stomdevice

Instructions:

Erkopress _motion



Erkopress ci_motion



Instructions

Video

ERKODENT

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Instructions:

Erkopress _motion

Pressure forming unit with automated thermoforming process to connect to the existing compressed air system.



Erkopress ci motion

Pressure forming unit with automated thermoforming process and integrated production of compressed air with reserve compressed air.*

* Pat. 19518211



CE

The Erkopress _motion/ ci motion units are in accordance with the respective legal standards that are listed in the declaration of conformity on page 2 of this operating manual.

Safety:

- Before starting please carefully read this operating manual.
- The operating company has to ensure that the operator has read and understood the operating manual.
- The operational safety of the unit is only guaranteed when it is used in accordance with the legal accident prevention and the safety guidelines are observed by the operator.
- Do not keep highly inflammable materials in direct area of the machine.
- Only operate the unit under supervision.
- The voltage of the power source has to be identical to the voltage indicated on the type plate.
- Attention hot, do not touch the heating element.
- Do not reach into the unit.
- Unplug the appliance when not in use.
- Before cleaning, maintenance and repairing always unplug the unit and allow to cool down.
- The unit should only be cleaned with a damp cloth. Do not use any solvents or other cleaning agents.
- Maintenance see page 12
- Repairs of the units must only be carried out by trained personnel using original spare parts. Otherwise the manufacturers liability and warranty expire.

Usage as directed:

- The units are intended for the use in the dental thermoforming technique.
- They must only be operated by instructed personnel and only using thermoforming material in Ø 120 mm and up to 5.5 mm thickness to adapt on suitable models. Otherwise the product liability expires.

Installation instructions:

- Place the unit on a plane ground. Pay attention to the fact that the weight of the unit with accessories is approx. 30 kg.
- Install the unit in a dry and low-dust environment.
- Avoid draught (air-conditioning, ventilator, open window) at the installation place since this might cause errors during the temperature measurement by the sensor.
- The Erkopress _motion is connected to the compressed air equipment available (mains pressure > 6 bar, inner diameter of the feed cable at least 4 mm) and to electricity.
- The Erkopress ci motion will be connected to electricity independently of a compressed air equipment.
- A reliable operation of all functions is only guaranteed at a unit temperature of **15 °C**.

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- **DE: EG-Konformitätserklärung**
- **EN: EC Declaration of Conformity**
- **FR: Déclaration de conformité pour la CE**
- **ES: CE Declaración de Conformidad**
- **IT: Dichiarazione CE di conformità**

- entsprechend der EG-Richtlinie Maschinen 2006/42/EG
- according to directives for machines 2006/42/EC
- conforme aux directives pour des machines de la CE 2006/42
- según las normativas para máquinas 2006/42/CE
- secondo la direttivam macchine CE 2006/42/CE

Wir • We • Nous • Nosotros • Noi
Erkodent Erich Kopp GmbH - Siemensstraße 3 - 72285 Pfalzgrafenweiler
- erklären in alleiniger Verantwortung, dass das Druck-Tiefziehgerät
- declare under our sole responsibility, that the pressure forming machine
- déclarons sous notre seule responsabilité que l'appareil de thermoformage à pression
- declaramos bajo propia responsabilidad que la máquina de presión para plastificación
- dichiara sotto la propria responsabilità che la termoformatrice a pressione

Type/Tipo:
Erkopress

Modell/ model/modèle/ modelo/modello:
__motion (Seriennr.-Bereich / serial numbers / números de serie / numéros de série / numeri di seri: 99-1100)
ci motion (Seriennr.-Bereich / serial numbers / números de serie / numéros de série / numeri di seri: 98-1000)

DE: den folgenden Bestimmungen in der jeweils aktuellen Version entspricht:
Richtlinie Maschinen 2006/42/EG • EMV-Richtlinie 2014/30/EU • DIN EN 12100 Sicherheit von Maschinen • EN 13849-1 Sicherheitsbezogene Teile von Steuerungen • DIN EN ISO 14120 Sicherheit von Maschinen - Trennende Schutzeinrichtungen • Richtlinie 2011/65/EU (gefährliche Stoffe, RoHS)

EN: complies with the following regulations:
guideline 2006/42/EC • guideline 2014/30/EC • EN 12100 • EN 13849-1 • EN ISO 14120 • guideline 2011/65/EC

FR: est conforme aux normes suivantes:
directive 2006/42/CE • directive 2014/30/CE • norme européenne EN 12100 • norme européenne EN 13849-1 • norme européenne EN ISO 14120 • directive 2011/65/CE

ES: está en conformidad con las prescripciones siguientes:
normativas 2006/42/CE • normativas 2014/30/CE • EN 12100 • EN 13849-1 • ISO 14120 • normativas 2011/65/CE

IT: è conforme secondo le normative seguenti:
direttive 2006/42/CE • direttive 2014/30/CE • EN 12100 • EN 13849-1 • EN ISO 14120 • direttive 2011/65/CE

Unterlagenbevollmächtigte Person • authorized person for documents • agent pour les documents • comisionado para documentos • persona autorizzata per i documenti

Hans-Peter Kopp, Siemensstraße 3, 72285 Pfalzgrafenweiler, Germany
Pfalzgrafenweiler, 16.10.2019

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Hans-Peter Kopp
Geschäftsführer • Managing director • Gérant de société • Gerente

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Delivery form for Erkopress _motion / ci motion on page 12, please check concerning completeness.

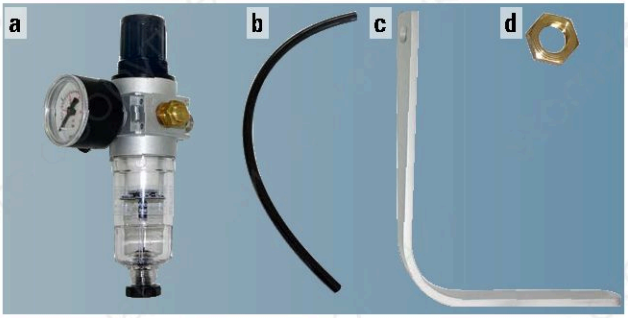
Erkopress _*motion* + Erkopress ci *motion*

Start-up:
(Pay attention to the installation instructions)

Erkopress ci motion:
Connect to the power supply

Erkopress _motion:
Install pressure regulator

Components pressure regulator:
a) Pressure regulator with water separator.
b) Black pressure hose
c) Support bracket
d) Brass nut



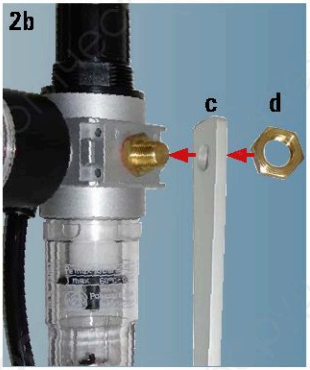
Installation:
Push the black pressure hose into the compressed air connector at the pressure regulator (1).





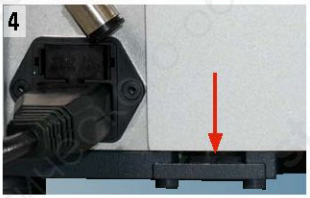
Arrangement (2a)

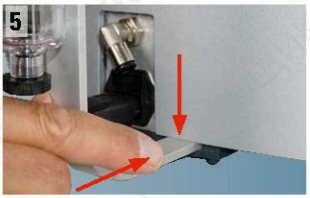
Fasten the support bracket (c) to the pressure regulator with the brass nut (d) (2b), paying attention to a parallel alignment (3) of pressure regulator and support bracket.





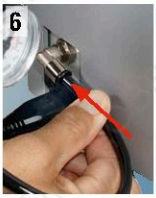
Push the support bracket into the provided opening until it stops (4+5).

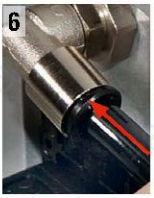




Push the black pressure hose into the compressed air connector at the unit (3).

Screw on the hose connection (7) and connect to the compressed air supply (7). (compressed air settings, see technical data)



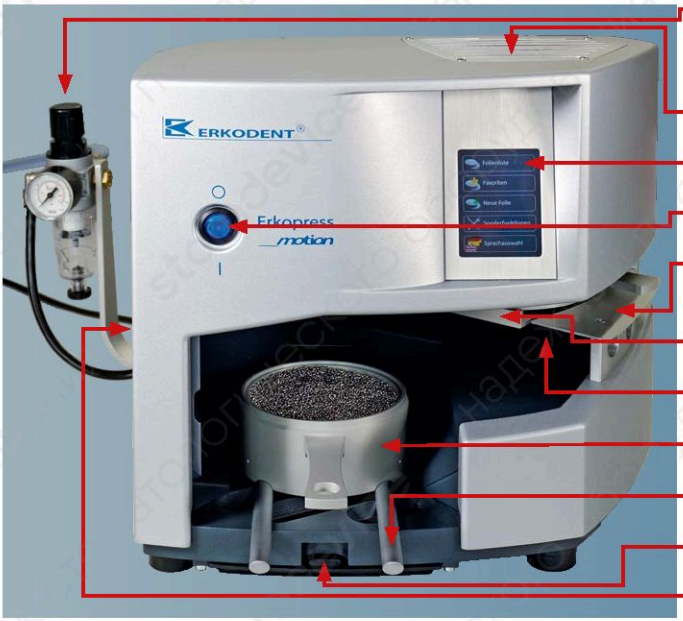






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Erkopress _*motion* + Erkopress ci *motion*



Compressed air connection and pressure regulator (only Erkopress _motion)

Medium-wave infrared heater

Touchpanel

Main switch

Insertion ramp for foil reception

Fixation for foil frame

Sensor window

Form pot

Insertion rail for the form pot

Granules collecting device

Mains connection (at the side)

Technical data:

Dimensions: **Erkopress**	**_ motion**	**ci motion**
Height	320 mm	320 mm
Width	350 mm	350 mm
Depth	430 mm	430 mm
Weight	18.9 kg	21.3 kg

Electricity: ~220 - 240 (100,110 - 120) volts, 50 - 60 hertz

	max.	380 watt	440 watt
Fuse:	230/240 V	2 x T-2 A	2 x T-2.5 A
	100/115 V	2 x T-4 A	2 x T-5 A

Heater: medium-wave infrared heater, 280 watt

Temperature sensor: touchless infrared sensor, measuring range up to 240 °C

Foil dimensions: Ø120 mm, thickness 0-5.5 mm

Form pot inner dimensions: Ø 101 mm, height 44 mm

Erkopress_motion, operating pressure 3-6 bar, required mains system pressure >6 bar, pressure regulator, factory setting 4.5 bar, noise level <70 dB(A) at 30 cm distance

Erkopress ci motion with integrated compressor and reserve compressed-air, operating pressure up to 6 bar, noise level <70 dB(A) at 30 cm distance

Pressure regulator, only Erkopress _motion:
The operating pressure of the Erkopress motion device can be set between 3 and 6 bar, the factory setting is 4.5 bar.

Increase or decrease pressure:

- Pull up the pressure regulator head
- Select operating pressure (3-6 bar)
- Press the pressure regulator head back



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Unit components:

form pot with granules

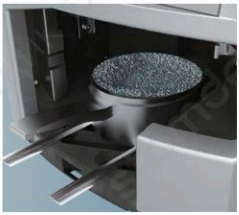


form pot with model disc



model disc with dental arch (not included in delivery)





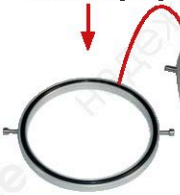
foil reception



insert foil



foil securing ring



foil reception with foil

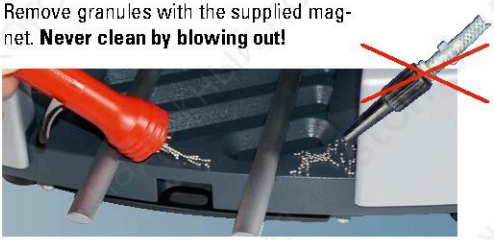




Recommendation, always thermoform with filling granules, work in the enclosed white worktray.



Remove granules with the supplied magnet. **Never clean by blowing out!**



The symbols of the touchpanel:


refer to instructions


main menu


list of foils


favourites


new foil


special functions


language selection


continue


back


ok continue


abort


add favourite


change presettings


foil thickness


foil temperature


cooling time


rated temperature


delete


heating off


heating on


move support for foil reception



start thermo-forming


Attention risk of crushing

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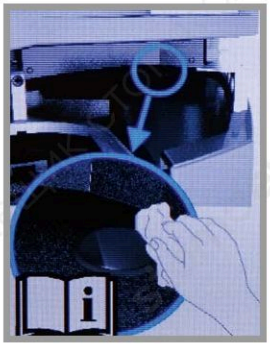


main switch

Switch on the unit
Switch on the unit at the main switch.

The touchpanel first shows the Erkodent Logo and then it requires to check if the sensor window is dusty or dirty. If so, dust off or clean with a damp cloth (no cleaning agents!).

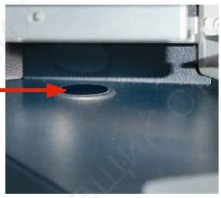
After a few seconds the basic display automatically appears.



The touchpanel responds in the framed function fields on slight pressure. For input the enclosed brush for granules is equipped with a rubber cap. However, input is also possible with fingers.



The **sensor window** is located behind the insertion ramp.



Basic display: Select language, for any further use of the unit the language selected last time is used.

1. Select language selection



2. Select language



3. Menu, selected language



Note: The function field »X« interrupts the respective process. Each termination has to be confirmed.



Note: The function field »delete« has to be confirmed.



Note:
If within 10 seconds the next required working step will not be performed, the working program will be switched off for safety reasons.

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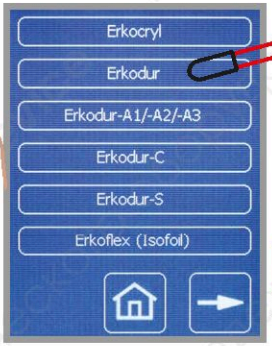
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Select foil: The list of foils contains all foils of the Erkodent product range that can be used with this machine and that have been available at the time of production of this unit. *(Example, Erkodur, thickness 1.0 mm)*

1. Select List of foils



2. Select Erkodur



Thumb list of foils:



back continue menu

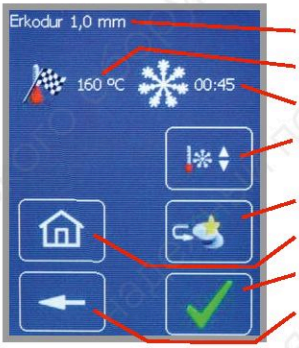
3. Select 1.0 mm



4. Selected foil



Functions of this display



Change factory settings for a foil: The rated temperature and the cooling time can be changed for one single thermoforming process or constantly, in the latter case as favourite. The rated temperature (factory setting) can be only be changed by +/- 5 °C. The changes are made in the window „selected foil" or „favourite", please also see "select foil" and "save favourites".

1. Select change



2. Change rated temperature and cooling time



Abort Save

3. Thermoform or ...



... save as favourite.
As favourite the changed data and the foil name will remain.

Thermoform one time with the changed data.

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Save favourites: The list of favourites allows a quicker selection of often used foils. To save a foil in the list of favourites, this foil is selected out of the list of foils as described under "select foil". New foils, either future Erkodent foils or foreign foils, are entered with the functional field »New foil« and are saved in the list of favourites.
After the desired foil is selected from the list of foils, the display shown at point **1.** will be visible. To save the foil as favourite, select »to favourites«.

1. Select add favourite



2. Add favourite and confirm



3. The favourite appears and can be processed



Delete favourite:

1. Select Favourites



2. Select favourite



3. Select delete favourites



4. Confirm delete favourite



Recommendation: If an Erkodent foil will be saved with the factory parameters, the changed one should be saved as new foil with a different name in order to avoid any mix-up.



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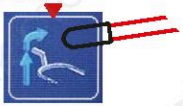
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Thermoforming (Pay attention to the notes)

1. Selected foil



to 1. Correct foil?, if yes, confirm. In the display further working steps are indicated. The visualisation disappears with the next step.
If necessary, move support for foil frame in the upper position.



Put the selected foil in the foil reception and clamp with the foil securing ring.



Now or during the heating process embed the model in the granules.



Push form pot with model backwards into the unit until it clicks into place.



2. Foil will be heated



to 2. Place foil reception with foil onto the insertion ramp and push it thus far under the heater that it clicks into place.





The foil temperature appears in the display, the foil is heated.

The function field »X« interrupts the heating process and leads back to the display **1.**

If the foil is pulled out of the heating area (max. 3 sec., otherwise the heating process will be stopped), the working steps described under "**to 1.**" appear again in the display.

When the rated temperature is reached, the heating switches off.

3. Attention, thermoforming process



to 3. 10 °C before reaching the rated temperature, a signal sounds and a warning sign flashes. As soon as the rating temperature is reached, the thermoforming process will be automatically released.
Do not reach into the unit!



Risk of crushing! Risk of serious injuries

Notes:
The function field »X« interrupts the respective process.
Each termination has to be confirmed.



If within 10 seconds the next required working step will not be performed, the working program will be switched off for safety reasons.

4. Cooling time



to 4. After thermoforming the cooling time runs. Afterwards further working steps are indicated on the display.

Pull form pot out of the unit, in doing so the red protection shield moves upwards.





Take model and foil out of the foil reception.





error 001: blocked support for foil reception, see page 11

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Enter new foil: New foils can be future Erkodent foils or foreign foils.
If Erkodent launches a new foil the necessary data will be found on the label (example: Erko new, thickness 1.8 mm, rated temperature 150 °C, cooling time 1:40 min.).
The foil will be saved under input »New foil«. In case of foreign foils the rated temperature and cooling time have to be determined using the special functions (page 9). The new foils can be saved in the list of favourites and selected via this list.

Note: Max 240 °C can be entered as rated temperature. The cooling time has to be at least 30 sec. Otherwise there might be malfunctions.

1. Select New foil



2. Enter foil name



3. Enter foil thickness



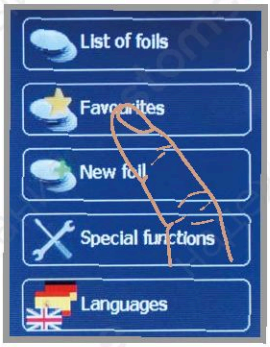
4. Enter rated temperature



5. Enter cooling time



6. Select favourites



7. Select new foil



8. Thermoform new foil



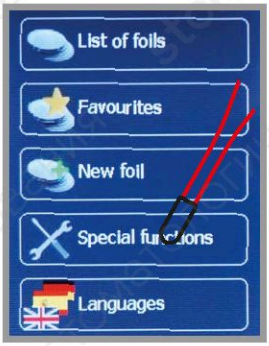
To **6.**, the new foil is saved as favourite, the menu appears.

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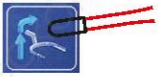
Special functions: The special functions allow to switch the heating on and off independently of the program.
To determine the rated temperature (thermoforming temperature) of a foreign foil, select »heating on« and clamp the foil in the foil frame as described at "thermoforming". As soon as the foil frame clicks into place under the heater (illustrations), the heater switches on and the sensor measures the temperature of the foil. If afterwards the foil shall be thermoformed, select »START« to initiate the thermoforming process.



1. Select special functions



If necessary, move support for foil reception in the upper position.



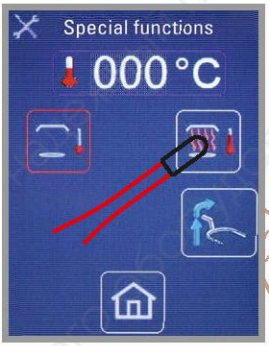
Heating on:



Heating off:



2. Select heating on



3. Rated temperature reached, select START



No information in regard to rated temperature and cooling time is available:
To check the thermoformability, pull the foil out and touch with a blunt instrument. If permanent impressions result, generally the foil is ready for thermoforming (illustration).
The heating switches off if the foil is pulled out of the heating area, »heating out« is selected or if the sensor measures >240 °C. The temperature shown on the display is the temperature measured at last. If the foil is thermoformable, this temperature corresponds to the rated temperature.



To determine the cooling time, stop the time from beginning of the adaptation. For the first time after approx. 1 minute select cooling time »STOP«, the cylinder moves upwards, the foil can be pulled out. Manually check the foil temperature, attention risk of burning! The right cooling time is achieved if the foil has approx. room temperature on the surface. The foil can now be saved as described under "enter new foils".





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Maintenance:

- To ensure that the unit maintains its full function, the rubber seals require replacing once a year when the unit is permanently in use. The new sealing rings should be firmly pushed into position.
- Extremely dirty high-grade steel granules should be purified or replaced.
- The air discharge apertures at the side of the model pot must not be blocked.

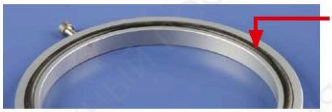


Maintenance Erkopress _ motion
The condensation water level in the water separator must not exceed the max. marquage.

To release water push the black drain for water removal upwards using an appropriate cup.



Sealing cylinder **110 857**



Sealing foil securing ring **110 857**

Troubleshooting: The »HELP« key appears on the display in the case of Error 001/002/003/004 and 021.

Example, **Error 001:** blocked support for foil reception in the travel path downwards (motor switches off).





Drive support for foil reception step by step downwards (motor down) or upwards (motor up) in the respective end position. (Several times press touch fields)

Example: red light up, position switch is switched on.

Error message:	possible cause:	possible elimination: *Customer Service
Error 002: Disorder protection shield, microswitch not reached or actuated.	The support for the foil reception has not moved down the red protection shield.	Make sure that the foil reception is snapped into place, push it completely into the unit, otherwise CS*.
Error 003: Microswitch for form pot not operated	Form pot position changed during thermoforming/switch defective.	Do not pull out the form pot during the thermoforming process/CS *.
Error 004: Heating position switch not reached.	When the support for foil reception is raised, the heating position switch is not reached/switch defective.	See Error 001, »Heating switch« must light up/ CS *.
Error 010: Program abort (timeout foil reception)	Foil reception was not in the heating position for more than 10 sec. during heating.	The foil reception must be pulled out only briefly and must be pushed back into place within 10 seconds.
Error 011: Program abort (timeout form pot)	The form pot was not in the thermoforming position for more than 10 sec. at the end of the heating time.	The form pot must be in the rearmost, locked position for the thermoforming process. If not, the program is aborted after 10 sec.
Error 021: Disorder of the temperature measurement	Heating was for longer than 10 min. in operation/IR temperature sensor defective.	After 10 minutes of heating, the heater switches off for safety reasons / CS *.
only Erkopress ci motion **Error 031:** Runtime of compressor too long.	Compressor needs longer than 90 seconds to build enough pressure, pressure system untight.	Check compressed air system, CS*.

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Troubleshooting:

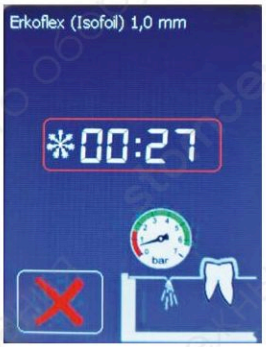
Error	Possible cause:	Possible elimination:
Machine not ready to use, no display in the touch panel	Power supply defective, room temperature below 15 °C	Check wall socket, machine plug, fuses, operating temperature > 15 °C.
Heater does not start	Foil reception not locked under the heating	Check position of the foil reception.
Pressure cylinder does not, or incompletely extend	Protection shield not extended	Foil reception must be in the rearmost, locked position, or CS (Customer Service).
	Form pot is not in the rearmost position	Push form pot with model backwards into the unit until it clicks into place.
	Not enough pressure (Erkopress __motion)	System pressure at least 6 bar, pressure line with min. 6 mm inner diameter, without creases.
Pressure cylinder does not seal (blowing sound)	Worn sealings	Replace sealings
	Not enough pressure (Erkopress __motion)	System pressure at least 6 bar, pressure line with min. 6 mm inner diameter, without creases.
Program reacts absurdly	System crash	Restart, switch machine off for 30 sec. and switch on again.
Absurd temperature indication	Sensor window soiled, draught disturbs the sensor, sensor defective	Clean sensor window, avoid draught near the unit, if necessary CS sensor check.
Adaptation not sufficient	Granules on sealings	Remove granules from the sealings.
	Sealings used	Replace sealings
	Hole in the foil	Remove the sharp edges on the model, embed the model deeper, if necessary choose thicker foil material.
	System pressure too low	System pressure at least 6 bar, pressure line with min. 6 mm inner diameter, without creases.

Note, only Erkopress ci motion:

When processing thin flexible foils, holes may form in the foil. If the pressure drops below 1.5 bar, this will be displayed.

Do not interrupt the thermoforming process! A good thermoforming result is most likely.

Display pressure loss:



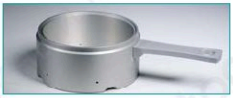
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Delivery form for Erkopress _motion / ci motion
please check concerning completeness

piece:	article:	order number:
1	**Erkopress _motion** with pressure regulator / water separator	**173 000**
1	**Erkopress ci motion** with integrated compressor and reserve compressed air	**173 500**

with accessories as follows:

1	**foil securing ring**	**173 050**	
1	**foil reception**	**173 023**	
1	**granules collecting device**	**173 025**	
1	**model disc**	**173 026**	
1	**form pot**	**173 021**	
1	**brush for filling granules with rubber cap** can also be used as input pen (in the foil trial package)	**188 530**	
1	**on-off Magnet red or green** to collect filling granules (in the foil trial package)	**red, 110 890** **green, 110 89**	
1	**filling granules (subsequent supply)** (supplied with the unit 1.8 kg) high-grade steel granules (magnetique) with rounded edges	**110 852** (1.3 kg)	
1	**worktray** white	**222 100**	
1	**power supply cable**	**170 00**	
1	**compressed air connection hose**	**660 451**	
1	foil trial package including list of contents		
1	machine documents (folder), instructions, thermoforming technique manual, material card, Erkodent program, guarantee card		

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