

K-CALEMATIC®

LOGISTIC
SOLUTIONS



ASSEMBLY, USE AND
MAINTENANCE MANUAL

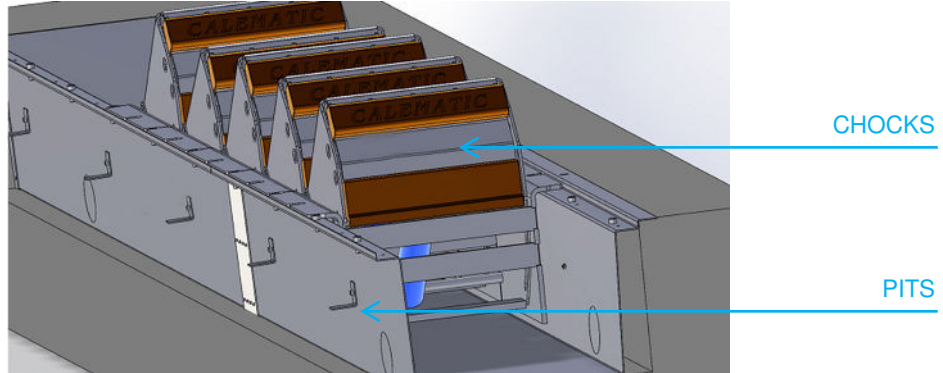
INDEX

1. GENERAL DESCRIPTION	1
2. WARNING	1
3. CONTRAINDICATION	3
4. DEFINITION OF THE NAME OF THE PARTS	3
5. NORMAL USE OF THE SYSTEM	4
6. TROUBLESHOOTING	4
7. MAINTENANCE	6
8. TECHNICAL DATA	15
9. DECONSTRUCTION OF THE SYSTEM	15
10. WORK EXCLUDED	15
11. INSTALLATION	17

1. GENERAL DESCRIPTION

K-CALEMATIC® is an automatic chocking system designed to:

- Limit the progressive forward movement of the truck;
- Prevent the accidental starting of the trucks in the bay during transshipment operations;
- Avoid the risk of handling devices falling from the bay.



The system can comprises:

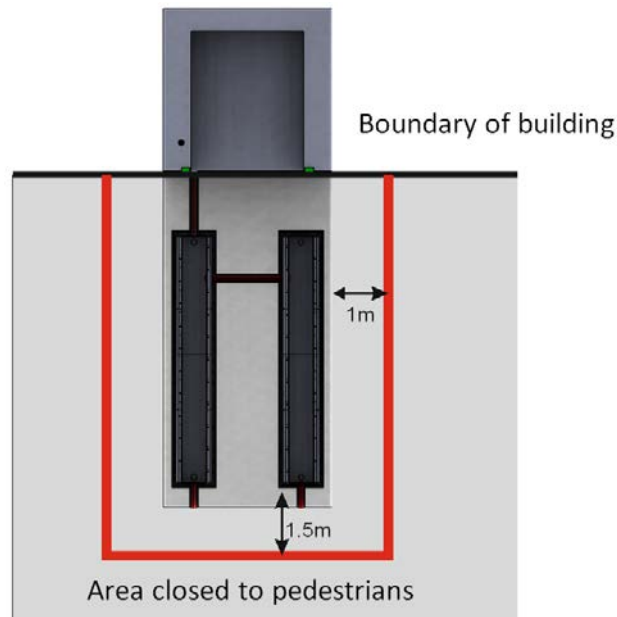
- Pits: 1 or 2
- Chocks: 5, 6, 8, 10, 12
- Control system: by manual button box or automatic servo

2. WARNING

2.1. GENERAL WARNING

- The system can comprises the follow elements:
 - 1 pit of 5 or 6 double chocks / K2-CALEMATIC® system
 - 2 pit of 5 of 6 single chocks / K1-CALEMATIC® system

(For developments please contact us)
- K-CALEMATIC® system is automatic and enables any unauthorised human intervention to be excluded from the chocking area (see below) (we recommend that the manager of the establishment create and keep up to date a list of the names of the personnel authorised to intervene in the chocking area).
- The chocking area and surrounding area must be area closed to pedestrians. The user must delimit this area and warn personnel of this restriction (see diagram below).



- Any work on the chocks must be carried out with a purged air circuit by authorised, trained personnel (maintenance service, installer, etc.).
- The shutoff valve must be permanently accessible.
- The K-CALEMATIC® system must be activated in two different ways:
 - Servo control;
 - Direct manual control by button.
- In the present case the control can be:
 - by manual control knob;
 - automatic servo at the door;
 - automatic servo at the niveller.
- If the chocks are raised in the absence of a truck, make sure that there is no one in the chocking area closed to pedestrians.

2.2. WARNING BEFORE STARTING

- Check the compressed air supply;
- Make sure that the system control elements are powered.

2.3. WARNING DURING USE

- Check that the truck is in the correct position:
 - centred in relation to the leveller;
 - at least 5 cm from the bumpers;
 - perpendicular to the bay.

3. CONTRAINDICATION

- K-CALEMATIC® system must never be raised in the presence of a lightweight vehicle as there is a risk of damage.
- The trucks must never reverse onto raised chocks unless provisions have been made for this; contact the manufacturer if necessary.

4. DEFINITION OF THE NAME OF THE PARTS

4.1. CHOCKS:



4.2. HALF PLUGS:



4.3. CONCRETE PITS:



In concrete

5. NORMAL USE OF THE SYSTEM

5.1. RAISING THE CHOCKS

- The chocks can be raised by:
 - operator action via a command button
 - subservience to the door
 - enslavement to the leveller
 - subservience to the barrier
- Check that the truck is in position:
 - Centred in relation to the leveller;
 - At least 5 cm from the bumpers;
 - Perpendicular to the bay.
- The chocks will automatically be placed in the high position when the door is opened within a lapse of time of 10 to 20s (for any developments contact the manufacturer).
- The authorisation for use of the leveller is dependent on the high position of the wedges.

5.2. LOWERING THE CHOCKS

- The chocks are lowered by:
 - operator action via a command button
 - enslavement to the door
 - enslavement to the leveller

(for any developments contact the manufacturer).

6. TROUBLESHOOTING

Repair operations must be carried out by trained personnel authorised by the company.

6.1. CHOCKS LOKED AT THE TOP

Case 1: Check that the compressed air supply has not been cut off. Restore the compressed air and use the system normally.

Case 2: One chock remains locked; it will have to be released manually. Follow the procedure described below.

If the chock remains locked by a tyre, ask the driver to reverse the truck a short distance to release the chock.

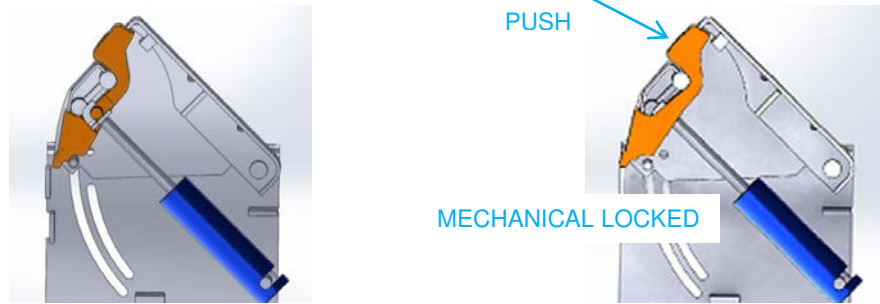
6.2. REASING A CHOCKS

Releasing a chock involves risks. Once the chock has been released it drops very quickly and may catch fingers.

A tool of the crowbar type must necessarily be used to release the chocks and never by parts of the human body.

For this reason access to the chock must be provided only for authorised, trained personnel belonging to the company.

6.2.1. HOW A CHOCK LOCKS WHEN A TYRE CONTACTS IT



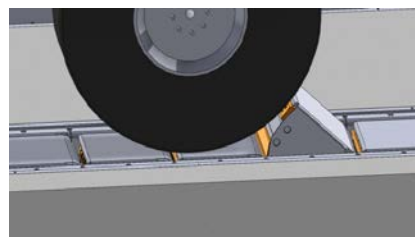
Raised, but not locked chock

Raised, locked chock

Mechanical locking of the chock is normal and enables perfect handling of the chock under the pressure of the wheel. In the normal situation the traction of the jack lowers the chock.

6.2.2 HOW TO RELEASE A CHOCKS

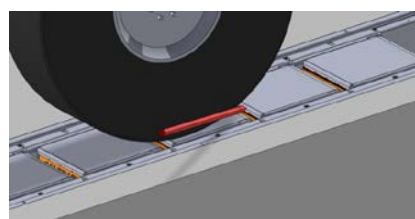
In rare cases it may not be possible to loser one of the chocks. Simply reversing the truck may be sufficient to release the chock automatically. Otherwise manual unlocking will be necessary:



Locked wheel



Use of a crowbar or presser foot to unlock the chock. With this tool the operator applies a lever arm to the tyre and presses the yellow base of the chock.



The chock drops quickly

6.2.3. CHOCK LOCKED AT THE BOTTOM

Case 1: Check the compressed air supply. Restore this supply when required.

Case 2: Inspect the servo system.

Case 3: Check that there is no air leakage (leakage noise from the chocks), if this is the case:

- Shut off the air supply and place the system in the open air;
- Remove the chocks from the pit and replace the leaking pipes in their quick-release connections as appropriate.

7. MAINTENANCE

7.1. GENERAL

Close and purge the compressed air system before working on the K-CALEMATIC® system. Maneuver **three times up / down** to ensure that the system is empty of air.

As other machines and particularly those incorporated in safety systems, the K-CALEMATIC® system requires maintenance operations. We recommend arranging two inspections per year. One simple inspection visit and one visual inspection of the inside of the pit (see maintenance instructions). For any additional information refer to the maintenance guide.

- Only the jack has a more limited service life depending on its use
- Have the system inspected by an approved installer at least every ten years

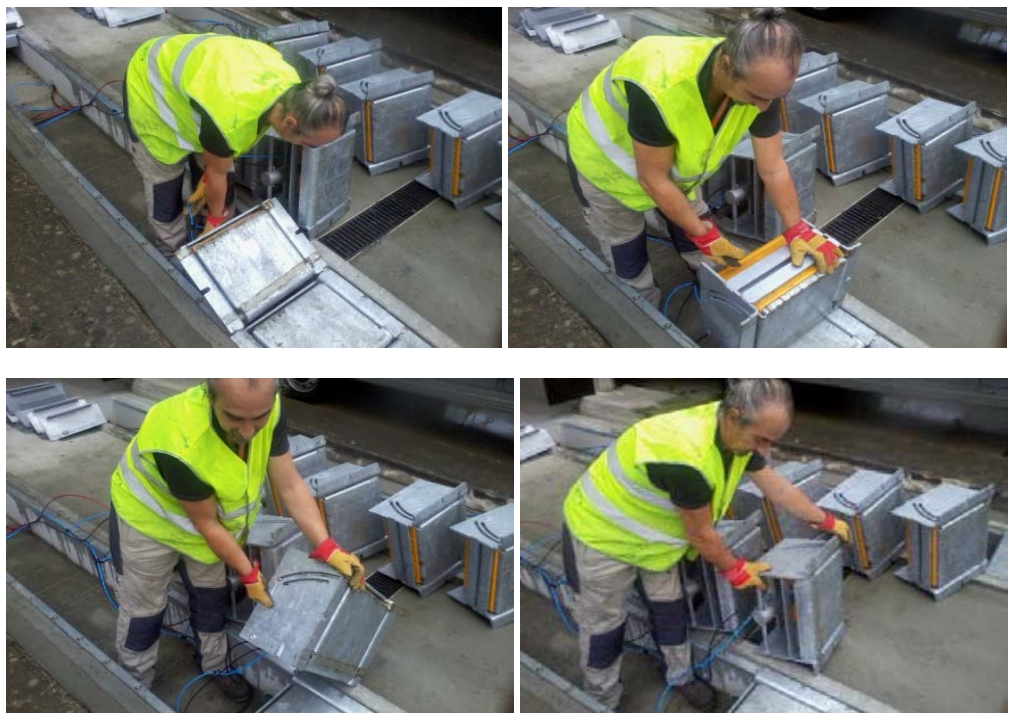
7.2. INSPECTIONS

Check:

- That there is no air leakage.
- That there are no foreign objects present that may interfere with the raising and lowering of the chocks, a piece of pallet, etc.)
- Raise the chocks at no load to check that they are all operational: a single visual inspection will suffice.
- The distributors and jacks are designed for several thousands of operation: they do not therefore require any lubrication until several years of use.

7.3. REMOVING THE CHOCK FROM THE PIT

Close and drain the compressed air circuit before any work on the K-CALEMATIC® system. Maneuver three times up / down to ensure that the system is empty of air.



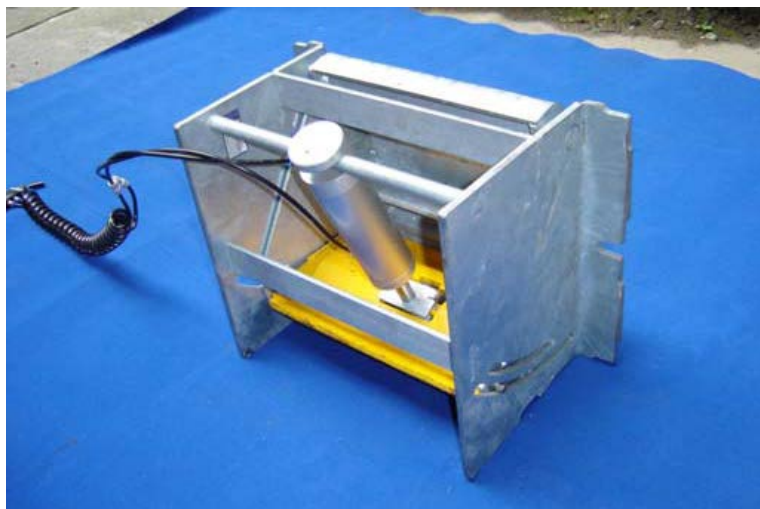
7.4. REMOVING THE CHOCKS

The chock is heavy and has moving parts. It is essential to wear gloves and safety shoes for its removal.

- Remove the chock from the pit (See paragraph on removing the chock):



- Turn over the chock a ¼ of a revolution by lifting it on the joint pin side:



- Release the back plate from the jack:



- Slide the jack into the bottom of the chock:



- Disconnect the front plate from the jack and remove the jack (when refitting the pneumatic pies must necessarily pass through the bottom of the chock, as shown in this photo):



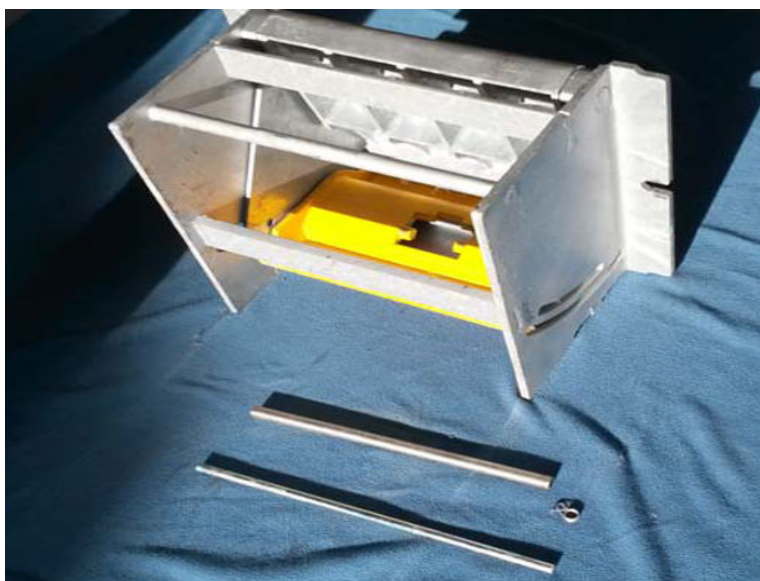
- Squeeze the springs so that they can be slid and moved towards the inside of the chock:



- Slide the rod to the right; remove the rod from the inside of the pipe:



- Rod removed:



- Raise the cast iron treadle:



- Remove the cast iron pedal:



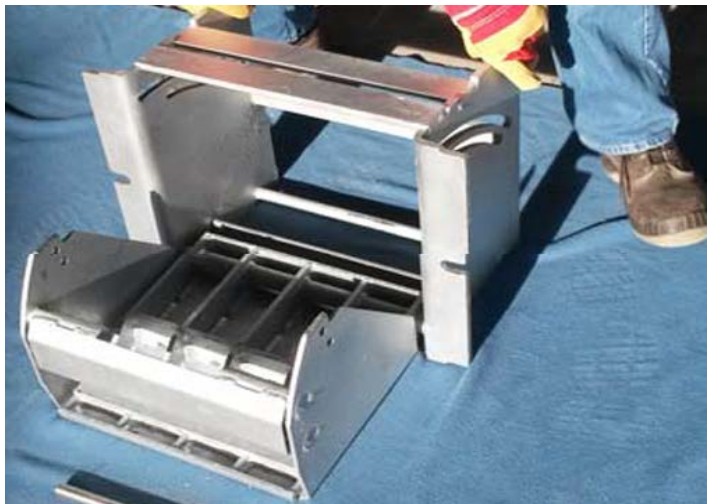
- Remove the C-shaped parts:



- Overturn the chock:



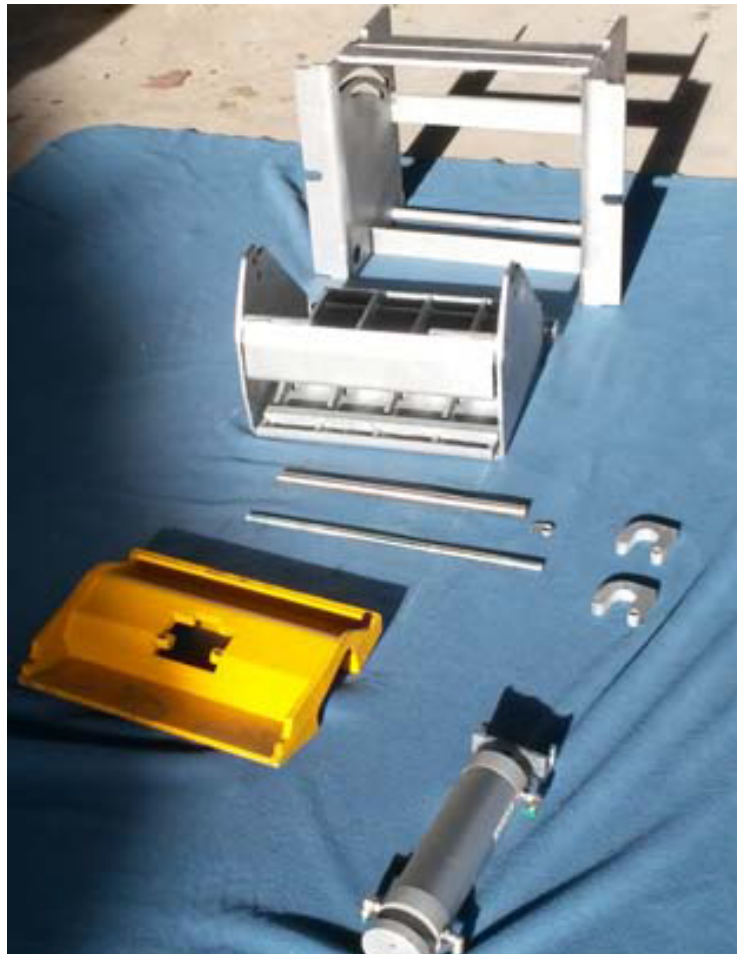
- Continue rotating by only supporting the frame. The “chock” section remains on the floor:



- By a “right – left” movement of the chock remove the rotating shaft from the chock frame:



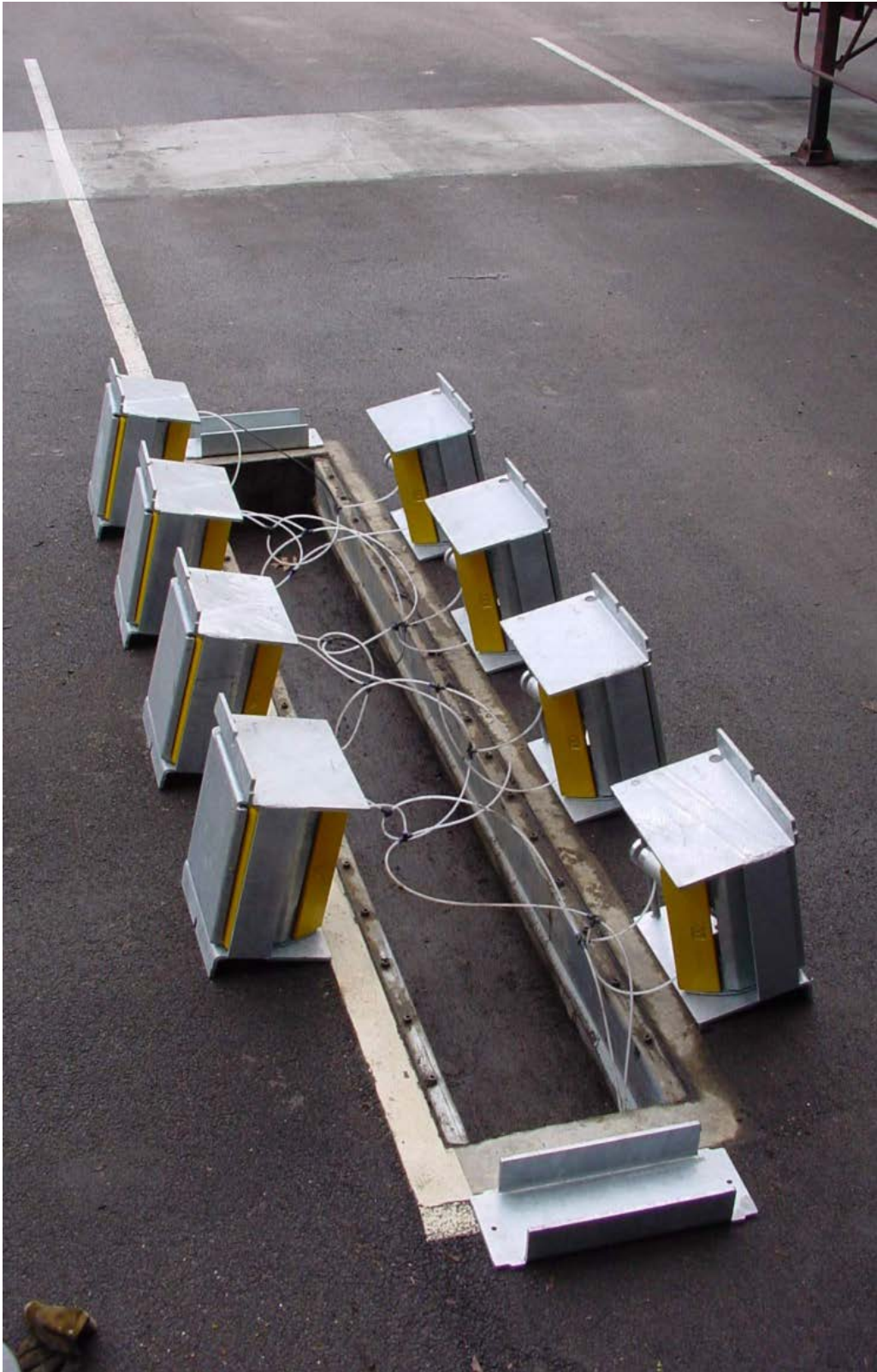
- The chock has been removed:



7.5. REASSEMBLING THE CHOCK

Follow the instructions for removing the chock but in the reverse order.

- The replace the chock in the pit in its initial location.
- Switch the air pressure to the system back on once all the chocks have been reinstalled.
- Check that there is no noise from leaking air.



8. TECHNICAL DATA

8.1. NOISE

When in operation the system generates less than 70 dB.

8.2. WEIGHT

ELEMENTS	WEIGHT
Chock	70Kg
Half-plug	14Kg
Concrete pit	1 250Kg
Steel pit	80Kg

9. DECONSTRUCTION OF THE SYSTEM

The chocks, the half-plugs as well as the distributor must be placed in the waste bins for meals. The pipes must be placed in the waste bin for plastics. The underground concrete pits must be closed with concrete or dug out, transported strapped in a suitable vehicle and deposited at a tip. The electrical panel, if present, must be placed in the waste bin for electrical appliances.

10. WORK EXCLUDED

Work to be carried out by the customer when installing K-CALEMATIC®

RECEIVING THE PITS:

- Each PIT weighs 1.25 tons.
- Unload the pit under the responsibility of the company designated by the site manager, the project owner or the customer. In most cases the unloading is carried out by the civil works company.
- The date of delivery of the pit must be confirmed to us by the customer at least 3 weeks in advance.

INSTALLATION OF THE PITS:

- Construction of the trenches capable of receiving the pits.
- Pouring of the binding concrete at the bottom of the pit. The foundation must allow load lowering rates of 2 tons/m².
- Placing the pit on the binding concrete: the upper part of the pit must be aligned with the finished floor level. The bottom of the pit must remain a distance of 330 mm from the finished floor.
- Connection of the pits to the rain evacuation system at the low point of each pit.
- Incoming technical duct (minimum diameter of 80 mm) running from the pit to the inside of the building on the side where the leveller control box is located and a connecting duct between two pits in the same loading bay.
- Sealing of the pit on 4 sides (support the inside of the pit during sealing).

IF THERE A SIGNALING LIGHT OR TRUCK PRESENCE DETECTOR OPTION:
electricity in feed into the loading bay: 220 V - 10 A.

COMPRESSED AIR AND ELECTRICITY DEMAND

- Each arrival of compressed air in the loading bay inside of the building has to follow forward recommendations:
 - Height approx. 1,50 m. Side of leveller control box for renovation, left hand side for new buildings.
 - Non-return valve upstream of the block valve.
 - Block valve with venting air from the downstream.
 - The output of the block valve has to be an instant connection diameter 6 mm.
 - Air quality:
 - DRY air (-10°C) / 6 to 10 bars
 - 40l/h to 6 bars
 - Section of the tube for the air distribution suitable according to the numbers of equipments installed.
- Dew point lower than or equal to -10°C.

REQUIREMENTS FOR THE PRODUCTION OF COMPRESSED AIR:

Needed a signal of loss of pressure from compressor via low pressure switch alarm.

Recommendations:

- Take advice from a specialist of compressors and air distribution manufacturer.
- The compressor room must be protected from negative temperatures.
- The air production must be redundant to ensure availability of the equipments.
- Provide grids (high and low) ventilation in the compressor room, dimensions to be defined by supplier.

11. INSTALLATION

11.1. DELIVERY OF THE CHOCKS, HALF COVER PLATES AND PITS



11.2. INSTALLATION OF THE PIT(S)

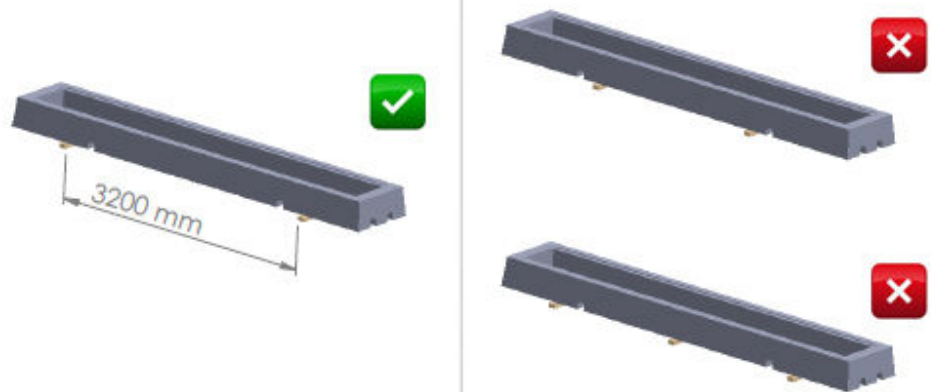
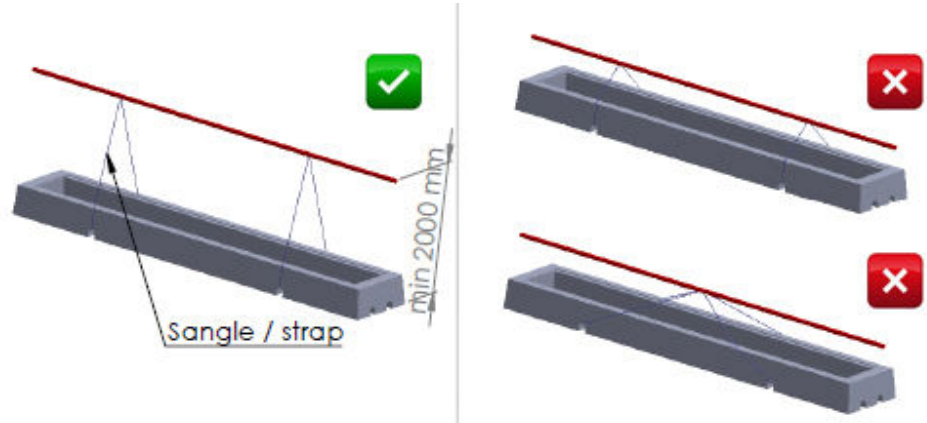
11.2.1. PREPARATION OF THE BOTTOM OF THE PITS:

The bedding must enable the lowered loads due to the pit to be received: 2 tonnes/m².



11.2.2. HANDLING OF THE PITS:

- Each pit must necessary be handled by straps of sufficient length passing under the part in the recesses provided for this purpose.
- A fork lift truck may be used provided that a distance between the forks of 1.8 meters is maintained.
- Each pit must always rest on 2 pieces of wood placed on the side of the recesses.



- Each pit will be installed on two wood pieces, placed beside pit reservations

11.2.3. INSTALLATION OF THE PITS
(According to implantation drawing dimensions)



11.2.4. POSITIONING OF FLEXIBLE DUCT AND WATER DRAIN:

- Connection of the lower point of the pit to the water drainage.
- Place a flexible duct between the pit and the control box in the building diameter 80 mm. (According to implantation drawing dimensions)



11.2.5. SEALING OF THE PITS:

Sealing of the pit on the 4 sides (underpin inside the pit during sealing operation).

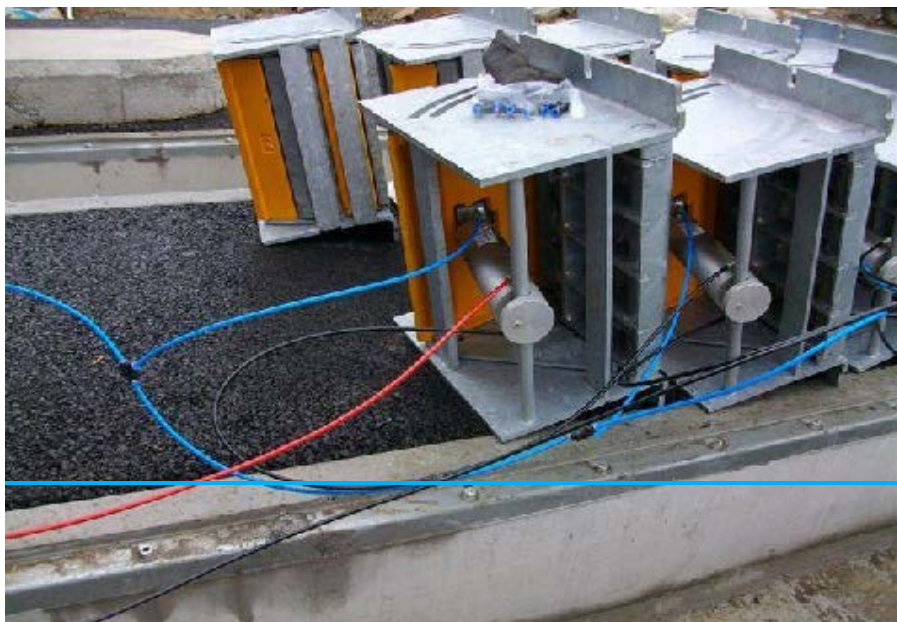


11.3. INSTALLATION OF THE CHOCKS

11.3.1. POSITIONING OF THE CHOCKS ALONGSIDE THE PITS



11.3.2. POSITIONING OF THE CHOCKS ALONGSIDE THE PITS



11.3.3. FINAL INSTALLATION OF THE CHOCKS AND HALF COVERS IN THE PITS

The chocks are installed one behind the other in the pits.



During assembly the chocks are centered automatically by means of the locating pins arranged on the pit.







COMPLIANCE STATEMENT WITH MACHINE DIRECTIVE 2006/42/CE

K-CALEMATIC® is compliant with the requirements of the European Directive 2006/42/CE

The Reference Standards consulted during its conception are the following:

- EN 60 204-1 (2009): Electrical equipment for machinery
- EN 282 (1996): Safety requirements concerning hydraulic equipment
- EN 13 849-1 (2008): Safety-related portions of control systems.

As a result, to the constant evolution of the products, we reserve the right to modify or amend the commercial and technical characteristics of this product, without prior warning. The characteristics are published on an indicative basis and do not represent a compromise from our company or for our distributors.

No part of this document can be copied, stocked or transferred in any way, whatever the process may be: electronical, mechanical, reprographic or others, without prior official written authorization by KOPRON.

RELEASE SUMMARY

VER 1.0 - 28/03/2018

35 YEARS OF SUCCESS WITH:



AND OTHER 115.000 CUSTOMERS SATISFIED

Quality Management System: UNI EN ISO 9001: 2008 Certified
Factory Production Control: UNI EN ISO 1090-1
NTC: DM 14.01.08 - Steel Processing Center n° 2533/13
Applicable Standard: UNI EN 13241-1 - UNI EN 3834-2

CERTIFICAZIONI
CERTIFICATIONS

Kopron attraverso le certificazioni di qualità offre un'ulteriore garanzia sull'efficacia e l'efficienza dei propri prodotti.

Through certifications Kopron offer a further guarantee on efficiency and quality of their products.



LOGISTIC
SOLUTIONS

Kopron S.p.A. - Headquarters

Via I Maggio s.n.
20064 Gorgonzola (Mi) Italy
t +39 02 92 15 21
f +39 02 92 15 29 20
kopron@kopron.com

Export Sales
t +39 02 92 15 27 51
export@kopron.com

Kopron SERVICE

Assistenza e ricambi/ *Spare parts*
assistenza@kopron.com
www.kopronservice.com

Kopron France

Parc de Chavanne
817, Route des Frênes
69400 Arnas - France
t +33 04 74 68 16 57
kopron@kopron.fr
www.kopron.fr

Kopron do Brasil

Av. José Alves de Oliveira, 123
Parque Industrial III
Jundiaí - São Paulo - Brasil
t +55 11 31 09 67 00
comercial@kopron.com
www.kopron.com.br

Kopron China

江苏省 无锡市新城区南路207号 214028
207, Chengnan Road
214028 New district Wuxi Jiangsu China
电话 t +86 0510 85 36 30 50
sales@kopronchina.com
www.kopronchina.com

www.kopron.com