc	E
115	3299	112987		double acting cylinder	DMM-20-50-P-A	2	pc	EE
116	3401	85238		housing 200x300x120	metal / unworked	1	pc	E
117	3402	113054		flanged bearing	UBPFL 205	2	pc	E
118	3403	113055	40530113	toothed rack Modul 2,5	L=259	2	pc	E
119	3659	60228		fitting (straight version)	B-GE-6-1/4-MSv-bl	5	pc	E
120		105384		AS-i module 4E IP67	with connectors M12	3	pc	EE
121		105386		AS-i module 4E/4A IP67	with connectors M12	1	pc	EE
122		68790		clamping element	for light barrier pipe	1	pc	E
123		144304		contact-block 1NC	800F/PVC/(PU:10pcs)	2	pc	E

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
124		144303		contact-block 1NO	800F/PVC/(PU:10pcs)	3	pc	E
125		142621	70880065	cover	for WL280	1	pc	E
126		144301		emergency-stop button	800F-Frontmodule/PVC	1	pc	E
127		144314		emergency-stop ring YELLOW	800F/40mm/(PU:10pcs.)	1	pc	E
128		101673		FK coupling mod. for flatcabl	2 x AS-i cable intake	4	pc	E
129		53455		housing 200x150x 80	metal / processed	2	pc	E
130		144294		illuminated push-button WHITE	800F-Frontmodule/PVC	1	pc	E
131		144305		LED module WHITE	800F/24VDC/(PU:10pcs)	1	pc	E
132		142620		light barrier (reflex) WL280	10-30VDC /plugable M12/PNP	1	pc	EE
133		72767		light-barrierpipe without	longdrill length 300mm/zinced	2	pc	E
134		74461		mounting clamp link	for light barriers	1	pc	E
135		144302		mounting-flange	800F/PVC/(PU:10pcs)	3	pc	E
136		60040		position switch rolllever	1NC/1NO creeping contact	2	pc	EE
137		106013		proximity switch M8 NC	10-58V plugable M8 Sn2,5mm	2	pc	EE
138		143754		proximity-switch M18 / NC	12-30VDC/plug M12/Sn:5mm	6	pc	EE
139		143755		proximity-switch M18 / NO	12-30VDC/plug M12/Sn:5mm	2	pc	EE
140		144293		push-button BLACK	800F-Frontmodule/PVC	1	pc	E
141		78076		reflector mounting	for WL260	1	pc	E
142		143342		round plug connector M8 / 2m	male/female M8 / 3pins	3	pc	E
143		143343		round plug connector M8 / 5m	male/female M8 / 3pins	9	pc	E
144		143352		round plug connector M12-12/ 1m	maleM12/female M12 / 4pins	3	pc	E
145		143353		round plug connector M12-12/ 2m	maleM12/female M12 / 4pins	3	pc	E
146		143354		round plug connector M12-12/ 5m	maleM12/female M12 / 4pins	3	pc	E
147		143355		round plug connector M12-12/10m	maleM12/female M12 / 4pins	2	pc	E
148		143350		round plug connector M12-M8/5m	male M12/female M8 / 3pins	3	pc	E
149		67137		spark absorber	170-240VDC	1	pc	E
150		143424		valve plug M12 Form C	connection cable 0,3 m	2	pc	E
151		143425		valve plug M12 Form C	connection cable 0,6 m	1	pc	E
152		69547		welding transformer	480/42V 800VA 50-60Hz	1	pc	EE



For spare parts
shaft film unwind stand
see drawing 38 560 968

For pneumatic spare parts
see drawing 34 900 036 a
40 900 005 a

MSK-Verpackungs-Systeme GmbH
Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

index	change	date	name		date	name
a	Film gripper	04-12-06	HT	by	2004.07.05	Meunders
				check by		

scale 1:40

New Page Paper
Luke, Maryland

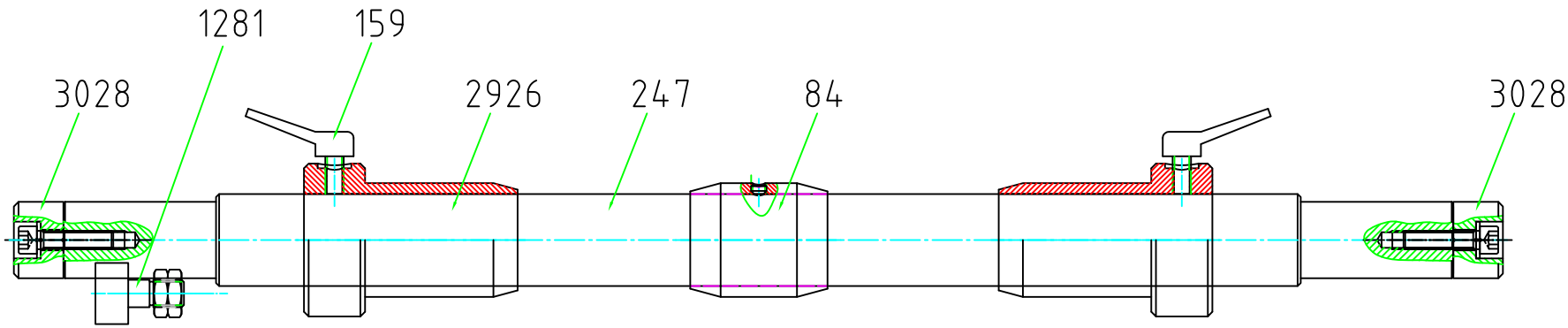
MSK Top Sheet Dispenser
spare parts

MSK Covertech-Group

40.530.941a

sheet A1

EDV Nr. 40530941a



MSK-Verpackungs-Systeme GmbH
Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

index	change	date	name
a	247 added	2006.02.08	SK

	date	name
by	2005.03.04	Koppers
check by		

EDV Nr. 38560971 a3

scale 1:x

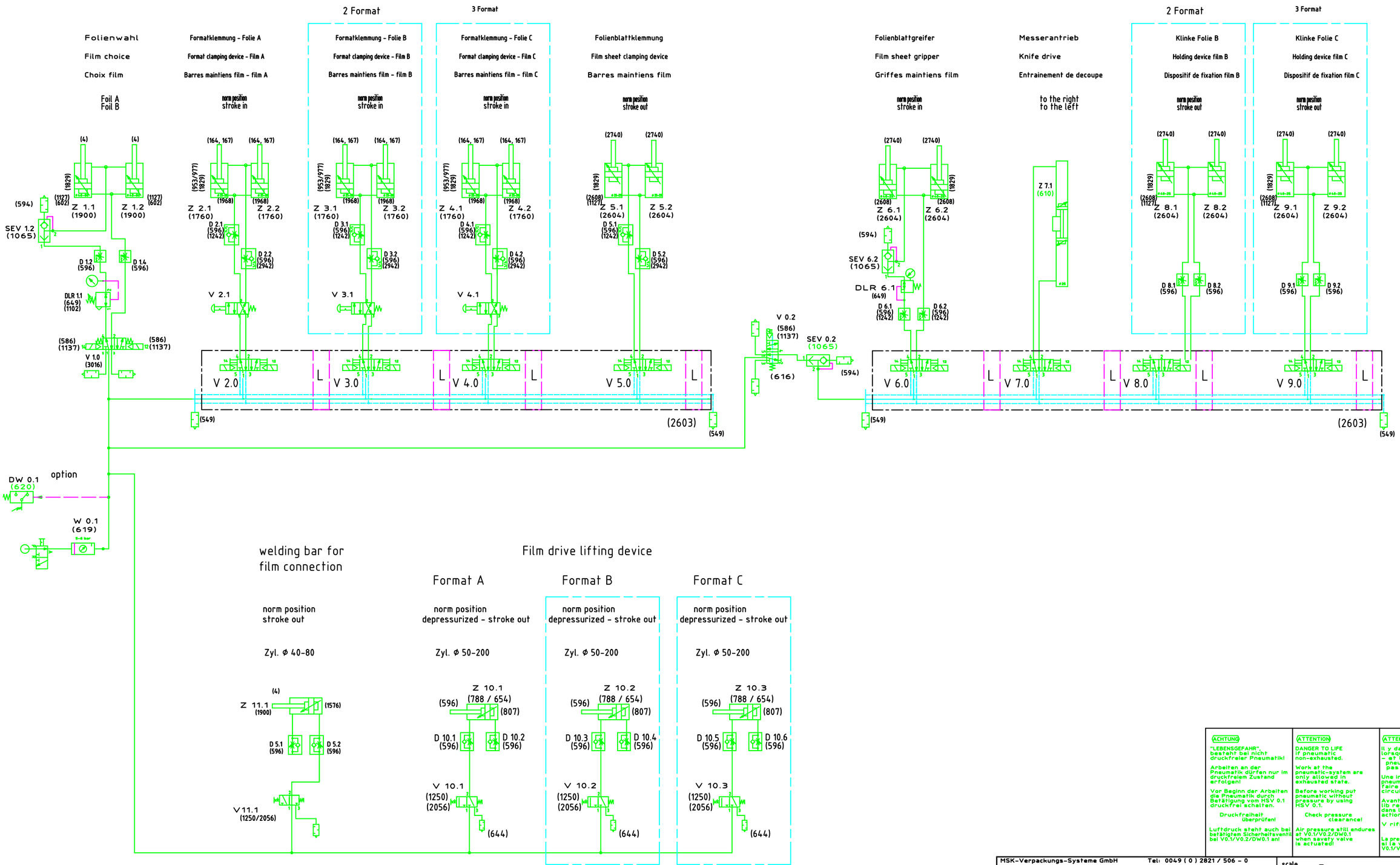
New Page Paper
Luke, Maryland

MSK Top Sheet Dispenser

spare parts

38 560 971 a

sheet A 3



ACHTUNG

"LEBENSGEFAHR", besteht bei nicht druckfreier Pneumatik!

Arbeiten an der Pneumatik dürfen nur im druckfreiem Zustand erfolgen!

Vor Beginn der Arbeiten die Pneumatik durch Betätigung vom HSV 0.1 druckfrei schalten.

Druckfreiheit überprüfen!

Luftdruck steht auch bei betätigtem Sicherheitsventil bei V0.1/V0.2/DW0.1 an!

ATTENTION

DANGER TO LIFE if pneumatic non-exhausted.

Work at the pneumatic-system are only allowed in exhausted state.

Before working put pneumatic without pressure by using HSV 0.1.

Check pressure clearance!

Air pressure still endures at V0.1/V0.2/DW0.1 when savety valve is actuated!

ATTENTION

Il y danger de mort lorsque:
- et le circuit pneumatique n'est pas purg .

Une intervention sur les pneumatiques ne peut se faire qu'une fois le circuit purg .

Avant le d but de travaux (lib rer la pression dans les pneumatiques en actionnant HSV 0.1.

V rifier qu'il n'y a plus de pression.

La pression d`air reste meme si la vanne de securite V0.1/V0.2/DW0.1 est action !

index	change	date	name
e	Quick change of the film reel	2006.10.11	SKo
d	Designation Film clamping	2006.09.20	SKo
c	Lift Film drive Format C added	2006.07.24	HT
b	Designation update	2005.09.12	HT
a	Film rack added	2005.04.05	HT

	date	name
by	2004.11.11	H-W. Heier
check by		

scale –

New Page Paper
Luke, Maryland

MSK Top Sheet Dispenser
pneumatic spare parts

40 900 008 e

sheet A 2

EDV Nr. 40900008e.dwg

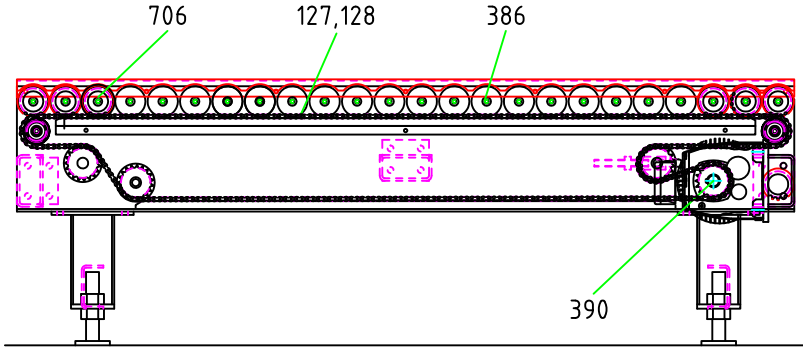
9 Roller conveyor

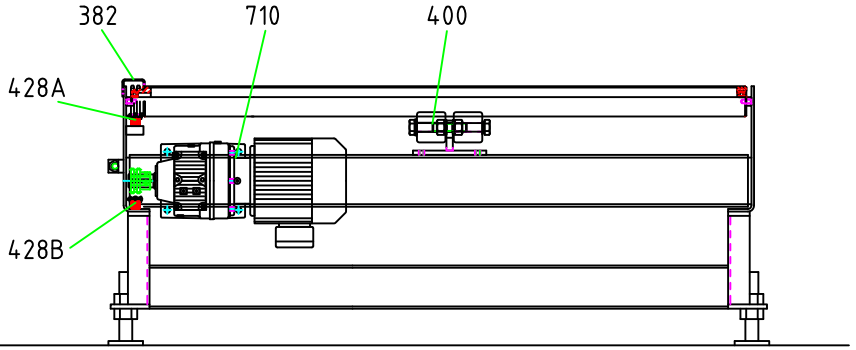
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

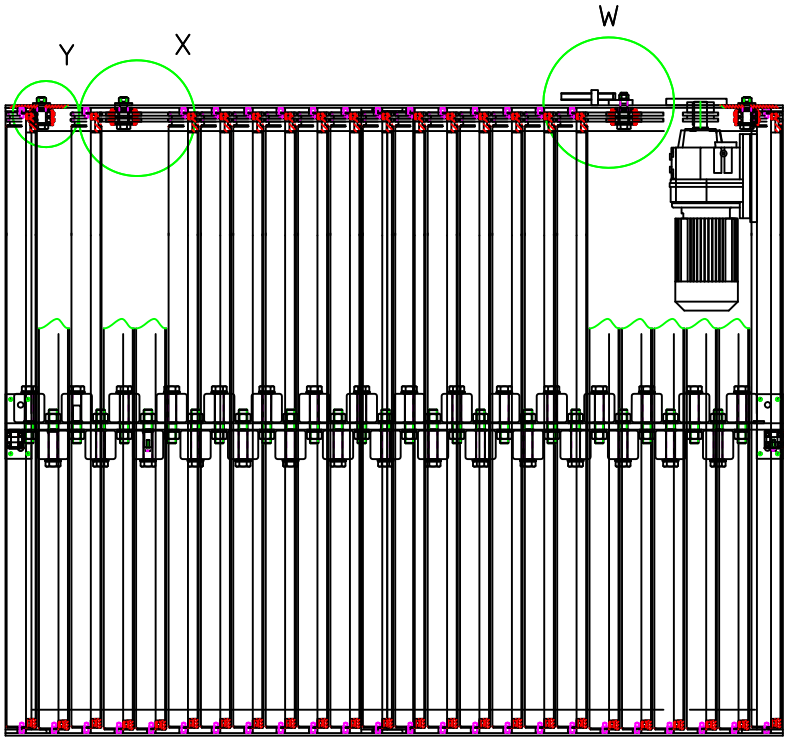
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	9

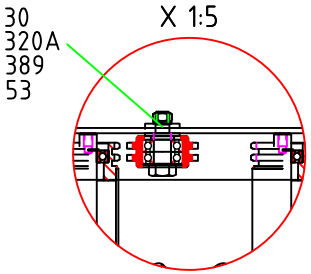
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

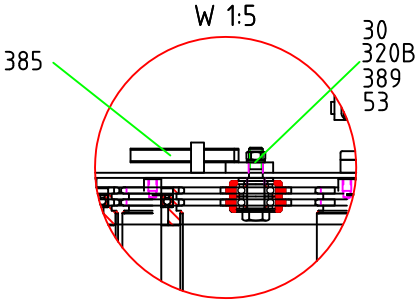
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	6	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10141310	60590503	Chain guard	A=2500 D=F=492 E=3	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	25	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10041791	60535007A	Chain wheel	Z=19 T=12,7 D=30 E=8 F=33,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	25	PIECE	E,W
14	428A	10141307	60550516	Chain slip way	L=2320 N=5 A=45 B=418	1	PIECE	E,W
15	428B	10141308	60550516	Chain slip way	L=1950 N=5 A=25 B=380	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141389		Motor	1R47 DT90S4 BMG 277/480V 60Hz N=52/50Hz BF:M5-270° 1,1kW IP54	1	PIECE	EE

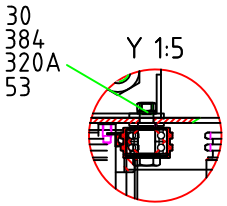












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				Gepr.		
				Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab	1:10	Position	Menge

Roller conveyor Pos.: 9

Spare part drawing

399600 NewPage Corporation

Blatt Bl

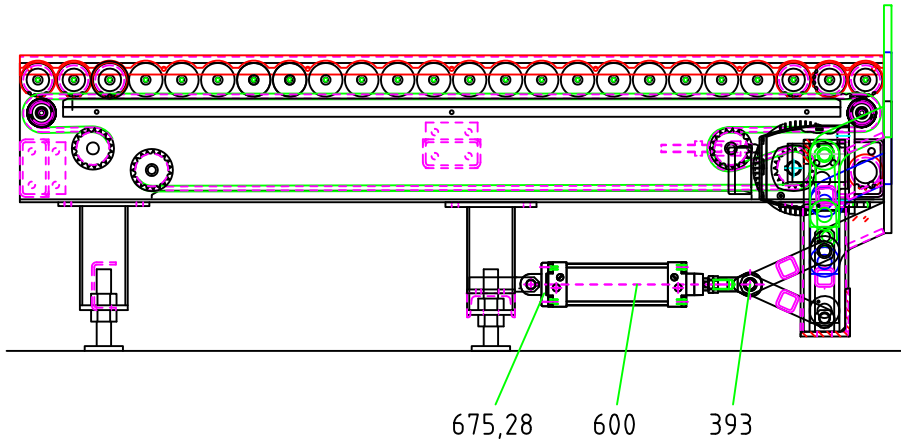
EDV Nr.

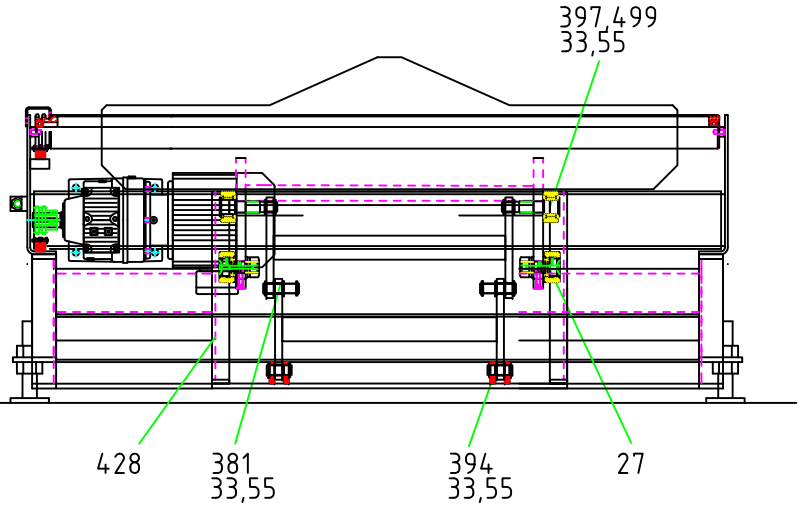
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Pneumatic stop unit
Commission Number:	399600
Position Number:	9

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	27	00060449		Guide roll	NUKR 62	2	PIECE	EE,W
2	28	00060455		Cylindrical bushing	MB 1615 DU	2	PIECE	E,W
3	33	00060459		Bushing	BB 2017 DU	8	PIECE	E,W
4	55	00060883		Safety ring	20x1,2 DIN 471	10	PIECE	E
5	381	10101565	2997.7.007	Bolt	for lifting cylinder	2	PIECE	E
6	393	00062786		Joint head	KJ 20-D M20X1,5	2	PIECE	E
7	394	10101572	60.500.168A	Bolt	B=46 L=52 A=3 d=19 D=20	2	PIECE	E
8	397	10101566	2997.7.008A	Bolt	for NATR 30 PP	2	PIECE	E
9	428	10101571	29977014	Rail	s-green	2	PIECE	E,W
10	499	00060448		Backing rolls with axial guide	NATR 30 PP	2	PIECE	EE,W
11	600	10141495		Pneumatic cylinder	163430 DNC-80-180-PPV-A	2	PIECE	EE
12	675	00053804		Swivel flange	174394 SNCB - 80	2	PIECE	E





					Datum	Name
				Bearb.	16.07.2008	Vislóczki J.
				Gepr.		
				Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Pneumatic stop unit Pos.: 9

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

10 Film feeder MSK 320 Flowtech
Pneumatic parts

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	MSK Flowtech
Commission Number:	399600
Position Number:	10

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

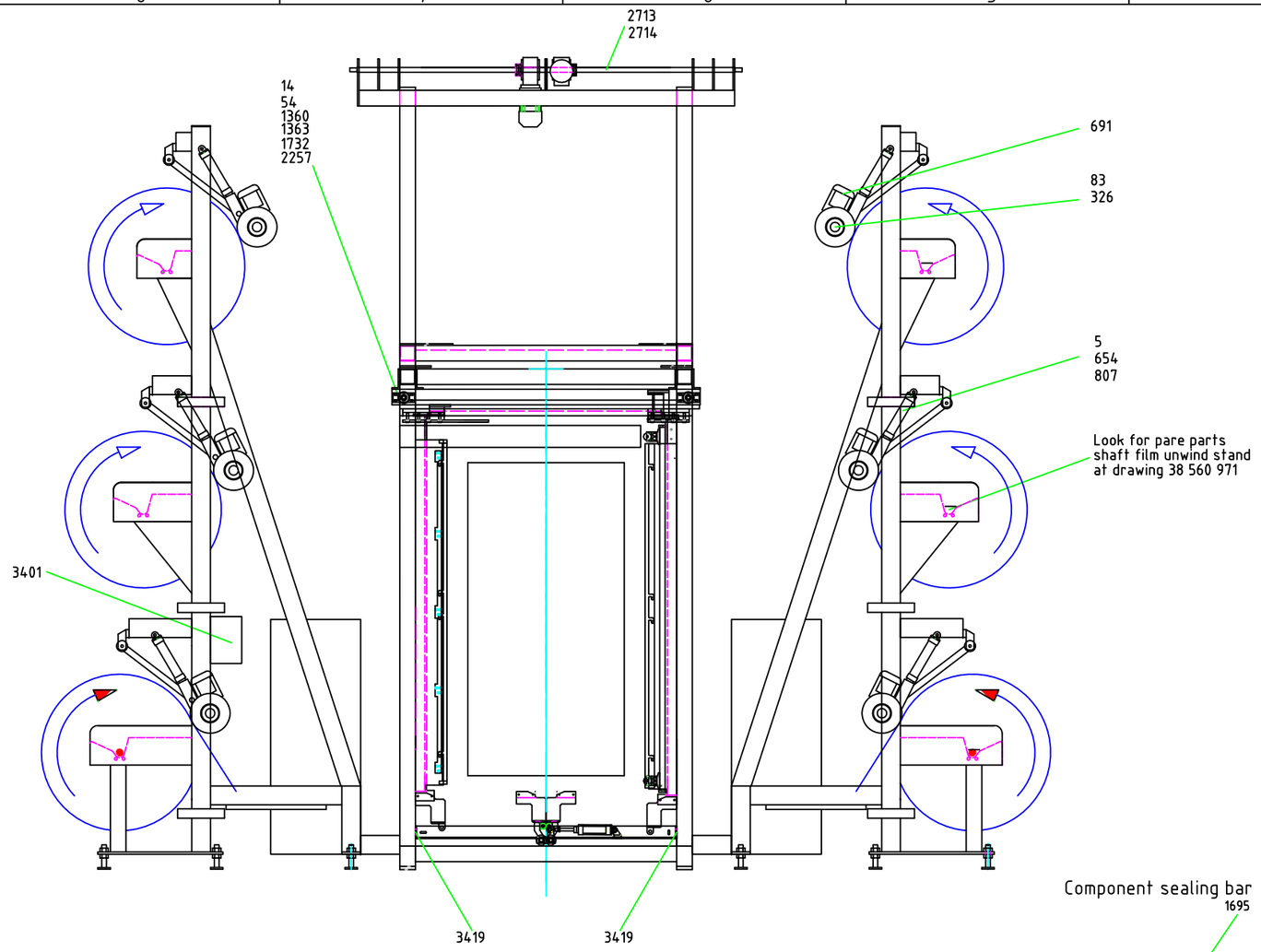
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	5	60415		Joint head	KJ 16-D M16	2	pc	E
2	9	60430		flanged bearing cast metal case	UCFL 206	9	pc	EE
3	14	60435		roller bearing	6004-2RS	58	pc	EE
4	18	60439		roller bearing	6206-2RS	12	pc	EE
5	31	108618		bearing bush		4	pc	E
6	54	60892		guard ring	42 x 1,75	18	pc	E
7	83	64138		Shaft extension		4	pc	E
8	84	101180	38560030a	Bush galv.		1	pc	E
9	140	61607		pressure spring		1	pc	EE
10	141	61608		compression spring	2x28x115x8,5	2	pc	EE
11	159	110320		Release handel	stainless steel	2	pc	E
12	161	95819	34540033	silicon pad not sticking	40° shore	13	m	EE, W
13	163	61696		cutter (knife), ten-blade	d=50	1	pc	EE, W
14	247	101256	38560831b	film shaft	X=2160	1	pc	E
15	326	65920	34560020A	film-drive wheel		6	pc	E
16	596	60241		throttling hollow screw	LRV B 1/4S	8	pc	E
17	616	142498		5/2 solenoid valve	MFH-5-1/4 1-s	1	pc	EE
18	620	76918		pressure switch	V-DS-400010-1	1	pc	E
19	654	53652		pneum. cylinder double acting	50-200-PPV-A	1	pc	EE
20	683	60408		solenoid with plug		1	pc	EE
21	691	118120		Motor	S W20DR63M4 Z 277/480V N=22 BF:M1AB 0,18kW IP54	3	pc	EE
22	807	53793		Swivel Flange		1	pc	E

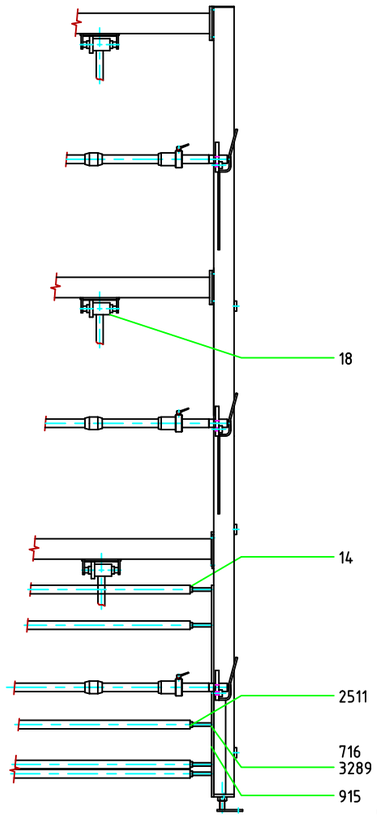
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
23	810	60242		throttling hollow screw		1	pc	E
24	929	61642		connecting element for energy chain	No. 200.12 1 set (4 pieces)	1	pc	E
25	930	61640		energy chain black		2	m	E
26	965	60266		silencer	R 1/4"	9	pc	E
27	965	60267		silencer		1	pc	E
28	997	73400		bearing bracket - Festo		1	pc	E
29	1024	53806		proximity switch	MZT1-03VPS-KP0	7	pc	EE
30	1065	74781		rapid air vent valve		1	pc	EE
31	1167	103495		heating strip 2400 long	4x0,25mm MW=2550	4	pc	EE, W
32	1250	95376		5/2 foot valve		1	pc	EE
33	1279	60250		Polyurthan Tubing pneumatic	8/6 blue	25	m	E
34	1281	77458		curve roll	GCL 40 EE o.	6	pc	E
35	1282	53650		pneum. cylinder double acting	DNCB-50-100 PPV A	1	pc	EE
36	1360	75569	50995122A	Belt Deflection Wheel		8	pc	E
37	1363	98695		Driving Wheel		6	pc	E
38	1377	78261		teflon cover strip 1roll=30m	util. width 20mm width 70mm	24	m	EE
39	1688	78197		grip-spring tensioning element		2	pc	E
40	1732	87284		Bearing bush		12	pc	E
41	2014	53808		Socket with Cable	SIM-M8-3WD-5-PU	3	pc	EE
42	2056	106631		selector switch, black	9301 N-22-S	1	pc	EE
43	2068	93442	50995257	Spur Gear	Z=24 M=2,5	2	pc	E
44	2171	79632		Grasp PA 160, black	50998065 0.0.196.57	4	pc	E
45	2257	99301		toothbelt 25 T 10	1 role = 1000 cm	5200	cm	EE
46	2610	101243		valve cluster type 10	10P-14-4A-AE-R-Y-JLJL+PA	1	pc	E
47	2631	100223	32540900d	welding strip complete		1	pc	E
48	2633	100184	32540023	isolation for welding rail		4	pc	EE
49	2634	100185	32540024b	end flap		4	pc	EE
50	2635	100844	32540031	clamping plate - MS NI		4	pc	EE
51	2636	100440		pressure spring	1,6x8x27x8,5	4	pc	EE
52	2644	103149		3/2-way valve	2200 MCH-3-1/4	1	pc	EE
53	2645	100343		grooved taper pin	DIN 1471-3X20	8	pc	EE
54	2650	118117		Motor	SH47P DT80N4 BMG TH277/480V n=114 BF:M1/A/0° 0,75kW 60Hz	1	pc	EE
55	2650	118116		Motor	SH47P DT80N4 BMG TH277/480V n=114 BF:M1/B/0° 0,75kW 60Hz	1	pc	EE

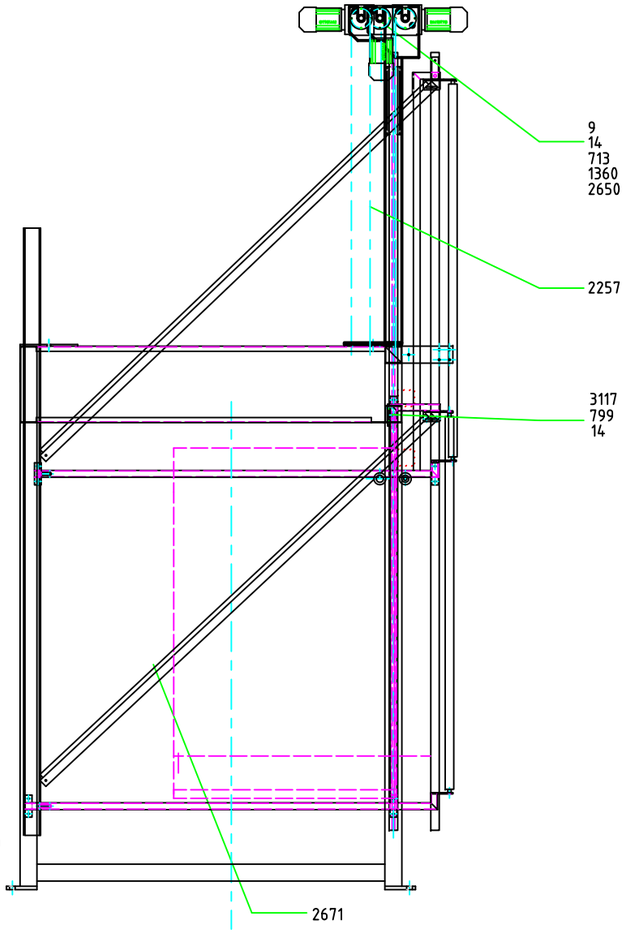
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
56	2650	118118		Motor	SH47P DT80N4 BMG TH277/480V n=114 BF:M2/A/0° 0,75kW 60Hz	1	pc	EE
57	2671	100689	32530002d	teflon bar B2250	L1/N=238,8	6	pc	EE
58	2696	61601		pressure spring	1,6X9,4X37,1X9,5	11	pc	E
59	2699	112102	32540866	welding rail springy	B=2650	2	pc	E
60	2702	100150	32530008 a	Holder		16	pc	E
61	2704	112028		shim ring	8X14X0,1 DIN 988	15	pc	E
62	2704	110489		shim ring	8X14X0,5 DIN 988	15	pc	E
63	2705	100347		Tapper pin	6M6X40 DIN 6325 ST60 GEHRTET	16	pc	E
64	2724	112064		Pneumatic Linear cylinder	161785 DGP-80-1150-PPV-A	1	pc	EE
65	2725	105306		foot mounting	158453 HP-80	1	pc	E
66	2726	105307		tappet	158457 FKP-80	1	pc	E
67	2926	105196	32560009	cylindricale bush		2	pc	EE
68	2927	89313		connecting element for energy chain	No. 200.12 1 set (4 pieces)	2	pc	E
69	2928	89314		separating web	serial 25 no. 201	20	pc	E
70	2931	101148		Cover sheet		1	pc	E
71	2932	101149		Cover sheet		1	pc	E
72	2953	110544		Linearcylinder	M/44025/M/2300 TYP LINTRA	1	pc	EE
73	2954	109142	32540853	blade holder		1	pc	E
74	2955	109143	32540856a	clamping plate for blade holder		1	pc	E
75	2956	112126	32540105	attachment bolt for welding bar	w. quick change	12	pc	EE
76	2970	108614	32031015	distance washer		2	pc	E
77	2972	108613	32031014	distance washer	T=3mm	2	pc	E
78	2974	112137	32540107	deflection roll welding bar	B=2750	6	pc	E
79	2974	112122	32540103	Sealing bar fixed portion	B=2650 at film knife	2	pc	E
80	2974	112112	32540103	welding rail springy	B=2650 underpart	2	pc	E
81	2985	109551	32540086	guidance		2	pc	E
82	3016	110222		Magnet-impulse valve		1	pc	EE
83	3024	110224		Solenoid with cable		3	pc	EE
84	3028	110871	38560043	spacer		2	pc	EE
85	3117	101333	32 530 011c	guide slide bearing		18	pc	E
86	3288	106676		guiding wagon	Nr. 1651-794-10	4	pc	EE
87	3289	95167		brass side guiding, film role		6	pc	E
88	3292	68786		mounting clamp link		2	pc	E
89	3401	85238		housing 200x300x120	metal / unworked	1	pc	E

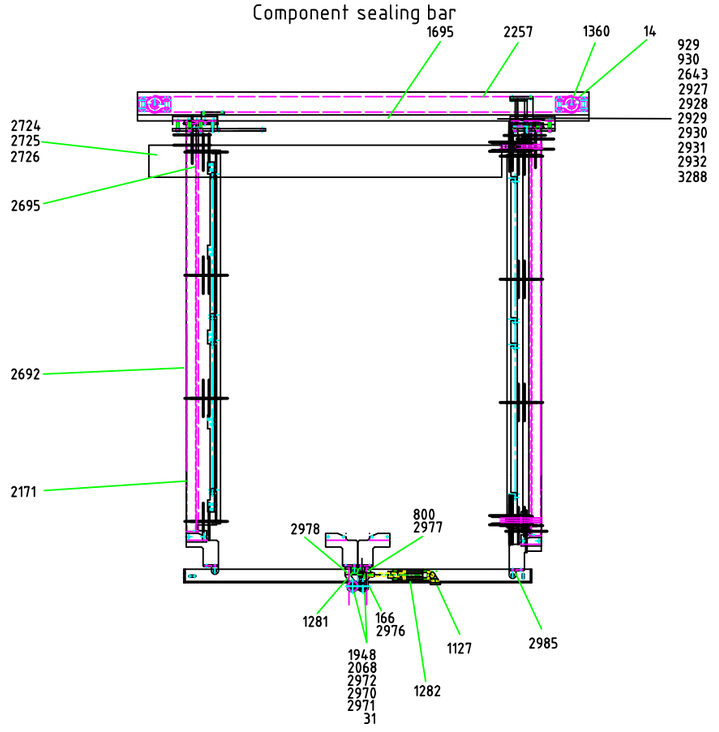
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
90		101677		AS-i flat cable yellow	2 x 1,5mm	100	m	E
91		105384		AS-i module 4E IP67	with connectors M12	7	pc	EE
92		105386		AS-i module 4E/4A IP67	with connectors M12	2	pc	EE
93		143224		auxiliary-contacts NF80	f. plug	2	pc	E
94		143225		auxiliary-contacts NF80	f. socket	2	pc	E
95		141870		cable box M12 straight	5-pin with adapter space	1	pc	E
96		68790		clamping element	for light barrier pipe	1	pc	E
97		98539		connecting plug for Profibus	w. PG-bushing&exclusionresisto	2	pc	E
98		142030		connector NF80	plug 2pins / connection 16mm	2	pc	E
99		142031		connector NF80	socket 2pins / connection 16m	2	pc	E
100		144304		contact-block 1NC	800F/PVC/(PU:10pcs)	4	pc	E
101		144303		contact-block 1NO	800F/PVC/(PU:10pcs)	6	pc	E
102		118210	70880065	cover	for WL280	4	pc	E
103		142621	70880065	cover	for WL280	3	pc	E
104		104018		current converter PEX-W3	for resistron	2	pc	EE
105		102405		desiredvalue potentiometer PD5	with digitalkey from 0..500°C	2	pc	EE
106		142679		DeviceNet Female Receptacle	cable 1m	2	pc	EE
107		142677		DeviceNet Male Receptacle	cable 1m	2	pc	EE
108		142702		DeviceNet Patchcord 2m	Male/Female Connector	1	pc	EE
109		142627		DeviceNet Patchcord 18m	Male/Female Connector	3	pc	EE
110		142628		DeviceNet Patchcord 30m	Male/Female Connector	1	pc	EE
111		54317		devicenet, MINI T-Port branch		3	pc	E
112		54309		devicenet, terminator:	Mini 5-pin plug	1	pc	E
113		143374		Distribution box M12	4-way M12- 5 pin	1	pc	E
114		144489		drop-down transformer	480 / 400VAC	1	pc	E
115		144301		emergency-stop button	800F-Front module / PVC	2	pc	E
116		144314		emergency-stop ring YELLOW	800F/40mm/(PU:10pcs.)	2	pc	E
117		101673		FK coupling module for flat cable	2 x AS-i cable intake	7	pc	E
118		101674		FK-E coupling module for flat cable	with external current intake	2	pc	E
119		144318		fuseholder for Class CC fuses	2pole / up to 30A	5	pc	E
120		116676		Guide Car Star long GR 35	1653-314-10, pre-tension 0,02C	1	pc	E
121		142032		hand grip for connector NF80	colour: red	2	pc	E
122		144294		illuminated push-button WHITE	800F-Front module / PVC	2	pc	E
123		144490		impuls-transformer	400 / 110VAC	2	pc	E
124		144305		LED module WHITE	800F/24VDC/(PU:10pcs)	2	pc	E

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
125		143877		MiniFemale ->Conductor Cordset	MiniFemale, Thin Cabel 3m	2	pc	E
126		143878		MiniFemale ->Conductor Cordset	MiniFemale, Thin Cabel 6m	1	pc	E
127		74461		mounting clamp link	for light barriers	2	pc	E
128		144302		mounting-flange	800F/PVC/(PU:10pcs)	6	pc	E
129		143379		MVP12 distribution box 4-way	PUR/PVC-8x0,34/3x0,75mmm	1	pc	E
130		103858		One-way light barrier WS/WE1	10-30VDC / plugable M12 / PNP	1	pc	E
131		118171		polyester belt band ends	50X3 5 mtr. orange no.9000001	1	pc	E
132		143754		proximity-switch M18 / NC	12-30VDC/plug M12/Sn:5mm	9	pc	EE
133		143755		proximity-switch M18 / NO	12-30VDC/plug M12/Sn:5mm	6	pc	EE
134		144293		push-button BLACK	800F-Front module / PVC	2	pc	E
135		78076		reflector mounting	for WL260	5	pc	E
136		143882		Reflex-light barrier WL11	10-30VDC / plugable M12 / PNP	2	pc	EE
137		142620		Reflex-light barrier WL280	10-30VDC / plugable M12 / PNP	2	pc	EE
138		72767		Reflex-light barrier pipe without	longdrill length 300mm / zinced	4	pc	E
139		143344		round plug connector M8 / 10m	male / female M8 / 3pins	2	pc	E
140		143356		round plug connector M12	5pins PG7 - (4-6mm)	4	pc	E
141		143353		round plug connector M12-12/ 2m	male M12 / female M12 / 4pins	6	pc	E
142		143354		round plug connector M12-12/ 5m	male M12 / female M12 / 4pins	11	pc	E
143		143355		round plug connector M12-12/10m	male M12 / female M12 / 4pins	4	pc	E
144		143349		round plug connector M12-M8/ 2m	male M12/ female M8 / 3pins	1	pc	E
145		143350		round plug connector M12-M8/ 5m	male M12/ female M8 / 3pins	9	pc	E
146		143351		round plug connector M12-M8/10m	male M12 / female M8 / 3pins	2	pc	E
147		67137		spark absorber	170-240 VDC	3	pc	E
148		102404		temperature regulator	400V 50Hz from 0..500°C	2	pc	EE
149		142614		Temp-Regulator netfilter	LF-06480 6A/480V	2	pc	EE
150		143425		valve plug M12 Form C	connection cable 0,6 m	8	pc	E
151		61861		welding transformer	415/42V 800VA 50-60Hz	2	pc	EE









Look for spare parts
sealing bar
at drawings 32 540 951d
32 540 954
32 540 957a

Look for pneumatic spare parts
at drawing 320 900 011

MSK-Verpackungs-Systeme GmbH
Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 – 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

index	change	date	name
		by	2008.12.30 Tomaszewski
		check by	

scale 1:20

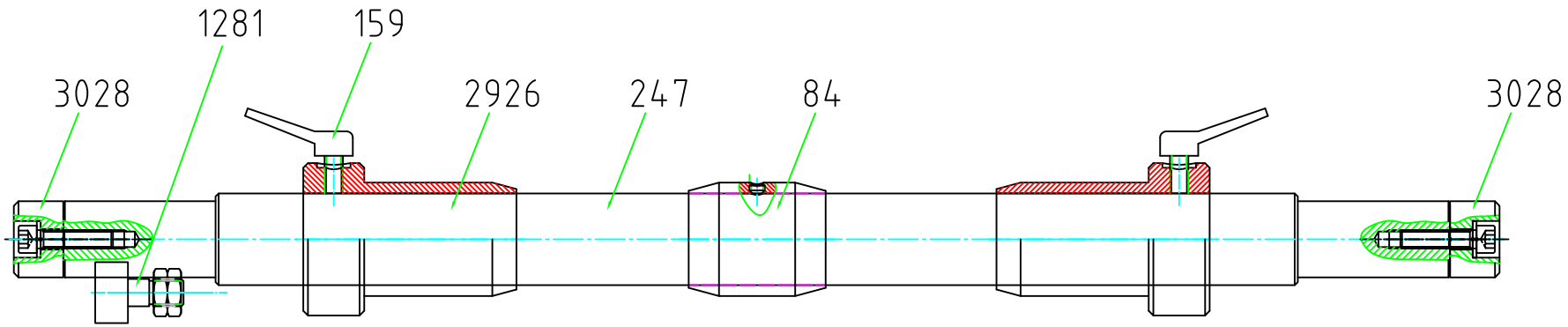
New Page Paper
Luke, Maryland

MSK Flowtech
spare parts

399600 1 900

sheet A 2

EDV Nr. 3996001900 a3.dwg



MSK-Verpackungs-Systeme GmbH
Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

index	change	date	name
a	247 added	2006.02.08	SK

	date	name
by	2005.03.04	Koppers
check by		

EDV Nr. 38560971 a3

scale 1:x

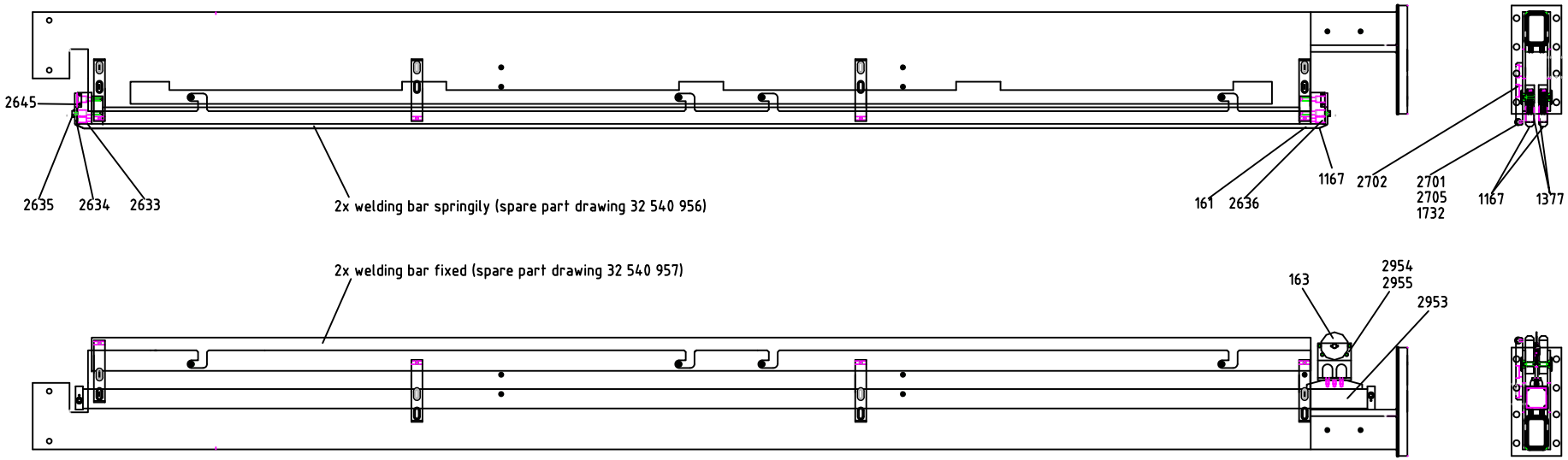
New Page Paper
Luke, Maryland

MSK Flowtech

spare parts

38 560 971 a

sheet A 3



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Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

	date	name
by	2004.02.20	H-W. Heier
check by		

index	change	date	name

EDV Nr. 32540951a a4.dwg

scale 1:x

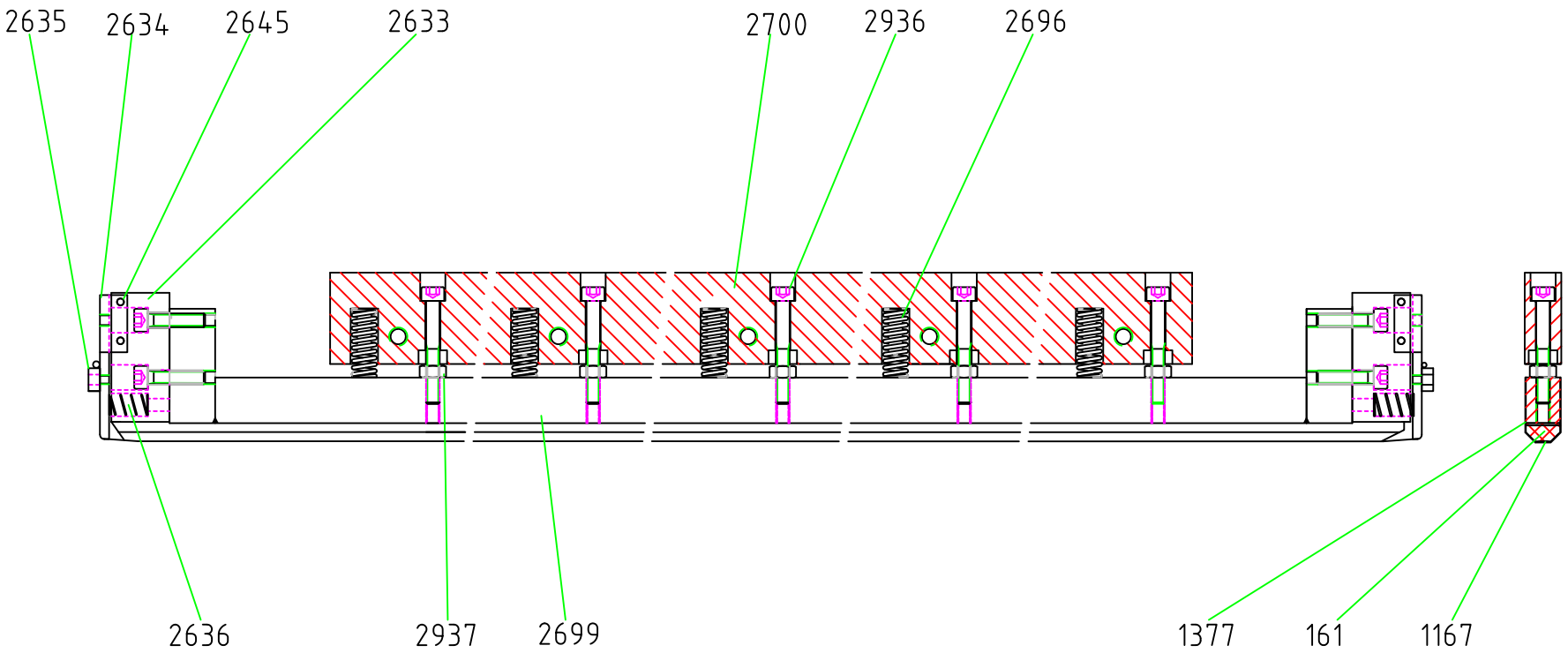
New Page Paper
Luke, Maryland

MSK Flowtech

welding bars (complete)

32 540 951 a

sheet A 3



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Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

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					by	2003.09.05	Koppers
					check by		
	Ursprung Zeichnung 32 540 903 b						
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scale 1:x

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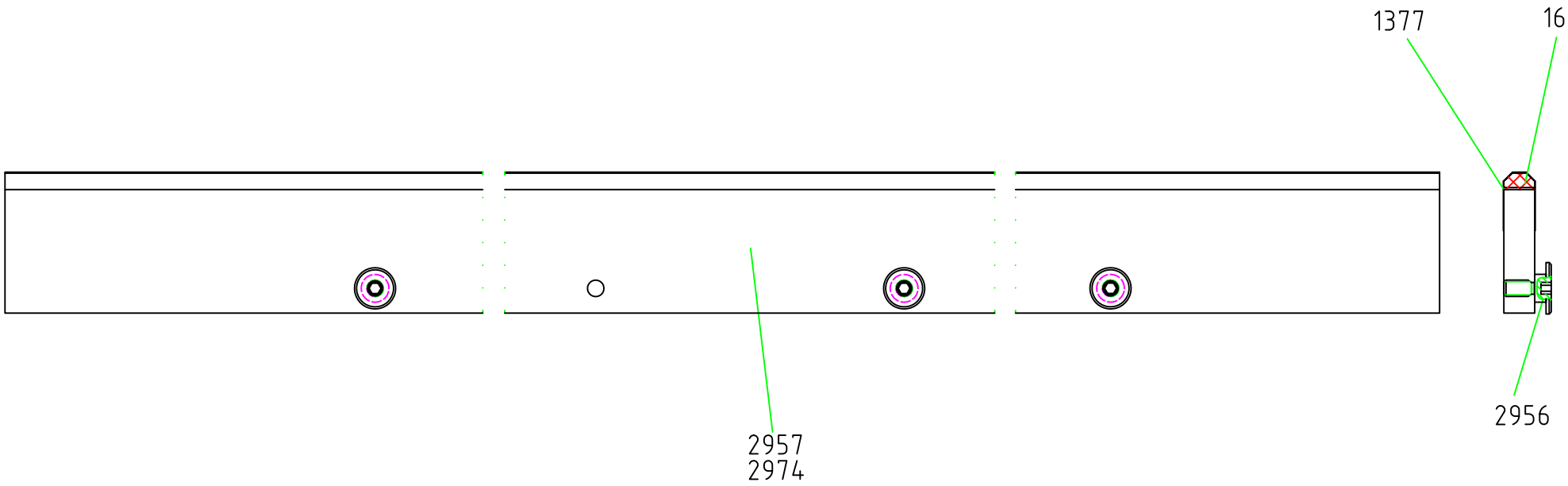
MSK Flowtech

springy welding bars

32 540 954

sheet A 3



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Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

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check by		

index	change	date	name

EDV Nr. 32540957a a4.dwg

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scale 1:x

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Luke, Maryland

MSK Flowtech

fixed welding bars

32 540 957 a

sheet A 3

FILM FEEDING

Welding rail

basic position:
left

PNEUM. LINEAR COMPONENT
ø80 - xxx - PPV - A

Knife

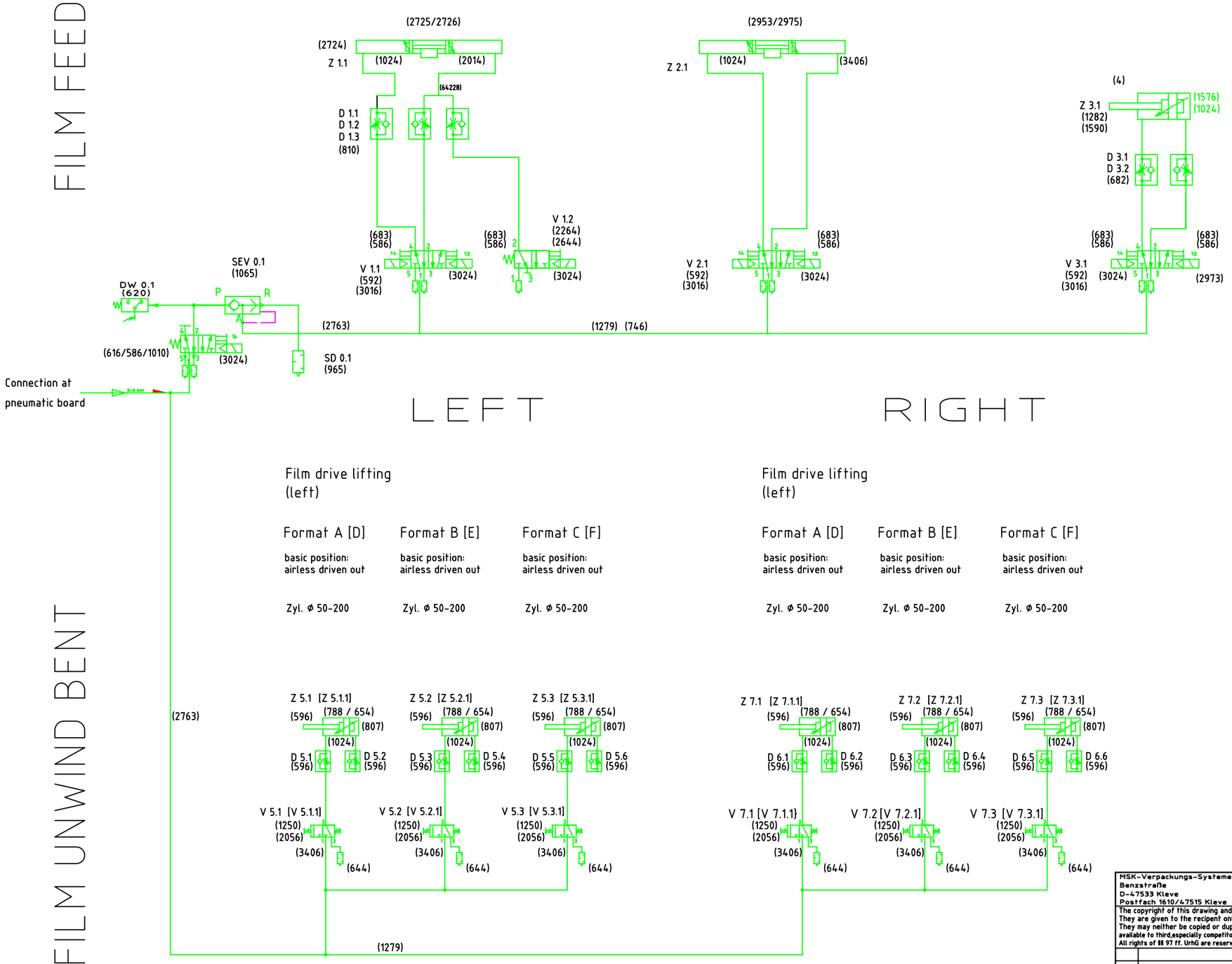
basic position:
top

PNEUM. LINEAR COMPONENT
M/44025/M/xxxTYP LINTRA

Clamping devise welding beam (below)

basic position:
driven in

cyl. ø40-125



Film drive lifting (left)

Format A [D]

basic position:
airless driven out

Zyl. ø 50-200

Format B [E]

basic position:
airless driven out

Zyl. ø 50-200

Format C [F]

basic position:
airless driven out

Zyl. ø 50-200

Film drive lifting (left)

Format A [D]

basic position:
airless driven out

Zyl. ø 50-200

Format B [E]

basic position:
airless driven out

Zyl. ø 50-200

Format C [F]

basic position:
airless driven out

Zyl. ø 50-200

FILM UNWIND BENT

ACHTUNG
"LEBENSGEFAHR",
besteht bei nicht druckfreier Pneumatik!
Arbeiten an der Pneumatik dürfen nur im druckfreiem Zustand erfolgen!
Vor Beginn der Arbeiten die Pneumatik durch Betätigung vom HSV 0.1 druckfrei schalten.
Druckfreiheit überprüfen!
Luftdruck steht auch bei betätigtem Sicherheitsventil bei V0.1/V0.2/DW0.1 an!

ATTENTION
DANGER TO LIFE
if pneumatic non-exhausted.
Work at the pneumatic-system are only allowed in exhausted state.
Before working put pneumatic without pressure by using HSV 0.1.
Check pressure clearance!
Air pressure still endures at V0.1/V0.2/DW0.1 when savety valve is actuated!

ATTENTION
Il y danger de mort lorsque:
- et le circuit pneumatique n'est pas purg .
Une intervention sur les pneumatiques ne peut se faire qu'une fois le circuit purg .
Avant le d but de travaux lib rer la pression dans les pneumatiques en actionnant HSV 0.1.
V rifier qu'il n'y a plus de pression.
La pression d'air reste meme si la vanne de securite V0.1/V0.2/DW0.1 est action !

MSK-Verpackungs-Systeme GmbH
Benzstraße
D-47533 Kleve
Postfach 1610/47515 Kleve
Tel: 0049 (0) 2821 / 506 - 0
Fax: 0049 (0) 2821 / 17866
e-mail : info@msk.de

index	change	date	name
		by	2008.12.29 Tomaszewski
		check by	

EDV Nr. 320900011.dwg

scale -

New Page Paper
Luke, Maryland

MSK Top Sheet Dispenser
pneumatic spare parts

320 900 011

sheet A 2

MSK Covertech-Group

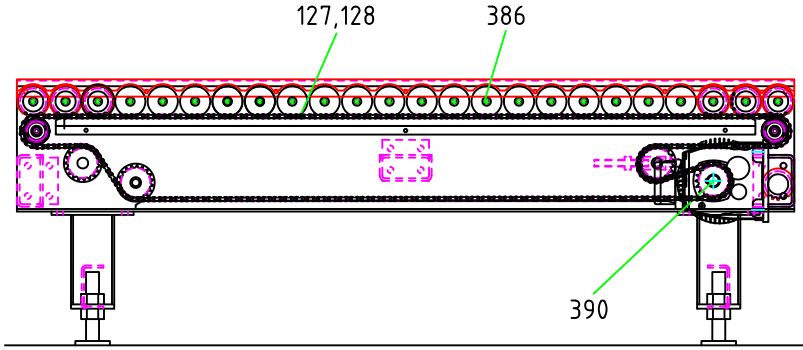
11	Roller conveyor
11.1	Exhaustion

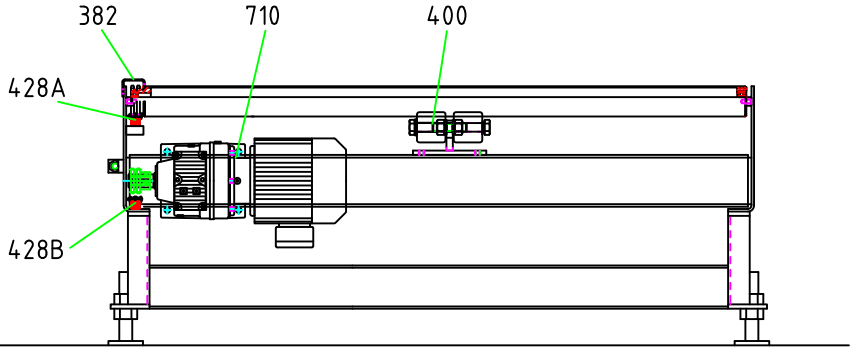
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

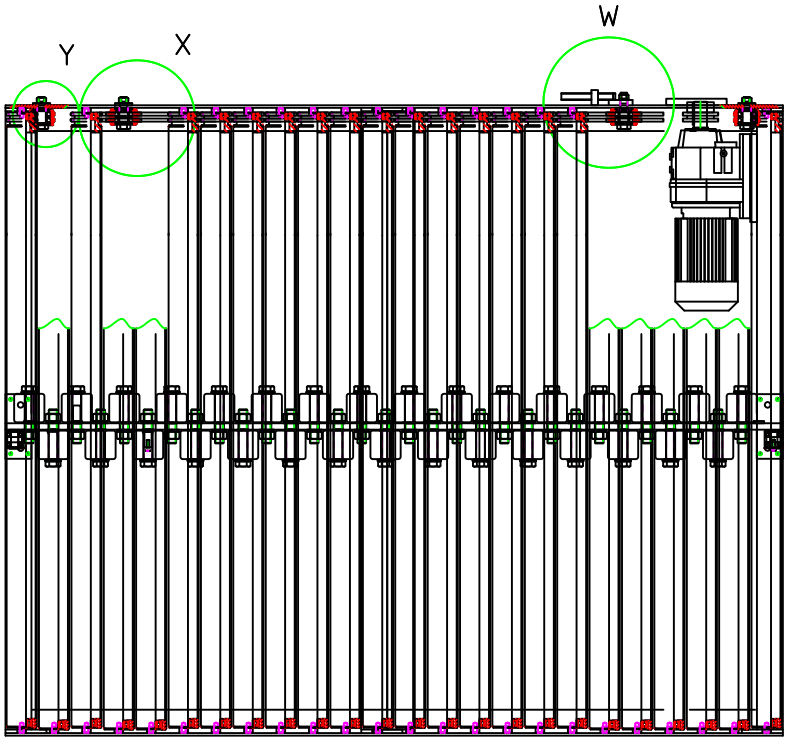
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	11

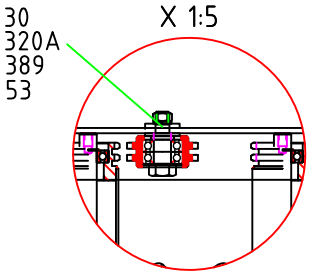
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

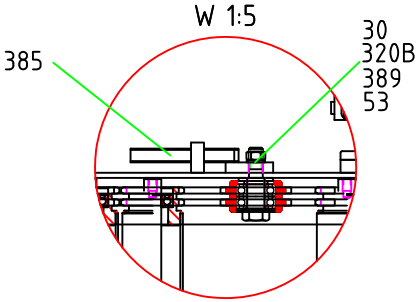
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	8	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10141418	60590503	Chain guard	A=3700 D=F=610 E=4	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	37	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10041791	60535007A	Chain wheel	Z=19 T=12,7 D=30 E=8 F=33,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	38	PIECE	E,W
14	428A	10141416	60550516	Chain slip way	L=3520 N=10 A=35 B=345	1	PIECE	E,W
15	428B	10141417	60550516	Chain slip way	L=3150 N=10 A=25 B=310	1	PIECE	E,W
16	710	10141386		Motor	1R47 DT80N4 BMG 277/480V 60Hz N=52/50Hz BF:M5-270° 0,75kW IP54	1	PIECE	EE

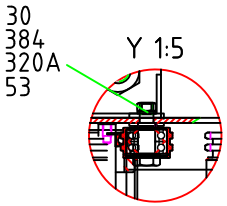












	Datum	Name
Bearb.	16.07.2008	Vislóczki J.
Gepr.		
Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 11

Spare part drawing

399600 NewPage Corporation

Blatt Bl

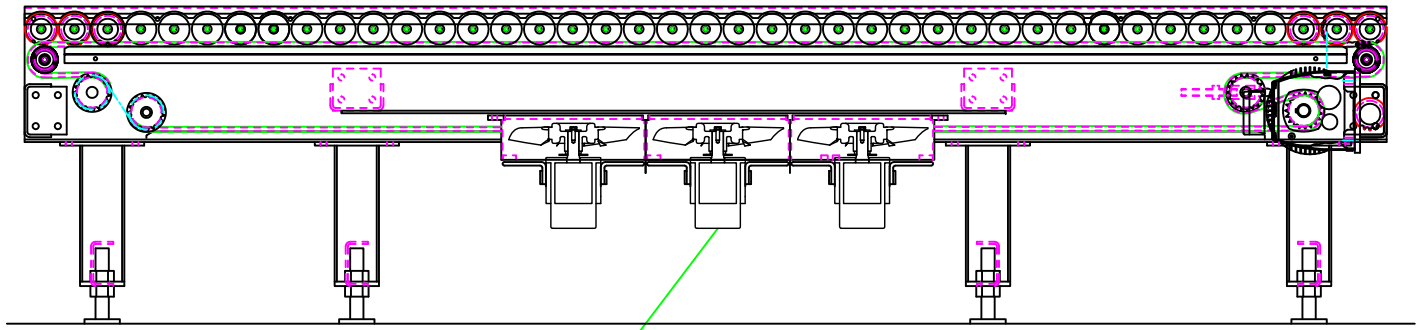
EDV Nr.

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Suction shrink place
Commission Number:	399600
Position Number:	11.1

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	670	50547		Axial ventilator	2CC2312-1RA1Z 277/480V 60Hz / IP55 D=300mm	3	PIECE	EE



	Datum	Name
Bearb.	16.07.2008	Vislóczki J.
Gepr.		
Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Suction shrink place Pos.: 11.1

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

12 Shrink machine MSK 280iS Synchrotech
Gas regulation system

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

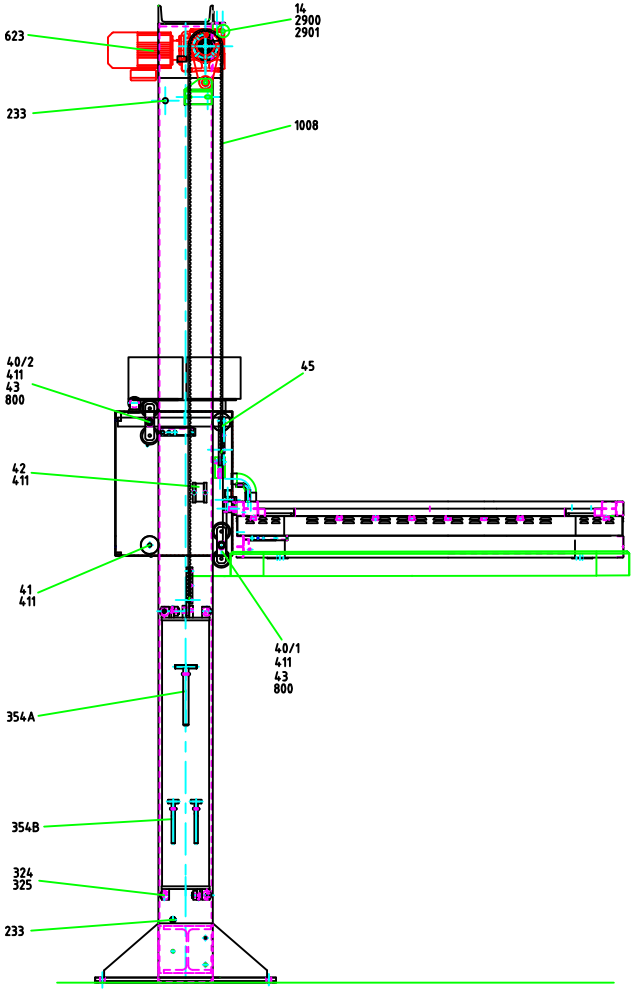
Client:	NewPage Corporation
Type of Machine:	Shrink machine MSK280I
Commission Number:	399600
Position Number:	12

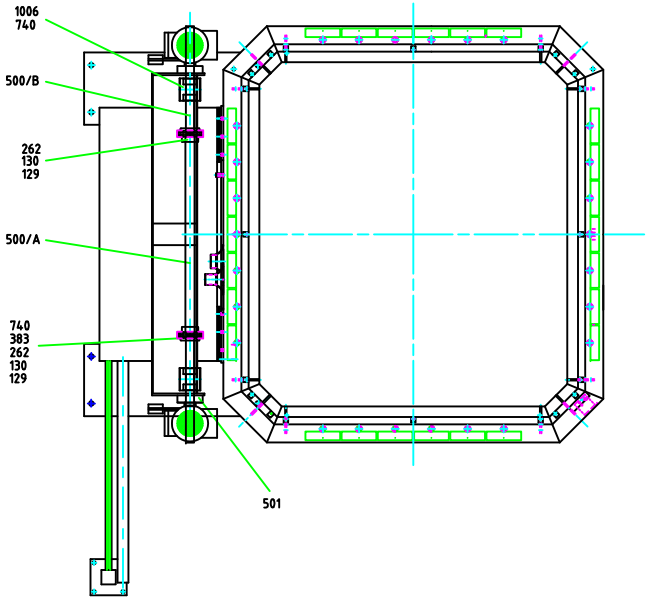
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

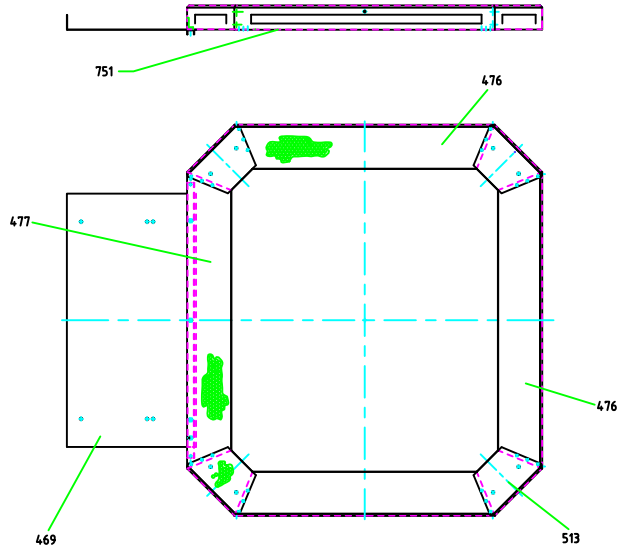
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	14	60435		Grooved ball bearing	6004-2RS	4	Piece	EE,W
2	40/1	78553	28520039B	Bolt	X=78 Y=25 Z=35 L=135 A=M20	2	Piece	E
3	40/2	78554	28520038	Eccentric bolt	X=78 Y=25	2	Piece	E
4	41	60562	28520014E	Eccentric bolt	X=10	4	Piece	E
5	42	60573	28520004A	Axle guide wheel		2	Piece	E
6	43	78560	28520037A	Axle guide wheel	D=15 X=67	8	Piece	E
7	45	10110132	63510032C	Eccentric wheel	X=20 Y=0 Z=43	2	Piece	E,W
8	89	61227		Gas sealing	dimensions: 35x70x4 DIN3535/T.3	2	Piece	E
9	90	61229		Gas sealing	NW 65 diameter 117/80	4	Piece	E
10	91	10045746		Compact unit	CG340R01-DM2WF1 110V	2	Piece	EE
11	94	61238		Ball cock	DVGW 1 1/2"	2	Piece	E
12	97	61243		Orangeflex-tube	1 1/2" 3600mm long	2	Piece	E
13	111	61402		Supervision electrode	FZE 300	4	Piece	EE
14	112	61403		Pressure manometer	DWG 10	2	Piece	EE
15	113	61404		Pressure manometer	DWG 50	4	Piece	EE
16	114	61405		Pressure manometer	DWG 150	2	Piece	EE
17	115	61406		Ignition plug	NGK CR8HSA	4	Piece	E
18	116	61407		Plug connector	brown	4	Piece	E
19	117	61408		Plug connector	black	4	Piece	E
20	129	61589		Offset-element with key	3/4"x7/16 ISO-NR 12B-2 DIN8187	2	Piece	E,W
21	130	61590		Coupling link with spring	3/4"x7/16 ISO-NR 12B-2 DIN8187	2	Piece	E,W
22	171	61824		Patent fastener cock	1/2" DVWG NR: G 82.EO14	6	Piece	E
23	175	61901		Rubber-industrial-tube	32x6 6Bar No. DWD 61000	2	Meter	E

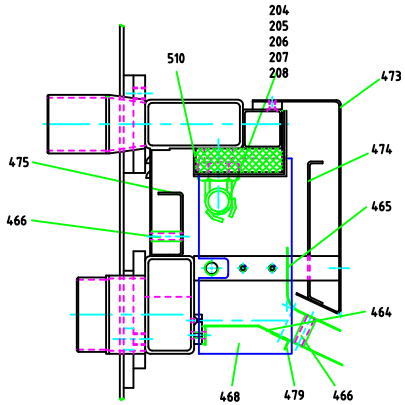
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
24	176	61902		Rubber cooling tube	75x5.5 9Bar No. DWD 60000	1	Meter	E
25	204	10104484	28530834B	Burner jet	X=73.5 Y=0 Z=2.3	2	Piece	E
26	205	10104485	28530837B	Burner jet	X=73.5 Y=0 Z=2.3	2	Piece	E
27	206	10104483	28530833B	Burner jet	X=73.5 Y=0 Z=2.3	2	Piece	E
28	207	10104486	28530838B	Burner jet	X=73.5 Y=0 Z=2.3	2	Piece	E
29	208	10040841	28530832B	Burner - Msk	X=98,5 Y=0 Z=2,3	28	Piece	E
30	214	62825		O-ring	90,00 x 3,00 72 NBR 872	2	Piece	E
31	223	74431		Electrovalve	01-EVA 15-3 R1 1/2" 110V/60	2	Piece	E
32	233	63563	30510046D	Safety bolt	X=215	2	Piece	E
33	250	63799		Ball cock	DVGW 1/4"	2	Piece	E
34	262	61591		Duplex roller chain	3/4"x7/16 ISO-NR 12B-2 DIN8187	1	Meter	E,W
35	293	64552	28040041	Muffle slide	X=14	2	Piece	E
36	306	64785		Manometer R.1/4"	rear-side connection 0-60mBar No: 9071580 f. Allgas	6	Piece	E
37	307	64788		Air filter cartridge	C 30375 Form 1 Mann	2	Piece	E,W
38	308	64610		Manometer join	MAV-EV 10-PLR	6	Piece	E
39	316	65340		Coupling	DA=60,3 Code-No.779.000.029	2	Piece	E
40	324	65875	30510069A	Guide wheel		24	Piece	E,W
41	325	65886	30510070	Bolt for guide wheel		24	Piece	E
42	328	10045748		Air flap	DN65MRK MA 25 NW 110V	2	Piece	E
43	383	77586	30591011A	Chain coupling half		2	Piece	E,W
44	411	61626		Rubber wheel	100x40 NR. WHCV 1003 6151	14	Piece	E,W
45	443	68383	29040024	O-ring		4	Piece	E
46	464	68917	28530036B	Heat baffle I.	X=278	8	Piece	E
47	464	68919	28530036B	Heat baffle I.	X=198	24	Piece	E
48	465	68920	28530037A	Heat baffle II.	X=278	8	Piece	E
49	465	68922	28530037A	Heat baffle II.	X=198	24	Piece	E
50	466	70233	28530041C	Distance washer	Typ "A" X=40	64	Piece	E
51	466	68923	28530041C	Distance washer	Typ "A" X=30	8	Piece	E
52	468	68925	28530042A	Side plate		8	Piece	E
53	469	87954	28530082C	Switch plate	CARRIAGE	1	Piece	E
54	473	68930	28530564C	Cover sheet	8/N-N/8 A=2500	4	Piece	E
55	474	68935	28530562E	Sheet metal holder I.	8/N-N/8 A=2500	4	Piece	E
56	475	68940	28530563F	Sheet metal holder II.	8/N-N/8 A=2500	4	Piece	E
57	476	87944	28530580D	Switch plate I.	8/N-N/8 A=2540	3	Piece	E

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
58	477	92909	28530581C	Switch plate II.	8/N-N/8 A=2540	1	Piece	E
59	479	69130	28530570B	Stabilizer	A oder B=2500	4	Piece	E
60	501	48190		Flanged bearing	UCFL 209	4	Piece	EE,W
61	510	10137427	33347200	Sheet metal holder III.	A=2500 Z=6	4	Piece	E
62	513	87943	28530083C	Switch plate III.		4	Piece	E
63	623	10105851		Geared motor	1SH67DV100M4/BMG/TH 277/480V N=40 BF:H1/A/180° 2,2kW IP54	2	Piece	EE
64	628	10141680		High pressure ventilator HRD2TFU	277/480V IP54 2,7kW 95Hz type: AR	1	Piece	EE
65	710	10141681		High pressure ventilator HRD2TFU	277/480V IP54 2,7kW 95Hz type: EL	1	Piece	EE
66	740	76424		Ring tighten element	45x75 CCE2000	6	Piece	E
67	751	10130467	32897580	Ring MSK 280I duo	A=2540 B=2540 C=1485	1	Piece	E
68	800	70273		Bush	BK1 25215 F	8	Piece	EE,W
69	990	73032		Throttle supplementary parts	74914078 R 1,5"	2	Piece	E
70	1006	10109793	35007001A	Toothed belt wheel	100 AT 20 Z=28 ALU	2	Piece	E
71	1008	94702		Toothed belt	100 AT20/M (bulk)	15	Meter	E,W
72	1793	68367	29040007A	Sealing		4	Piece	E
73	2900	10126711	34550501D	Roller	X=120	2	Piece	E
74	2901	10126712	34550504C	Shaft	X=199	2	Piece	E
75	354A	70737	30520803A	Safety bolt	X=370	2	Piece	E
76	354B	71113	28501865C	Safety bolt	X=250	4	Piece	E
77	500/A	88472	30591805B	Shaft	H6 !! A=2297 X=1505	1	Piece	E
78	500/B	10109755	33067541	Driving shaft		2	Piece	E









				Datum	Name
			Bearb.	17.07.2008	Visloczki J.
			Gepr.		
			Norm		

Zust.	Änderung	Datum	Name
	M S K Verpackungs-Systeme GmbH Benzstr. /47533 Kleve Tel. 02821/306-0	Maße ohne Toleranzangabe nach DIN 7168 mittel	

MSK Covertech

Maßstab 1:10 | Position - | Menge -

-

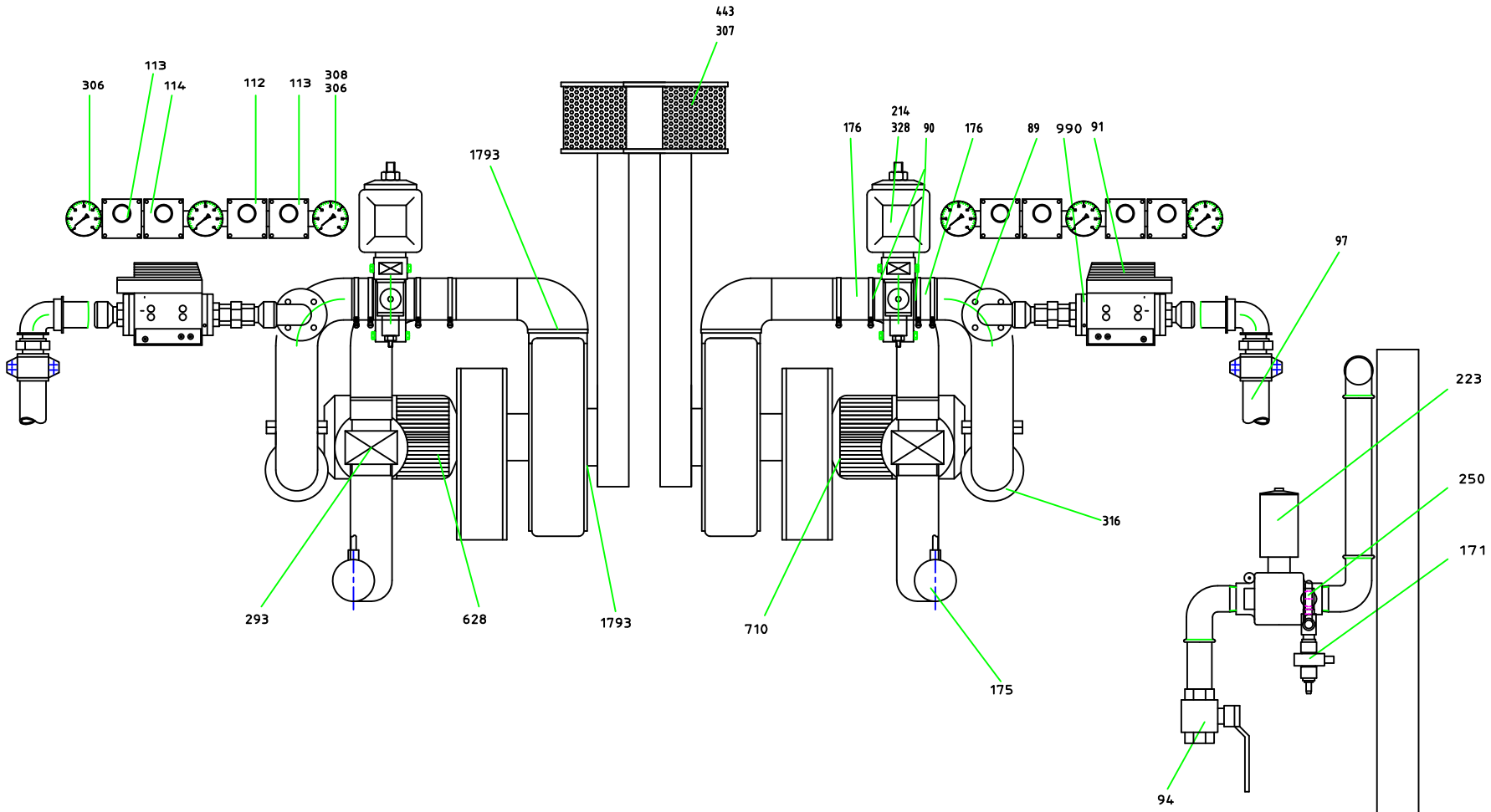
Shrink machine MSK280I Pos.: 12

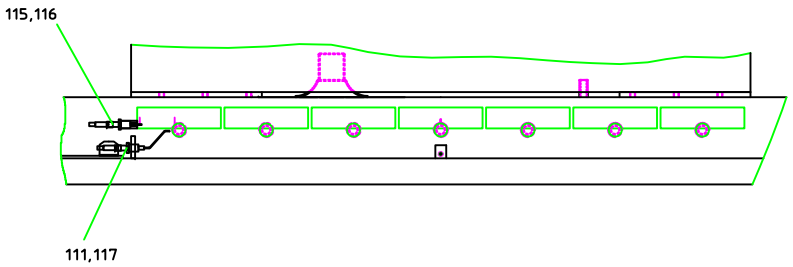
Spare part drawing

399600 NewPage Corporation

Blatt -

EDV Nr.





	Datum	Name
Bearb.	17.07.2008	Vislóczki J.
Gepr.		
Norm		

Zust.	Änderung	Datum	Name

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Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position - | Menge -

-

Gas regulator system Pos.: 12

Spare part drawing

399600 NewPage Corporation

Blatt -

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EDV Nr.

13	Roller conveyor
13.1	Electromotive top shrink plate

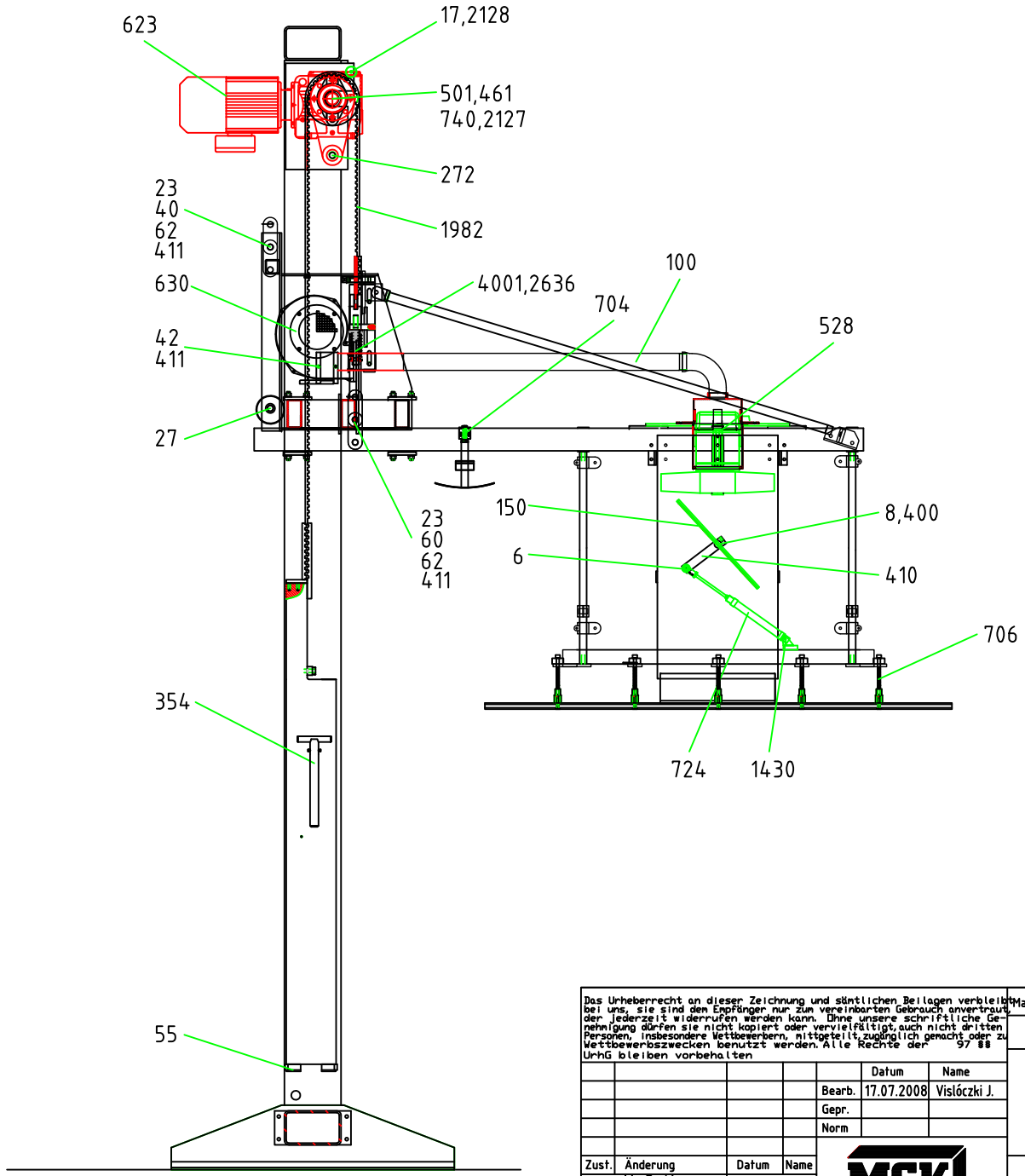
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Electromotive top shrink plate
Commission Number:	399600
Position Number:	13.1

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	6	60413		Joint head	KJ 10-D M10X1,25	1	Piece	E
2	8	68130		Bush	BB 1509 DU	2	Piece	EE,W
3	17	60437		Grooved ball bearing	6304-2RS	12	Piece	EE,W
4	23	70273		Bush	BK1 25215 F	8	Piece	EE,W
5	27	99588	38570001	Eccentric wheel	POLYAMID	2	Piece	E,W
6	40	78554	28520038	Eccentric bolt	X=78 Y=25	2	Piece	E
7	42	60573	28520004A	Axle guide wheel		2	Piece	E
8	55	74843	50996315	Guide		16	Piece	EE
9	60	78553	28520039B	Bolt	X=78 Y=25 Z=35 L=135 A=M20	2	Piece	E
10	62	78560	28520037A	Axle guide wheel	D=15 X=67	8	Piece	E
11	100	110715		CP Viton air tube	∅ 60mm	1	Meter	E
12	150	143002	28580008B	Teflon seal		2	Piece	E
13	272	69808		Rubber buffer	TYP:FA70/FA80 no.0115932	2	Piece	E
14	354	66953	30520803A	Safety bolt	X=310	4	Piece	E
15	400	143004	28580010	Pointing shaft		1	Piece	E
16	410	143005	28580011A	Bogie linkage for cylinder		1	Piece	E
17	411	61626		Rubber wheel	100X40 Nr. WHCV 1003 6151	10	Piece	E,W
18	461	111777	28501512a	Driving shaft	X = 1350	1	Piece	E
19	501	48190		Flanged bearing	UCFL 209	3	Piece	EE,W
20	528	81383		Axial ventilator 2CC2402 1RA2	277/480V 60Hz IP55 D=400	1	Piece	EE
21	586	110224		Plug socket with cable	151688 KMED1-24-2,5-LED	2	Piece	EE

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
22	(592) V 1.0	110222		Solenoid valve	163143 CPE18-M1H-5J-1/4	1	Piece	E
23	623	10105851		Motor	1SH67DV100M4/BMG/TH 277/480V N=40/50Hz BF:H1/A/180 2,2kW IP54 60Hz	1	Piece	EE
24	630	10127480		Low pressure blower LG270 type AR, without stand	208-265/360-460V 50Hz, IP54, 208-290/360-500V 60Hz, 0,5kW	1	Piece	EE
25	704	71440		Pressure spring	D-249 2x16x45,0x5,5	1	Piece	E
26	706	61602		Pressure spring	D-220A 1,6x12,5x59x13,5	20	Piece	E
27	724 Z 1.1	143123		Pneumatic cylinder	193991 DSNU-25-200-PPV-A-S6	1	Piece	EE
28	740	76424		Ring tighten element	45X75 CCE 2000	4	Piece	E,W
29	966	60266		Silencer	R 1/4"	2	Piece	E,W
30	1024	53806		Proximity switch	10-30VDC plugable w. cable / PN MZT1-03VPS-KPO	1	Piece	EE
31	1430	87190		Clevis foot mounting	6059 LBN-25	1	Piece	E
32	1982	93358		Toothed belt	75 ATL10/ 1 rolle 1000 cm	12	Meter	EE,W
33	2127	102026		Toothed belt wheel	75 AT10 Z=36 DK=112,75	2	Piece	E
34	2128	102109	38501007	Shaft		2	Piece	E
35	2636	100892		Pressure spring	D-364J-10 5.5X42X102X6.5	2	Piece	E
36	4001	99385	38570002A	Bush	30X5X75	2	Piece	E
37	D 1.1	60240		Throttling hollow screw	LRV B 1/8 S MS-vernickelt	2	Piece	E



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				Bearb.	17.07.2008	Vislóczki J.
				Gepr.		
				Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Electromotive top shrink plate Pos.: 13.1

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

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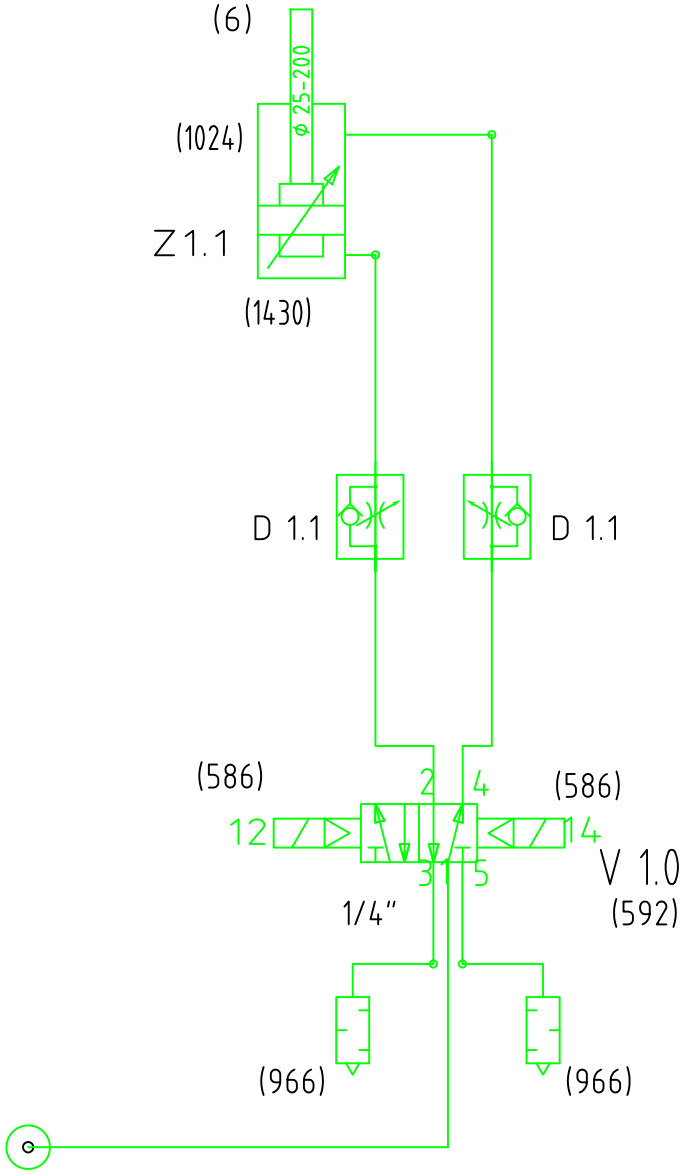
Pos.13.1



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Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10

Position Menge

Pneumatic plan Pos.: 13.1

Spare part drawing

399600 NewPage Corporation

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EDV Nr.

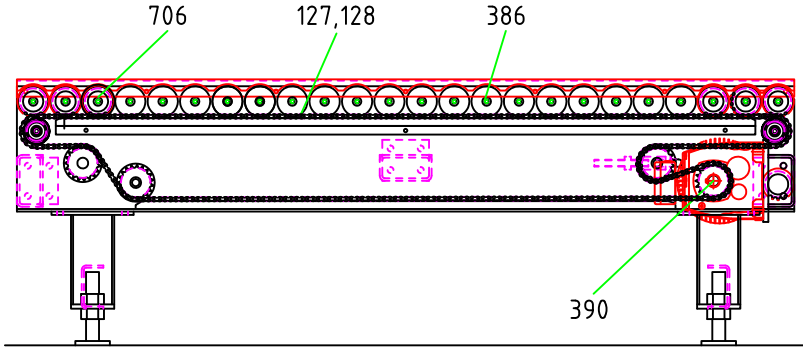
14 Roller conveyor

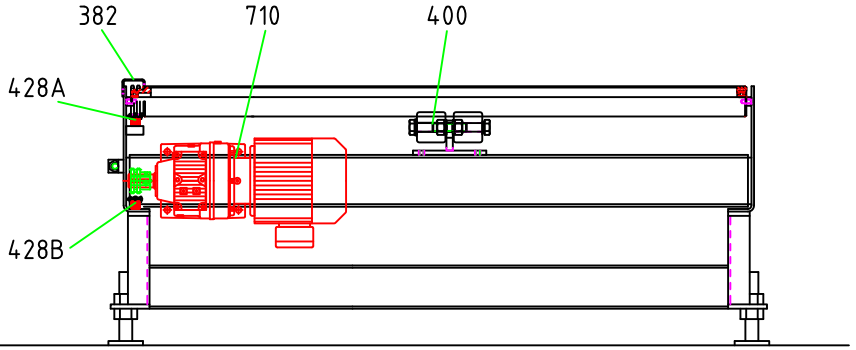
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

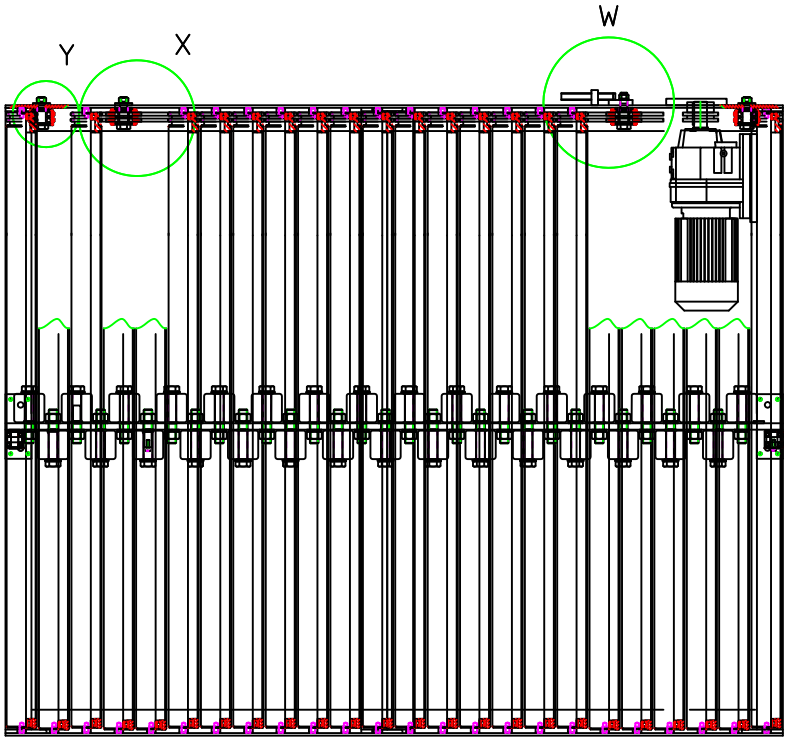
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	14

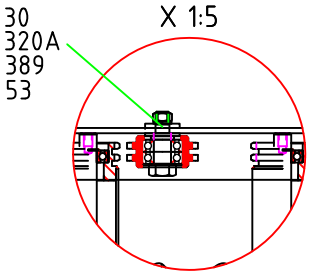
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

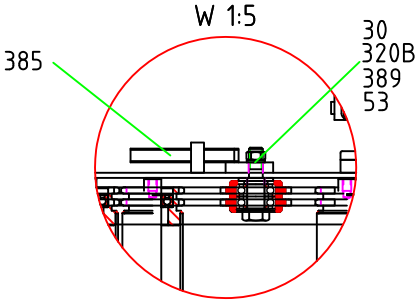
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10041791	60535007A	Chain wheel	Z=19 T=12,7 D=30 E=8 F=33,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	23	PIECE	E,W
14	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
15	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141385		Motor	1R47 DT80N4 277/480V 60Hz IP54 N=46/50Hz BF:M5-270° 0,75kW	1	PIECE	EE

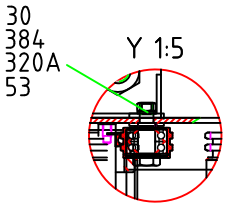












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M S K Verpackungs-Systeme GmbH Benzstr. /47533 Kleve Tel. 02821/506-0		Maße ohne Toleranzangabe nach DIN 7168 mittel	

MSK Covertech

Maßstab 1:10	Position	Menge

Roller conveyor Pos.: 14

Spare part drawing

399600 NewPage Corporation

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EDV Nr.

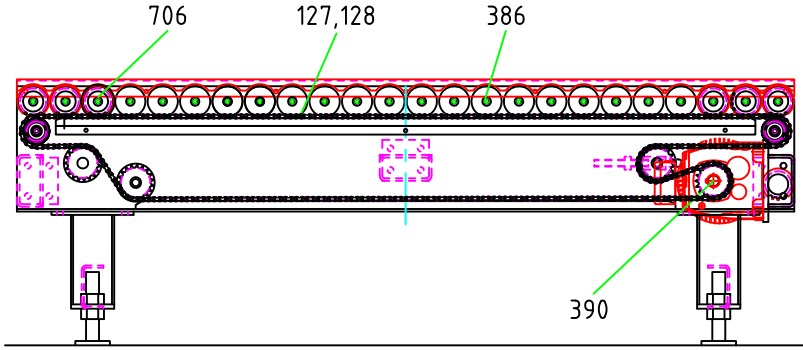
15 Roller conveyor

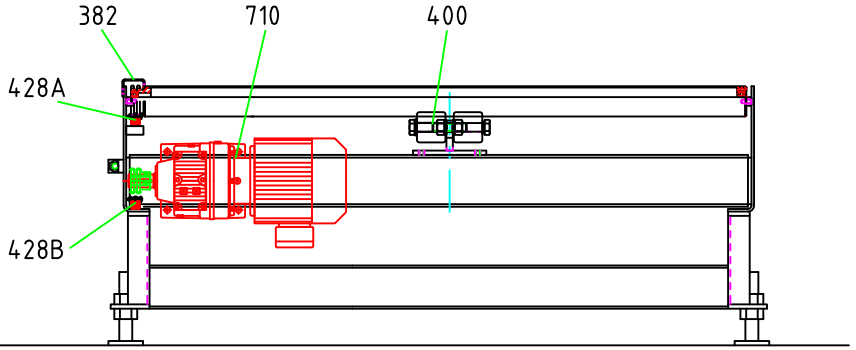
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

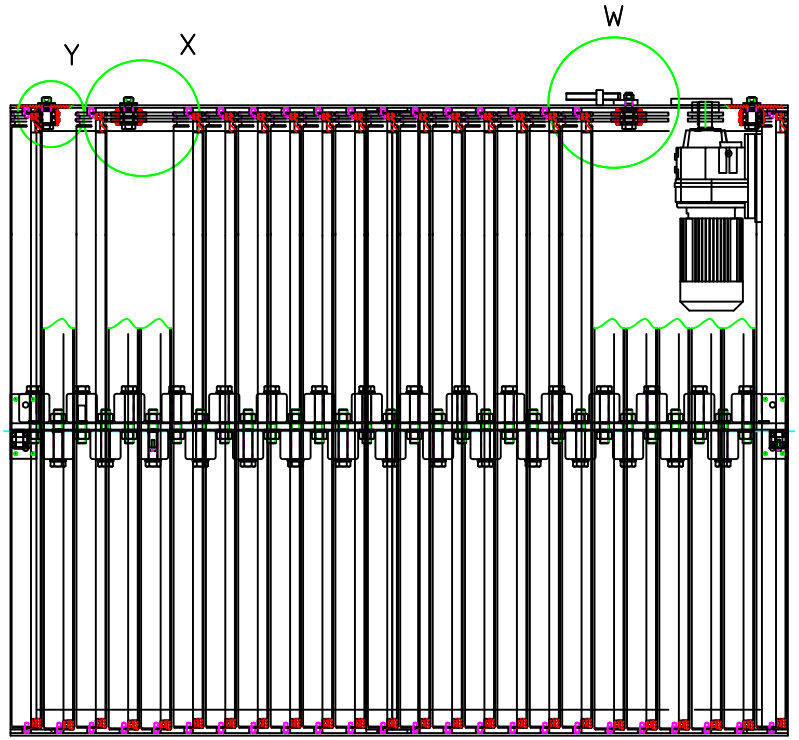
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	15

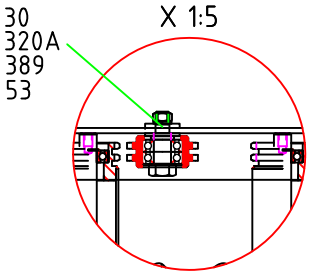
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

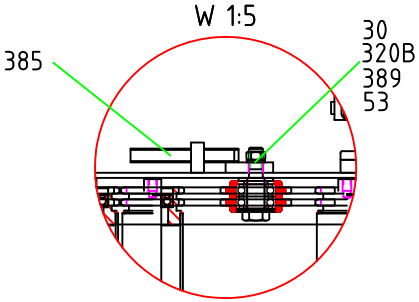
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	23	PIECE	E,W
14	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
15	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

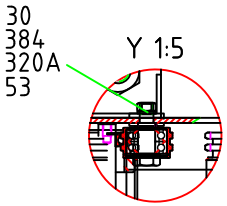












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M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 15

Spare part drawing

399600 NewPage Corporation

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EDV Nr.

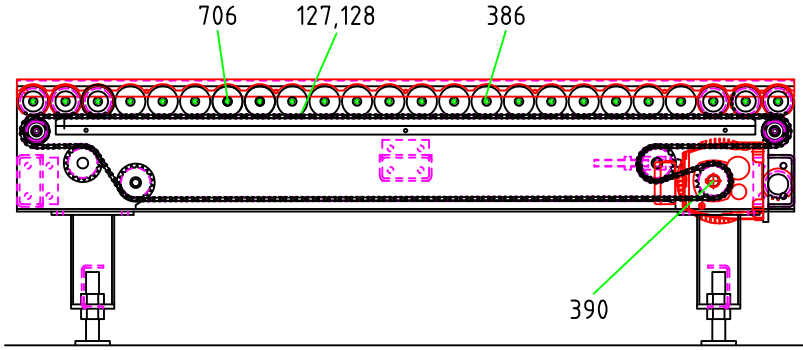
16 Roller conveyor

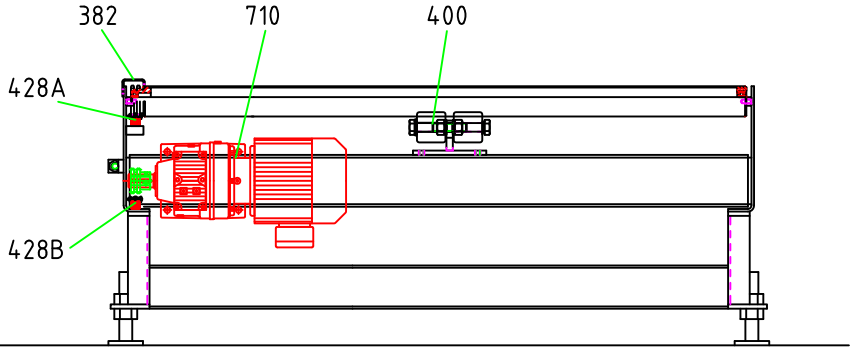
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

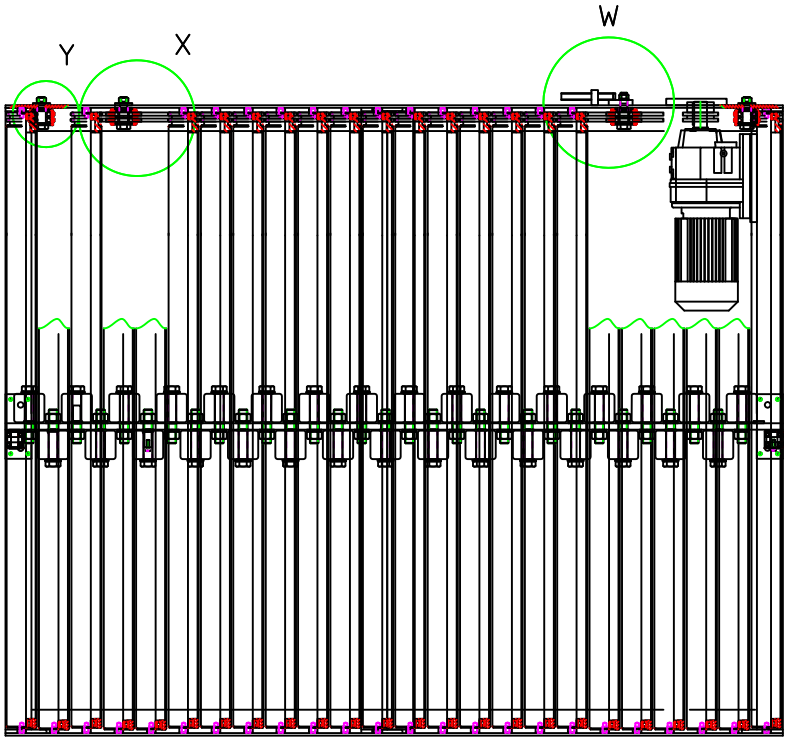
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	16

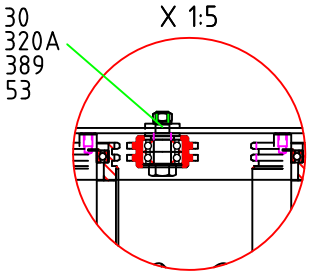
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

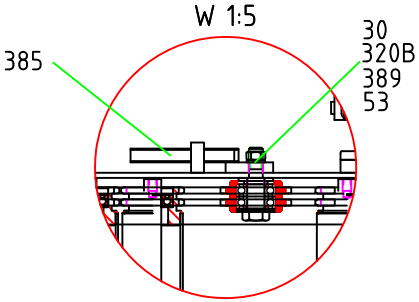
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	8	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10141418	60590503	Chain guard	A=3700 D=F=610 E=4	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	37	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	38	PIECE	E,W
14	428A	10141416	60550516	Chain slip way	L=3520 N=10 A=35 B=345	1	PIECE	E,W
15	428B	10141417	60550516	Chain slip way	L=3150 N=10 A=25 B=310	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141387		Motor	1R37 DT80K4 BMG 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

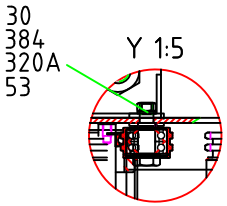












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M S K Verpackungs-Systeme GmbH Benzstr. /47533 Kleve Tel. 02821/506-0		Maße ohne Toleranzangabe nach DIN 7168 mittel	

MSK Covertech

Maßstab 1:10	Position	Menge

Roller conveyor Pos.: 16

Spare part drawing

399600 NewPage Corporation

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EDV Nr.

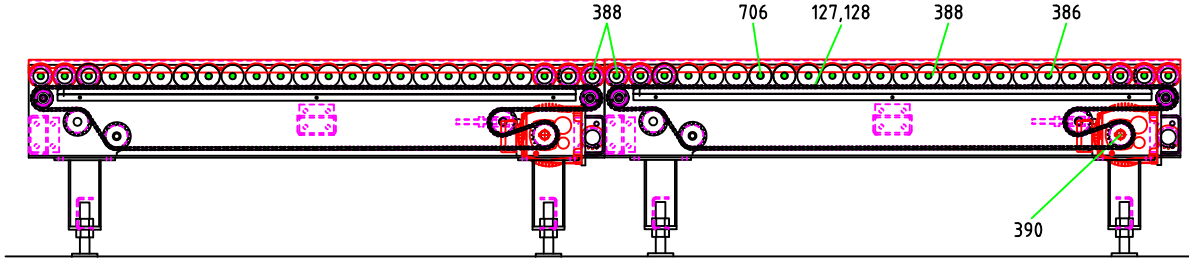
17 Roller conveyor

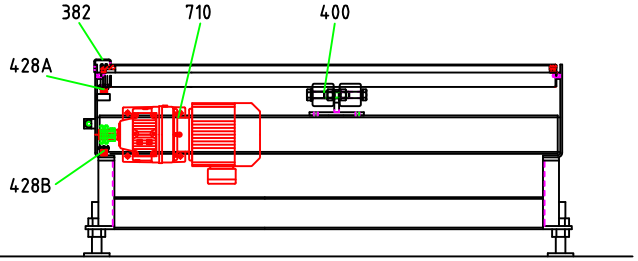
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

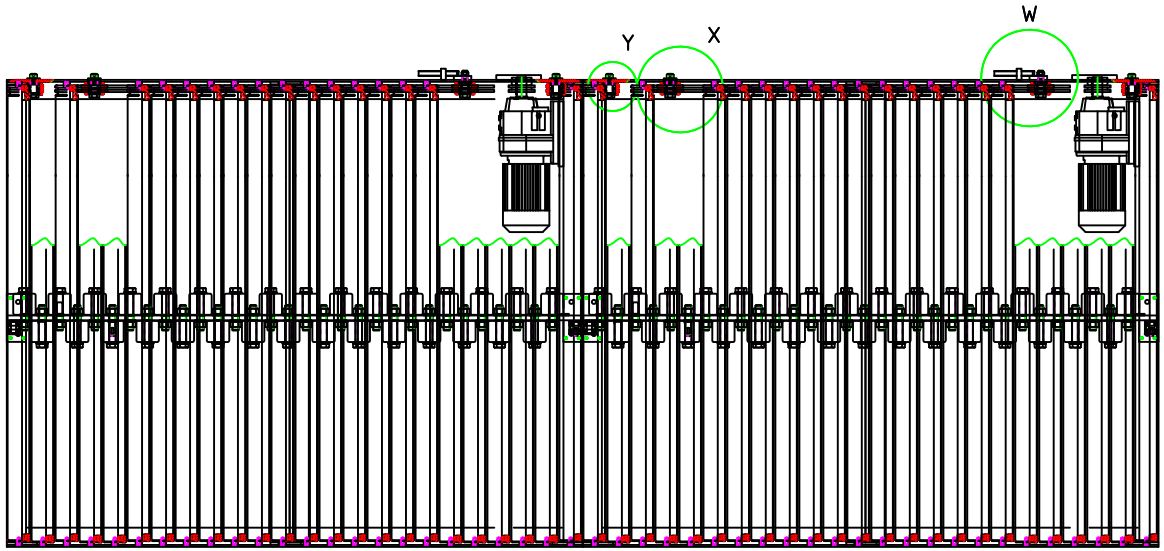
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	17

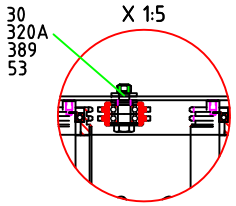
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

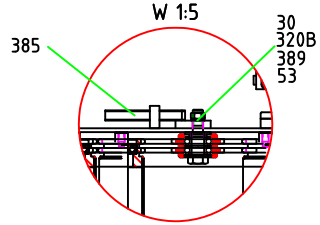
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	20	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	10	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	10	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	2	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	8	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	2	PIECE	E
7	382	10122236	60590503	Chain guard	A=1900 D=F=465 E=2	1	PIECE	E,W
8	382	10122264	60590503	Chain guard	A=1800 D=F=440 E=2	1	PIECE	E,W
9	384	10115904	60550035	Guide-wheel		4	PIECE	E,W
10	385	67834	60010800D	Grip screw	X=125 D=17	2	PIECE	E
11	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	35	PIECE	E,W
12	388	10141379	60590902	Friction roll	D=89 Z=19 ISO 08B-2 X=1848	2	PIECE	E,W
13	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	6	PIECE	E,W
14	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	2	PIECE	E,W
15	400	10116554		Supporting roller with bearing	CK 70/066/070/20	38	PIECE	E,W
16	428A	10122233	60550516	Chain slip way	L=1720 A=35 B=330 N=5	1	PIECE	E,W
17	428A	10122256	60550516	Chain slip way	L=1620 A=35 B=310 N=5	1	PIECE	E,W
18	428B	10122234	60550516	Chain slip way	L=1350 A=25 B=325 N=4	1	PIECE	E,W
19	428B	10122260	60550516	Chain slip way	L=1250 A=25 B=300 N=4	1	PIECE	E,W
20	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
21	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	2	PIECE	EE

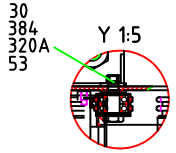












	Datum	Name
Bearb.	16.07.2008	Vislóczki J.
Gepr.		
Norm		

Zust.	Änderung	Datum	Name

M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 17

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

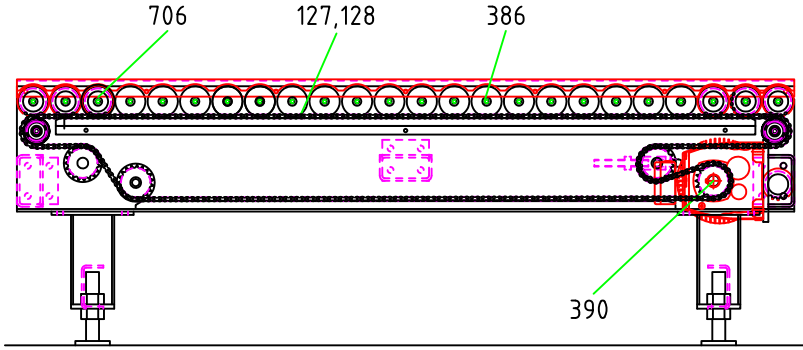
18 Roller conveyor

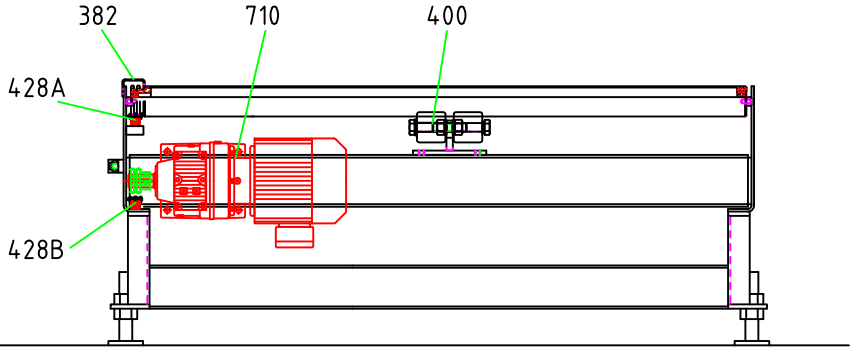
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

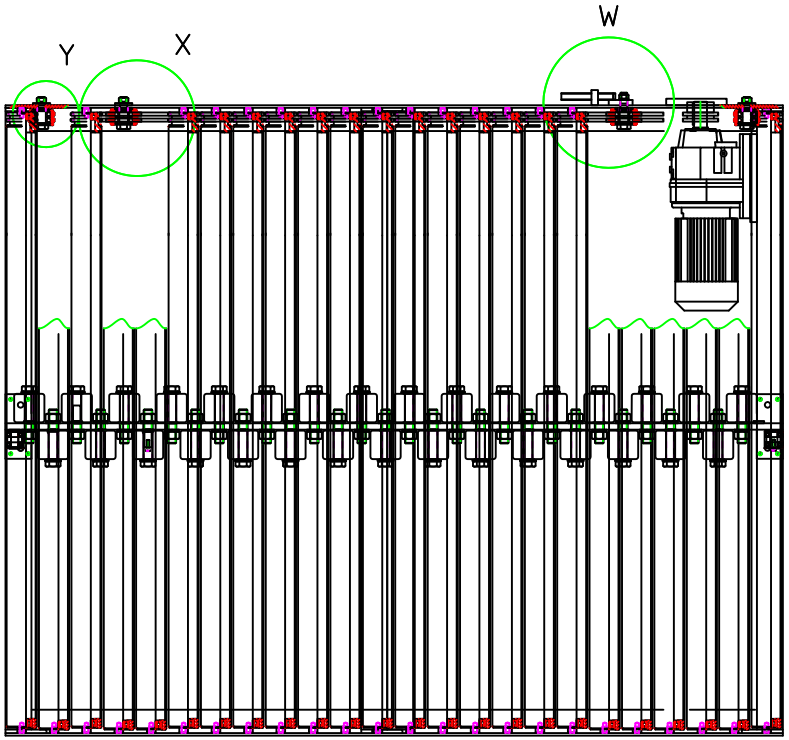
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	18

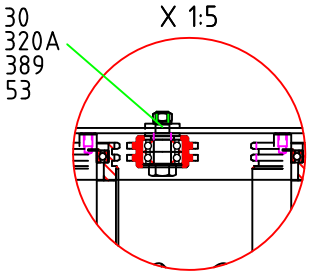
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

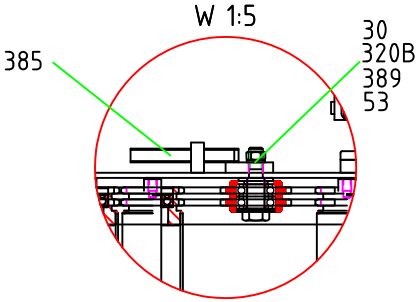
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	23	PIECE	E,W
14	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
15	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

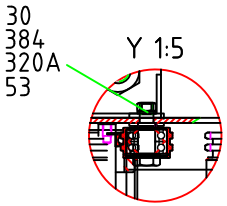












	Datum	Name
Bearb.	16.07.2008	Vislóczki J.
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Norm		

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M S K
Verpackungs-Systeme GmbH
Benzstr. /47533 Kleve
Tel. 02821/506-0

Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 18

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

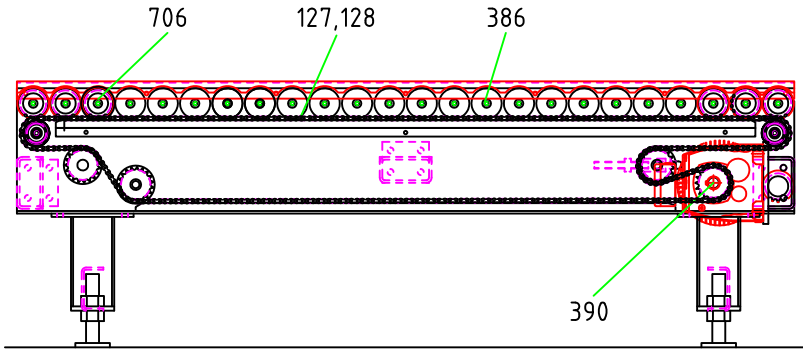
19 Roller conveyor

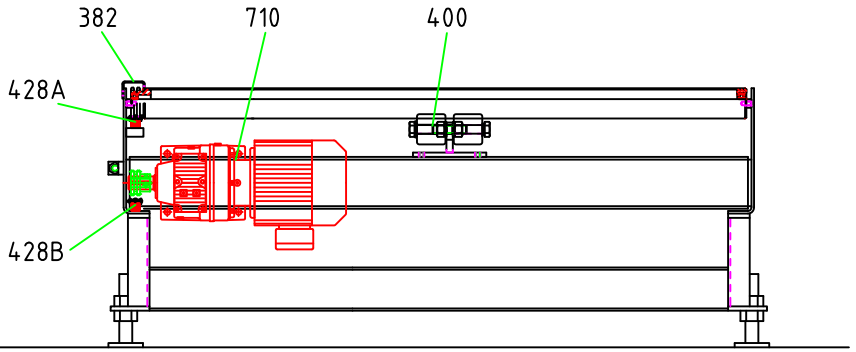
Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

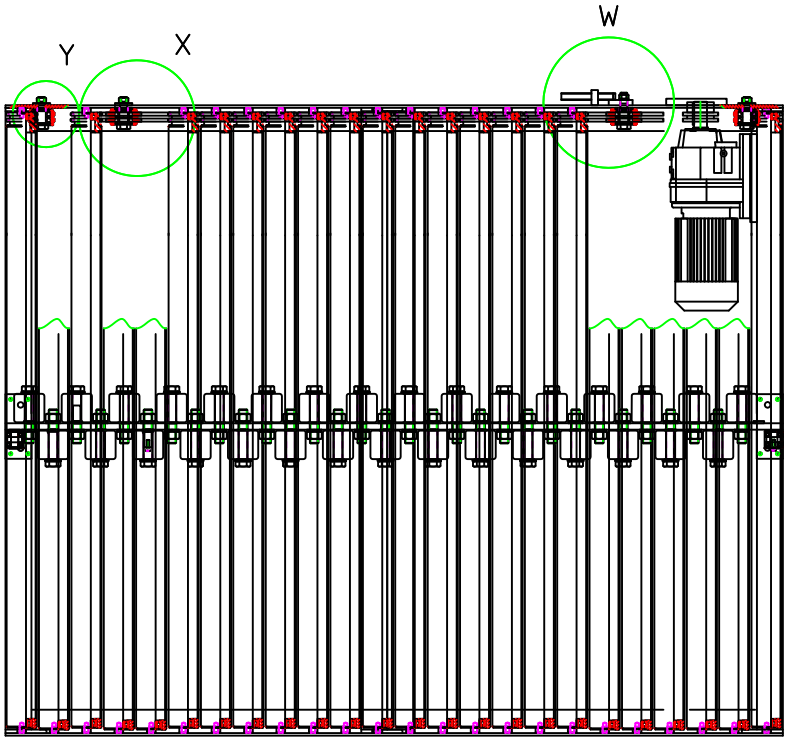
Client:	NewPage Corporation
Type of Machine:	Roller conveyor
Commission Number:	399600
Position Number:	19

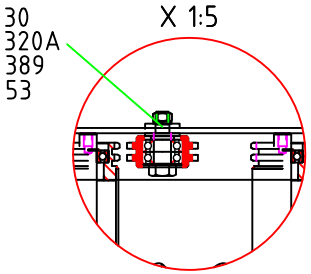
Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

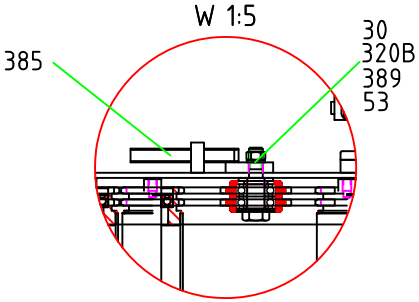
1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1	30	60436		Grooved ball bearing	6204-2RS	10	PIECE	EE,W
2	53	61878		Safety ring	47x1,75 DIN 472	5	PIECE	E
3	127	69462		Duplex roller chain	1/2"X5/16 ISO.NR:08B-2 DIN8187	5	METER	E,W
4	128	69463		Connection element with spring	1/2"X5/16 ISO.NR:08B-2 DIN8187	1	PIECE	E,W
5	320A	10115901	60550515	Bolt	X=25	4	PIECE	E
6	320B	10115902	60550515	Bolt	X=35	1	PIECE	E
7	382	10125510	60590503	Chain guard	A=2100 D=F=515 E=2	1	PIECE	E,W
8	384	10115904	60550035	Guide-wheel		2	PIECE	E,W
9	385	67834	60010800D	Grip screw	X=125 D=17	1	PIECE	E
10	386	10141063	60590900	Supporting roller	D=89 Z=19 ISO 08B-2 X=1848	21	PIECE	E,W
11	389	10112272	60540008	Chain wheel	Z=19 T=12,7 D=47 ISO 08B-2	3	PIECE	E,W
12	390	10118288	60535007A	Chain wheel	Z=19 T=12,7 D=25 E=8 F=28,3	1	PIECE	E,W
13	400	10116554		Supporting roller with bearing	CK 70/066/070/20	22	PIECE	E,W
14	428A	10125508	60550516	Chain slip way	L=1920 N=5 A=35 B=370	1	PIECE	E,W
15	428B	10125509	60550516	Chain slip way	L=1550 N=5 A=25 B=300	1	PIECE	E,W
16	706	10107999	60.010.954B	Switch roll - accessories	RT=100	1	PIECE	E
17	710	10141383		Motor	1R37 DT80K4 277/480V 60Hz N=35/50Hz BF:M5-270° 0,55kW IP54	1	PIECE	EE

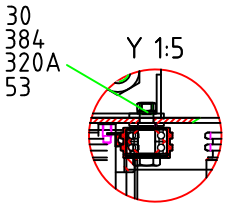












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M S K
Verpackungs-Systeme GmbH
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Maße ohne Toleranzangabe nach DIN 7168 mittel

MSK Covertech

Maßstab 1:10 | Position | Menge

Roller conveyor Pos.: 19

Spare part drawing

399600 NewPage Corporation

Blatt Bl

EDV Nr.

21 Protection guards

Spare Part List of Wearing Parts, Spare Parts and recommended Spare parts

Client:	NewPage Corporation
Type of Machine:	Safety guards
Commission Number:	399600
Position Number:	21

Recommended spare part: EE
Regular spare part: E
Wearing spare part: W

1	2	3	4	5	6	7	8	9
No.:	Position in Drawing	Part-code Internal	Drawing number	Part description	Part additional information	built in amount	Unit of amount	part classification
1		68790		clamping element	for light barrier pipe	6	pc	E
2		144308		contact-block 1NC	800F/(PU:10pcs)	4	pc	E
3		144304		contact-block 1NC	800F/PVC/(PU:10pcs)	3	pc	E
4		144307		contact-block 1NO	800F/(PU:10pcs)	7	pc	E
5		144303		contact-block 1NO	800F/PVC/(PU:10pcs)	3	pc	E
6		142621	70880065	cover	for WL280	6	pc	E
7		144301		emergency-stop button	800F-Frontmodule/PVC	2	pc	E
8		53455		housing 200x150x 80	metal / processed	3	pc	E
9		144315		identification-plate+mounting	800F/(PU:10pcs.)	5	pc	E
10		144294		illuminated push-button WHITE	800F-Frontmodule/PVC	4	pc	E
11		144300		key-switch (sring return/2pos)	800F-Frontmodule/PVC	3	pc	E
12		144306		LED module WHITE	800F/24VDC/(PU:10pcs)	4	pc	E
13		72767		light barrier pipe without longdrill	length 300mm / zinced	18	pc	E
14		142620		light barrier Reflex WL280	10-30VDC /plugable M12/PNP	6	pc	EE
15		74461		mounting clamp link	for light barriers	6	pc	E
16	3292	68786		mounting clamp link		6	pc	E
17		144309		mounting-case 1place	800F/PVC/GREY	3	pc	E
18		144310		mounting-case 1place	800F/PVC/YELLOW	1	pc	E
19		144311		mounting-case 2place	800F/PVC/GREY	2	pc	E
20		144302		mounting-flange	800F/PVC/(PU:10pcs)	6	pc	E
21		144293		push-button BLACK	800F-Front module / PVC	4	pc	E
22		78076		reflector mounting	for WL260	6	pc	E
23		143353		round plug connector M12-12/2m	male M12 / female M12 / 4pins	12	pc	E
24		143289		safety light barrier M4000		3	pc	EE

8 Description of built–in devices

8 .1 Motors

Article	*Producer*	*built–in*	*type*	*present*
High pressure blower	Elektror	MSK packaging system	HRD 2/5	no
			HRD 6/5	no
			HRD 60/5	no
			HRD 2T Fu	yes
			D 064	no
Axial–flow Fan	Siemens	undershrink system	2CC2 / 2CC4	yes
Drives	SEW	Lift– and transfer-drives of the MSK packaging system	R 40, R 43, R 60, R 63, R 73, RF 40, FA 40, FA 60, FA 70, SA 62, SA 92, S 31, SAF 31	yes

Additional information of the articls are included in chapter 7 “spare parts”

8 .2 Gas control system

Article	*producer*	*built–in*	*type*	*present*
Combination control	Krom Schroeder	gas system	CG2, CG3	yes
Pressure switch for gas			DWG 10, 50, 150	yes
			DG	yes
Ignition transformers			TZE 5–100	yes
			TZI	yes
Manual Valve			DVGW 1 1/2", 1/4"	yes
Ignition and Sensing Electrodes			FZE 300	yes
Gas Meter				no
Gas Filter				no
Gear Motors				no
Solenoid Valves				no
Gas pressure regulator				no
Volume regulating butterfly valve with magnetic actuator	Uni Geraete		MRK	yes
Electro–Magnetic Valves			01–EVA 15–3	yes
Regulator of gas pressure	Actaris		Typ 133/233	yes
			Typ 143/243	no

8 .3 Pneumatic devices

Article	*producer*	*built–in*	*Type*	*present*
Valve Terminal	Festo	Pneumatic installation of the MSK Packaging machine	CPV	yes
Pneumatic cylinder	Festo	pneumatic istallation – film supply – hood applicator – centering device	DHC, DSNU,	yes
	Martonair		RM	no
	Bosch			no
	Herion			no
Pneumatic slotted cylinder	Festo	“		yes
	Martonair			no
Valves	Festo	“	5/2– und 5/3–Valves	yes
	Numatics			no
	Bosch			no
	Herion			no
	Martonair			no
Maintenance unit	Festo	“	LFR–1/2”–D–MIDI	yes
	Riegler			no
	Herion			no
	Martonair			no

Additional information of the articls are included in chapter 7 “spare parts”

8 .4 Electrical installation

The documents for the system control, bus control (option) and modem (option) are placed in the file for documents in the control cabinet.

Article	*producer*	*built–in*	*Type*	*present*
Proximity Switch	Balluff	Impuls counter, Positioning control		yes
	IFM			no
	Pepperl & Fuchs			no
	Telemecanique		XS–1	no
	Siemens		3RG4013	no
Frequency converter	Altivar	Control cabinet	Serie 28	no
			Serie 31	no
	Danfoss		Serie 2000	no
			Serie 3000	no
			Serie 5000	no
	SEW		MOVITRAC 3100A	no
			MOVITRAC 31C	no
			Movidrive	no
	Lenze		8100	no
			8200	no
			8300	no
	Siemens		Micromaster	no
	Allen Bradley		PowerFlex	yes
			ACS 550	no
Brake chopper	Lenze	”	6032/6033	no
Brake modul	Danfoss	”		no
Safety Emergency Stop Relay	Telemecanique	Control cabinet	XPS–AK	yes
	Pilz		PNOZ	no
	Dold			no
	Siemens		3TK28	no
	Zander		SR1	no
Flame detector	Krom Schroeder	Control cabinet	IFW 15	yes
Automatic Burner Control	Krom Schroeder	Control cabinet	IFS 110 IM	yes

Article	*producer*	*built–in*	*Type*	*present*
Photoelectric Reflex Switch	Sick	Positioning control	WL 11	yes
			WL 18	no
			WL 24	yes
			WL 45	no
			WL 280	yes
	IFM		OT 5013	no
Light barrier	Sick	Positioning	WS/WE 12	yes
Short way sender		Pallet scanning	NT 6	no
Safety light barrier		Safety light barrier for persons, positioned at the pallet in–and outfeed of the shrink wrapping machine	WEU/ WSU 26	no
			LGS	no
			MSL	no
			M 4000	yes
	Leuze	Safety light barrier for persons, positioned at the pallet in–and outfeed of the shrink wrapping machine	Lumiflex RRT22.2	no
Control unit welding beams	Drews	Control cabinet		no
	Ropex			yes
Air conditioner	Rittal			yes
Laserscanner	Data Logic	Shuttle car	DS 50	no
	Sick		PLS	no
Induction loop	Weiss			no
Bar–code–scanner	Sick	MSK packaging system	CLV 480	no
AS–I Bus	IFM	MSK packaging system		yes
Sensor	Telemecanique	Pallet infeed of the MSK Packaging sytem		no
Path measurement Sensor	Balluf	MSK pallet centering system	BTL5	no

Additional information of the articls are included in chapter 7 “spare parts”

8 .5 Lubricants

Article	*producer*	*built–in*	*Type*	*present*
Grease	Setral	Maintenance of the chains	54 NF	yes
Linear bearing	Rexroth Star			yes

Additional information of the articls are included in chapter 7 “spare parts”