

# Instruction manual

## Material Lock System

### *Quick-Dush*



Manufacturer: deconta GmbH  
Im Geer 20, D - 46419 Isselburg

Designation: Material Lock System Quick-Dush

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## 1 Introduction

Thank you for choosing a **deconta** product.

With this device you obtain a practical solution with simple operation, which was completed in a compact and functional way.

The **deconta** products guarantee:

- Stability, long life and serviceability on site
- Mechanics with „kick“
- Pleasing design

The copyright of this instruction manual remains with **deconta**. This manual is intended for assembly, operation and maintenance personnel. It contains instructions and drafts of technical nature which may neither be distributed nor used in any unauthorised way for competitive purposes or passed on to others.

**For more information, please visit our website [www.deconta.com](http://www.deconta.com).**

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## 2 Basic safety advices

The handling of the appliance technology is only allowed for instructed staff. The exact knowledge of the guide book is of quite importance for operator handling the machine. The instruction manual is always to be kept in the immediate proximity, accessible to all personnel.

**deconta** has to engage you as the user to follow the guide book and to employ this appliance technology only in accordance with the regulations and not in an inappropriate way! In the event of non-observance, **deconta** assumes no liability.

To ensure safety during operation of the system, the following must be strictly observed:

- Do not use in potentially explosive atmospheres.
- Maintenance work may only be carried out by authorized persons wearing suitable protective clothing.
- The device must be completely disconnected from the power supply during all repairs and maintenance work.
- The safety and protective equipment must be kept in proper function.
- Safety instructions affixed are to be kept in a legible condition and must be followed.
- General, legal and other binding regulations and procedures for accident prevention and handling of hazardous substances must be observed.

To ensure safety, modifications to the device are not permitted.

**We explicitly point out the additional regional and national safety measures and regulations for the operation of the appliance technology.**

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## 3 Transport

### 3.1 Delivery

If no other agreements have been made, the lock system is delivered complete and transport safe from deconta factory. Transport damage must be immediately documented when handed over by the freight forwarder or other supplier. Please note any damages on the consignment note.

### 3.2 Transport

Care must be taken when transporting the equipment, in order to avoid damage caused by improper handling or carelessness.

### 3.3 Storage

**Store the lock system only in decontaminated condition.**

In order to avoid damage, the device may only be stored in dry and inaccessible rooms for unauthorized persons.

## 4 Volume of delivery

Included in the volume of delivery of a material lock system, unless other arrangements have been made:

- Material lock system (number of chambers depending on version)
- Instruction manual

Optional:

- Sewage filtering plant
- Control compulsory locking
- Material lock control unit MZA 30

## 5 Technical description

### 5.1 Material lock system

In the case of asbestos removal work within enclosed rooms, it is to be excluded that asbestos fibers leave the sanitation area and thus pose a risk to human health and environment.

For this reason, sanitation areas are separated from the asbestos-free areas and held under dynamic negative pressure by means of negative pressure units.

The **deconta** material lock system is used for loading, discharging and cleaning asbestos fiber-contaminated materials. The chambers are separated by roller shutters. Each chamber is designed so that the materials can be cleaned, packaged and stored in it. **The material lock system must not be used as a personnel lock system.**

The material lock system is characterized by the following features:

- Minimal set-up time thanks to tension locks, construction without tools
- Roof elements translucent
- Sturdy connection of floor and roof elements by corner profiles
- Roller shutter elements with foamed aluminium fins
- Side walls made of recycled plastic
- Good insulating properties against heat and cold
- Easy cleaning by light, smooth surfaces
- Hand shower
- Floor grids in the individual chambers
- Guiding elements of the roller shutters with ventilation
- Water connections system **GEKA**

The lock is designed according to the modular system and can be adapted to almost any case of need. Connecting roof and floor elements having the same attachments also allow the existing system to be extended and existing parts to be used at a later stage. An expansion with any number of chambers is possible at any time.

### 5.2 Sewage filtering plant

See separate instruction manual

### **5.3 Compulsory locking**

The compulsory locking ensures that no two roller shutters can be opened simultaneously.

A sabotage warning system (optical and acoustic warning signals) is activated via electrically connected limited switches in the event of faulty operation and thus a controlled sequence is guaranteed.

### **5.4 Material lock control unit MZA 30**

Control unit for automated material discharge with controlled 30-fold air exchange.

The TRGS 519 requires a 30-fold air exchange in the first chamber during material discharges before the material is allowed to be removed.

The device constantly measures the exchanged air volume, monitors the pressure ratio and signals the state of the system via a 2-part traffic light system. This ensures that the material is removed only after the 30-fold air exchange has been completed.

Furthermore, the control of the compulsory locking is integrated. This ensures that 2 roller shutters can never be opened at the same time.

## 6 Technical data

### Dimensions per chamber, inside:

Model 1000:	1000 x 1000 x 2050 (L x W x H in mm)
Model 2000:	2000 x 1000 x 2050 (L x W x H in mm)

### Roller shutters opening light:

Model1000:	655 x 1730 mm
Model 2000:	1700 x 1730 mm

### Water supply:

Fresh water connection:	½“ Geka connection on the roof element of the material lock system
Sewage connection:	¾“ Geka connection on the floor element of the material lock system

Technical changes reserved



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## 7 Commissioning material lock system

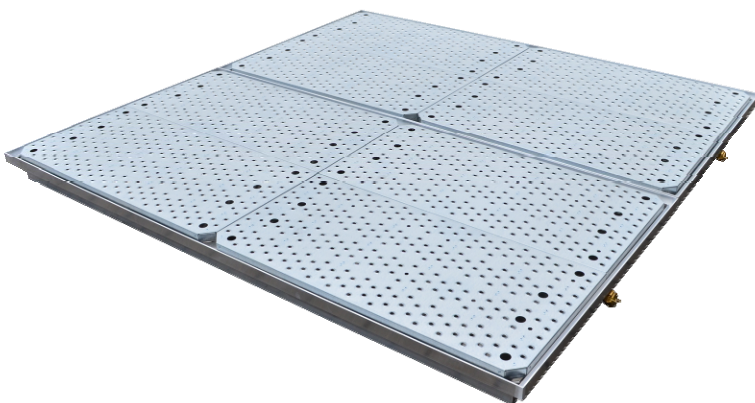
### Preparation:

Before assembly of the material lock system:

- determine the exact location and ground plan
- the ground must be even and clean

### Construction using the example of a 2-chamber lock model 2000:

Lay the floor elements plain in front of each other.



In case of irregularities of the floor space, at least 2 square timbers with a minimum cross-section of 10 x 10 cm should be laid over the entire length and aligned.

### Note:

Observe the position of the Geka connections in order to avoid unnecessary hose lengths. Make sure that the mounting angles of the floor elements are clean!

### load capacity of single floor element:

**max. 1000 kg**



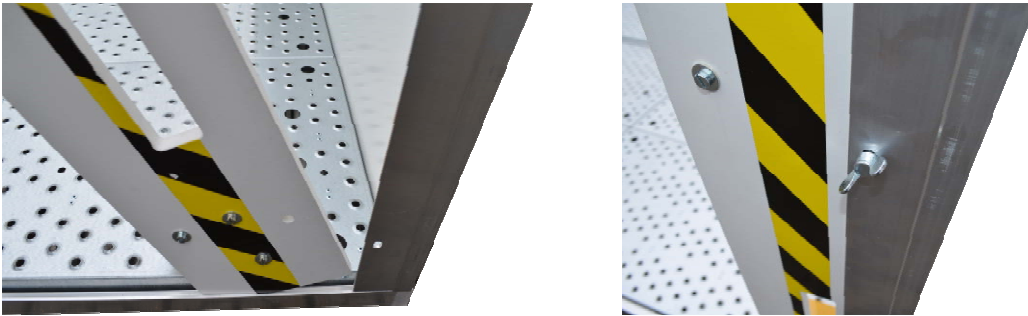
**max. 500 kg**



Insert the corner profile at the corner of a floor element into the mounting angle and clamp the tension lock at the end of the corner profile with the floor elements.



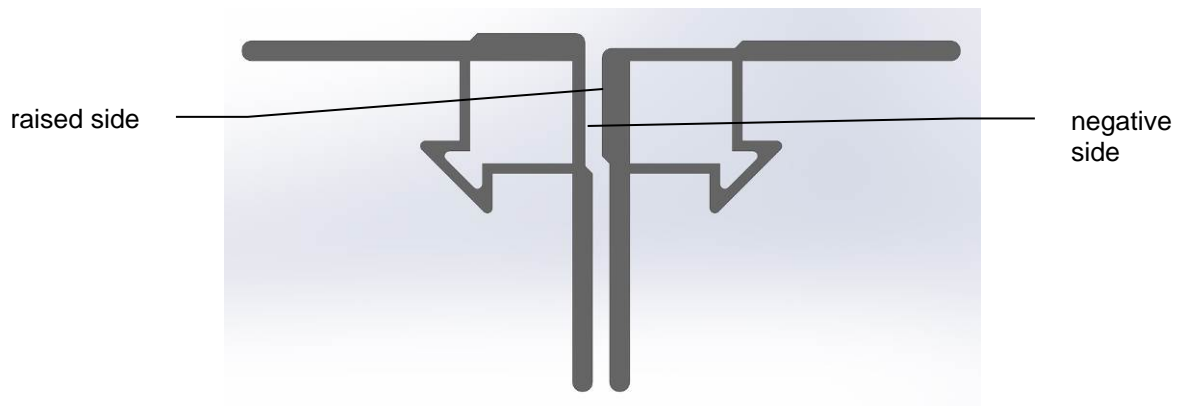
Insert the roller shutter guide and wall element into the mounting angles of the floor element and the corner profile. Secure the roller shutter guide with wing nuts/thumb nuts.



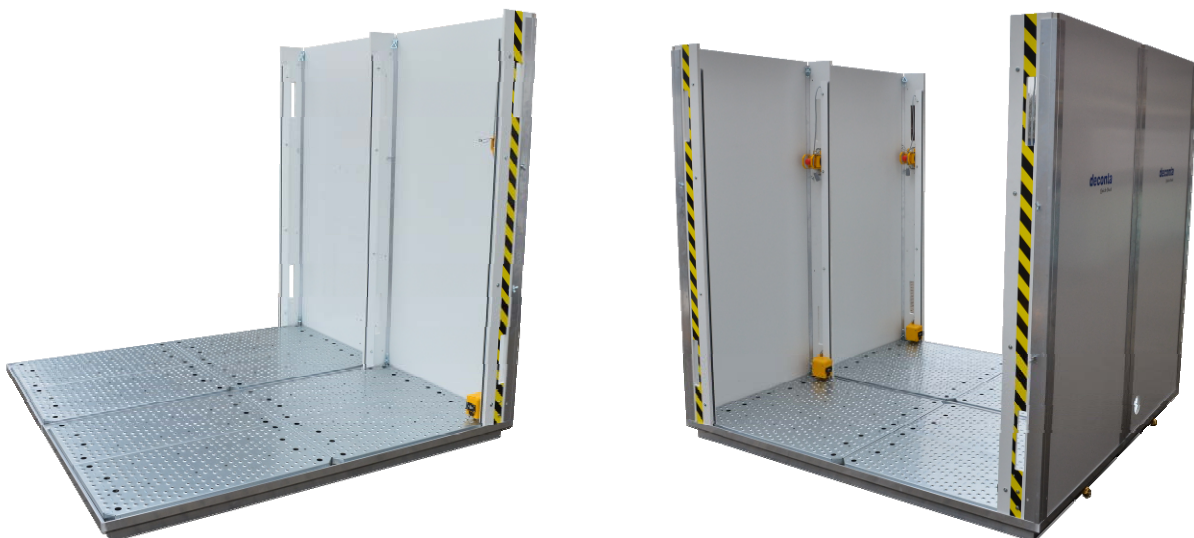
Where two floor elements are adjacent, two corner profiles are used.

**Note:**

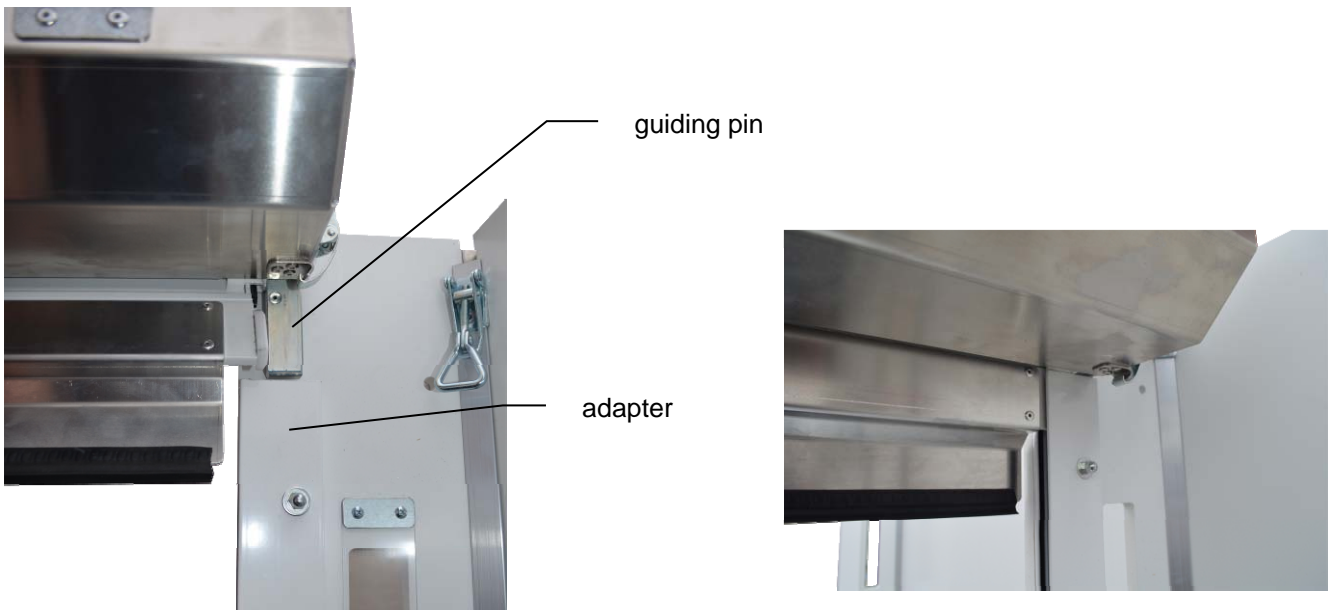
Observe the special profiling of the corner profiles. Place a raised and a negative side as shown.



Insert the remaining wall elements and roller shutter guides.



Insert the guiding pins of the roller shutters into the adapter of the roller shutter guides.



Put the roof elements on and then secure them with tension locks.



Mount connection flange.



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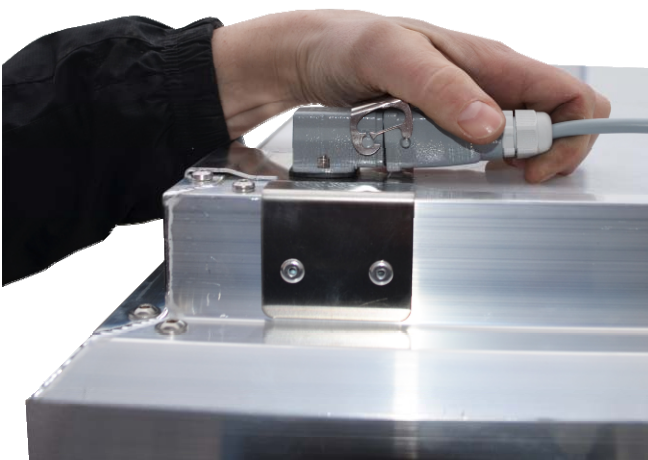
## 8 Commissioning material lock system with compulsory locking (Option)

Set the lock system as described under point 7.

Connect the cable of the 3 roller shutter guides from the inside to the plugs in the roof element.



Connect the supplied electrical cables to the three connections on the outside of the roof (where the plugs are also connected from the inside) and connect the control compulsory locking. It does not matter in which order the three plugs are connected to the controller.

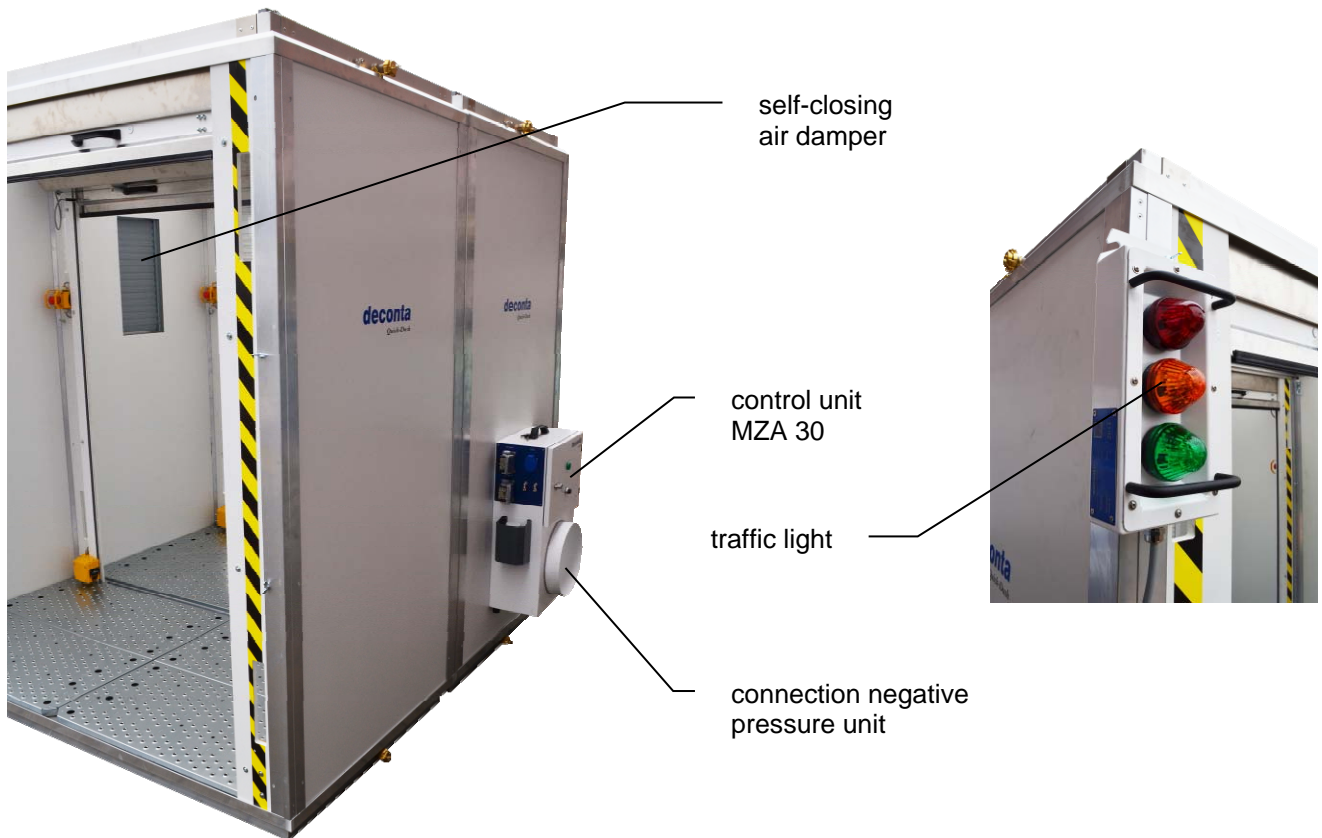


Turn the key switch on the front of the control to the "I" position. The control of the compulsory locking is now active.

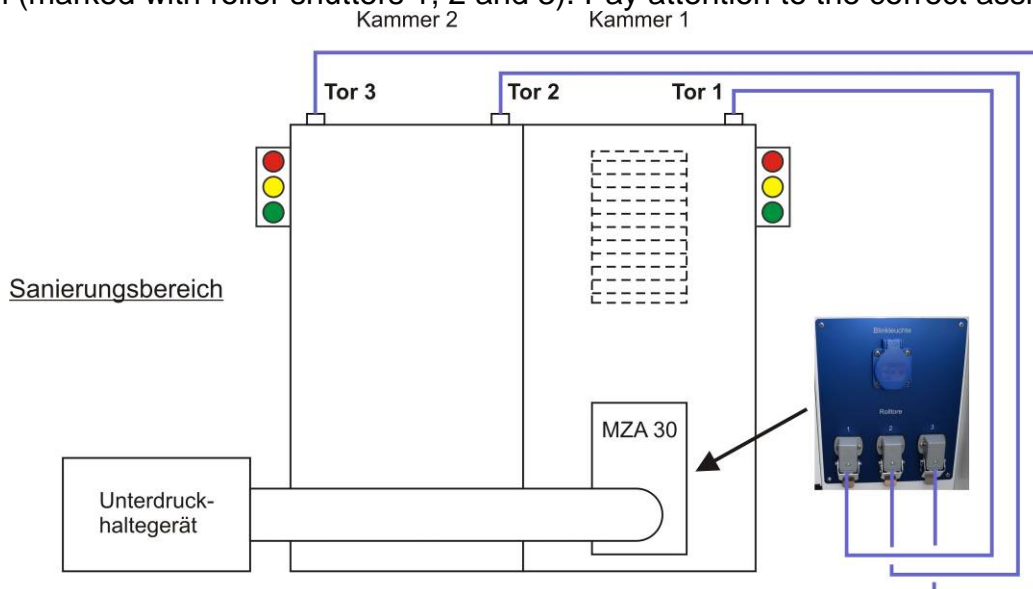
The roller shutters are equipped with an emergency stop switch. The locking of the relevant roller shutter is unlocked by pressing. An acoustic signal sounds.



## 9 Commissioning material lock system with control unit MZA30

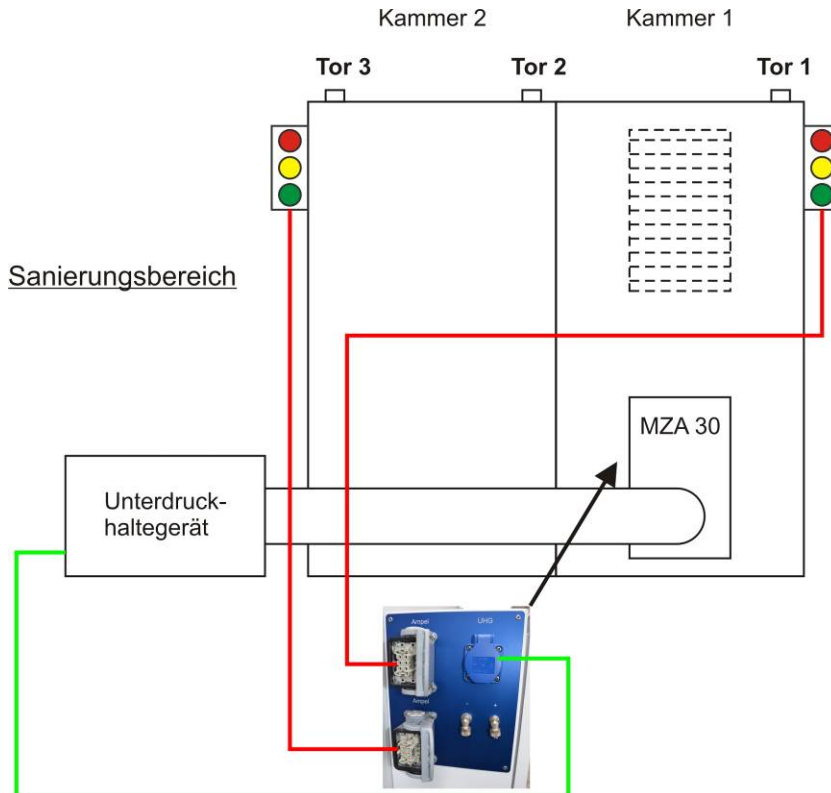


Connect the three electrical cables to the control unit MZA 30 as shown in the following diagram (marked with roller shutters 1, 2 and 3). Pay attention to the correct assignment!



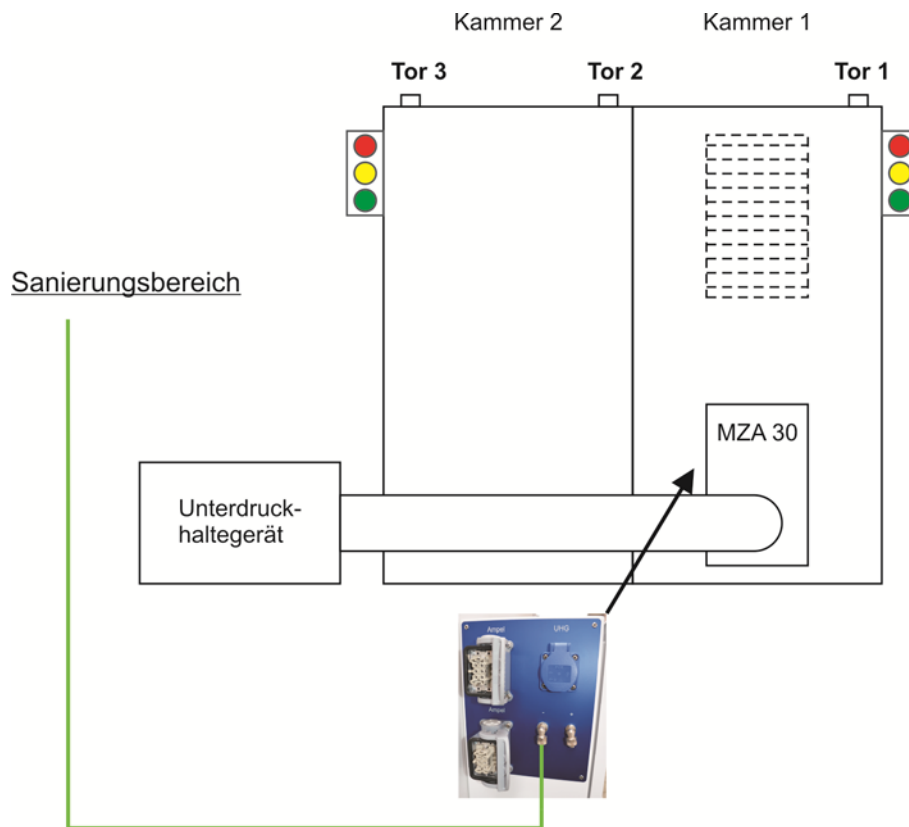
Connect the traffic light system to the control unit MZA 30 as shown in the following picture (labeled with traffic light).

Connect the mains cable of the negative pressure unit to the blue socket of the control unit (marked with negative pressure unit)





Connect the measuring hose to the control unit (connection) as shown in the following picture and place it in the sanitation area.



Connect the power supply to the lock control unit MZA 30.

Adjusting the negative pressure unit:

We recommend a deconta negative pressure unit with self-regulating power (SRE control). The set point value should be set to a value which is 5 Pa lower than the negative pressure in chamber 2.

Example:

- |  |       |
|--|-------|
| - Negative pressure sanitation area      | 25 Pa |
| - Negative pressure chamber 2            | 20 Pa |
| - Set point to be set on the SRE control | 15 Pa |

To switch on the lock control unit MZA 30, set the key switch to the "I" position.

## Setting air exchange

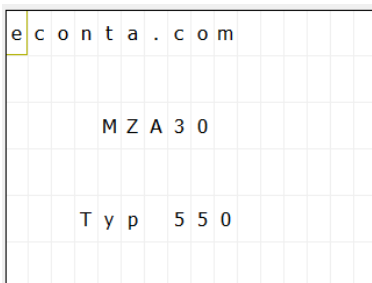
The control for the air exchange is preset to the chamber size of the material lock system model 2000 (120m<sup>3</sup> / h with a chamber volume of 4 m<sup>3</sup>), but can be adapted to other chamber sizes.

The value is calculated from the volume of the lock chamber x 30-fold air exchange.

Example:  $L \times W \times H \times 30$   
 $2 \text{ m} \times 1 \text{ m} \times 2 \text{ m} \times 30 = 120\text{m}^3/\text{h}$

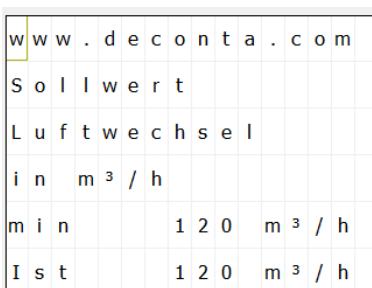


Start screen:



**Important: Press and hold down the ESC key for every entry**

- Press ESC and ▲ or ▼. The following screen appears:



- Use ESC and ▲ or ▼ to enter the required value. The smallest adjustable value is 120m<sup>3</sup>/h (preset).

c	o	n	t	a	.	c	o	m												
S	o	l	l	w	e	r	t													
L	u	f	t	w	e	c	h	s	e	l										
i	n							m	<sup>3</sup>	/	h									
m	i	n						1	2	0				m	<sup>3</sup>	/	h			
I	s	t						1	6	0				m	<sup>3</sup>	/	h			

If no button is pressed for 5 seconds, the control returns to the start screen. The set value is automatically saved.

### Setting from the zero point of the pressure sensor

**No measuring hose may be connected.**

- Press ESC and ◀

w	w	.	d	e	c	o	n	t	a	.	c	o	m							

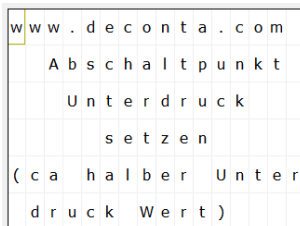
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### Setting from the cut-off point of the pressure sensor

Connect the measuring hose to the negative connection and the negative pressure area (contaminated area).

Adjust the negative pressure area to the working pressure required by the customer.

- Press ESC and ►.



The alarm evaluation takes place at approximately half the value, from the set negative pressure area.

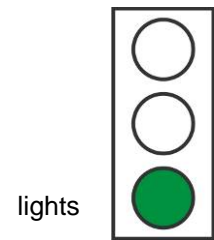
**When the negative pressure for the contaminated area is reset, the setting for the cut-off point must be carried out again.**

**Failure to do so could lead to unwanted alarms.**

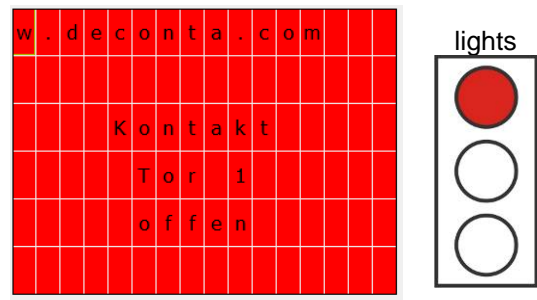
**Re-setting the zero point is not necessary.**

**Functional description displays, traffic light and alarm horn**

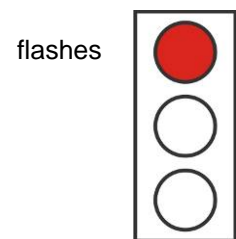
All doors must be closed and no emergency stop pressed before switching on. When the MZA30 is switched on, the traffic light turns green.



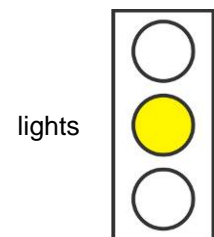
If a gate is opened or an emergency stop is pressed, the green light goes out and the red light turns on. The closed gates are locked. This is shown on the display.



If two doors are open simultaneously (even at emergency stop), the red light flashes. In addition, the alarm horn sounds into alarm and the socket flashing light is activated. The display shows with ▼ which gate is open.



After opening and closing gate 2, automatic air exchange is started. The yellow light turns on. The socket for the negative pressure unit is activated and the measuring process begins. Gate 1 and 2 are locked.

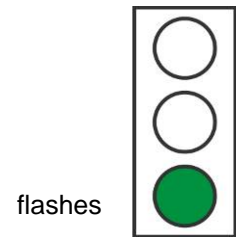


The following information is shown on the display:

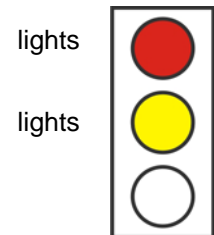
S e n s .			5	m / s
=	1 2 7 1			m <sup>3</sup> / h
I s t		4 3		m <sup>3</sup> / h
S o l l	1 2 0			m <sup>3</sup> / h
Z e i t		1 5 3		S e k .
D i f f .		0 . 6		P a

- \_\_\_\_\_ Air performance of the negative pressure unit
- \_\_\_\_\_ Flowed air volume
- \_\_\_\_\_ Required air volume
- \_\_\_\_\_ Runtime of the measurement
- \_\_\_\_\_ Differential pressure between chamber 1 and 2

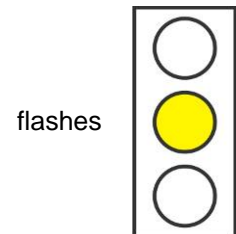
Once the air exchange has been completed, door 1 can be opened and the goods can be removed. If gate 2 is opened, the air exchange will restart after closing.



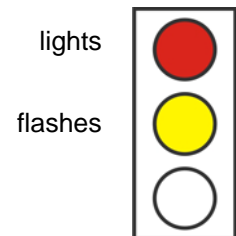
During the air exchange, gate 3 can be opened at any time. The open gate is represented by the red light.



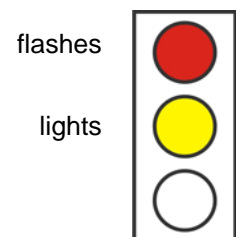
If during active air exchange the differential pressure in chamber 1 is exceeded by at least 1Pa for 10 seconds, the yellow light flashes. The alarm horn and the device socket of the flashing light are activated in the interval. The air exchange is interrupted and the gates unlocked. A restart (reset) is only possible by switching the MZA 30 off and on again.



If the emergency stop gate 1 or gate 2 is activated when the air exchange is active, the air exchange stops. The gates 1 and 2 unlock. The alarm horn and the device socket of the flashing light are activated in the interval. A restart (reset) is only possible by switching the MZA 30 off and on again.



If the emergency stop is unlocked again, the interruption of the air exchange will remain. The traffic light signals change. A restart (reset) is only possible by switching the MZA 30 off and on again.



## 10 Maintenance and care

### Daily maintenance

- Clean the lock area daily
- Thoroughly wet clean the lock system after each end of shift
- Check the floor elements for free flow
- Check the water pipes for free flow

Commercial household cleaners can be used for the cleaning and care of the lock system.

## 11 Declaration of conformity

### 11.1 Material lock system

according to the EC Directives

- machinery/systems (98/37/EC)
- electromagnetic compatibility (89/336/EEC)
- low voltage (2006/95/EC)

**The type of the machinery/system:**

Product / type designation: **Material Lock System Quick-Dush**  
is designed, constructed and manufactured in accordance with the above described directives (s).

**The following harmonized standards are applied:**

- DIN EN 292, safety of machines, devices, and systems
- DIN EN 60 204.1, electrical equipment for industrial machines

**The following national standards, guidelines and specifications are applied:**

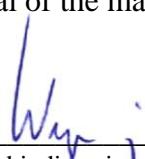
- DIN 8586, bend forming
- DIN 8588, fragmentation

**The following documents are available:**

- Overall plan of the machine / system with circuit diagram
- Detailed and entire documents for the verification of the machine/system conformity with the essential health and safety requirements.
- A list of the essential requirements of EC directives, standards and specifications that have been taken into account when designing the machine / system
- A description of solutions to prevent dangers arising from the machine / system
- A copy of the instruction manual of the machine / system

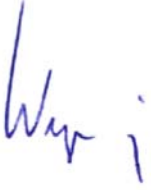
Isselburg, 22.06.2009

Place, Date

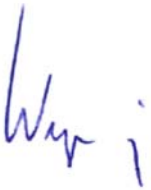
  
legally binding signature



## 11.2 Control compulsory locking

<b>EC Declaration of Conformity</b>	
deconta GmbH Im Geer 20 D-46419 Isselburg	
<b>Product:</b> Control compulsory locking	<b>Type:</b> 37
<b>The construction of the device complies with the following regulations:</b>	EC machinery directive 2006/42/EC EC low-voltage directive 2006/95/EC
<b>Used national norms:</b>	DIN VDE 0701, DIN VDE 0702
	
W. Weßling	Isselburg, 10.02.2015

## 11.3 Material lock control unit MZA 30

<b>EC Declaration of Conformity</b>	
deconta GmbH Im Geer 20 D-46419 Isselburg	
<b>Product:</b> Material lock control unit MZA 30	<b>Type:</b> 550
<b>The construction of the device complies with the following regulations:</b>	EC machinery directive 2006/42/EC EC low-voltage directive 2006/95/EC
<b>Used national norms:</b>	DIN VDE 0701, DIN VDE 0702
	
W. Weßling	Isselburg, 10.02.2015