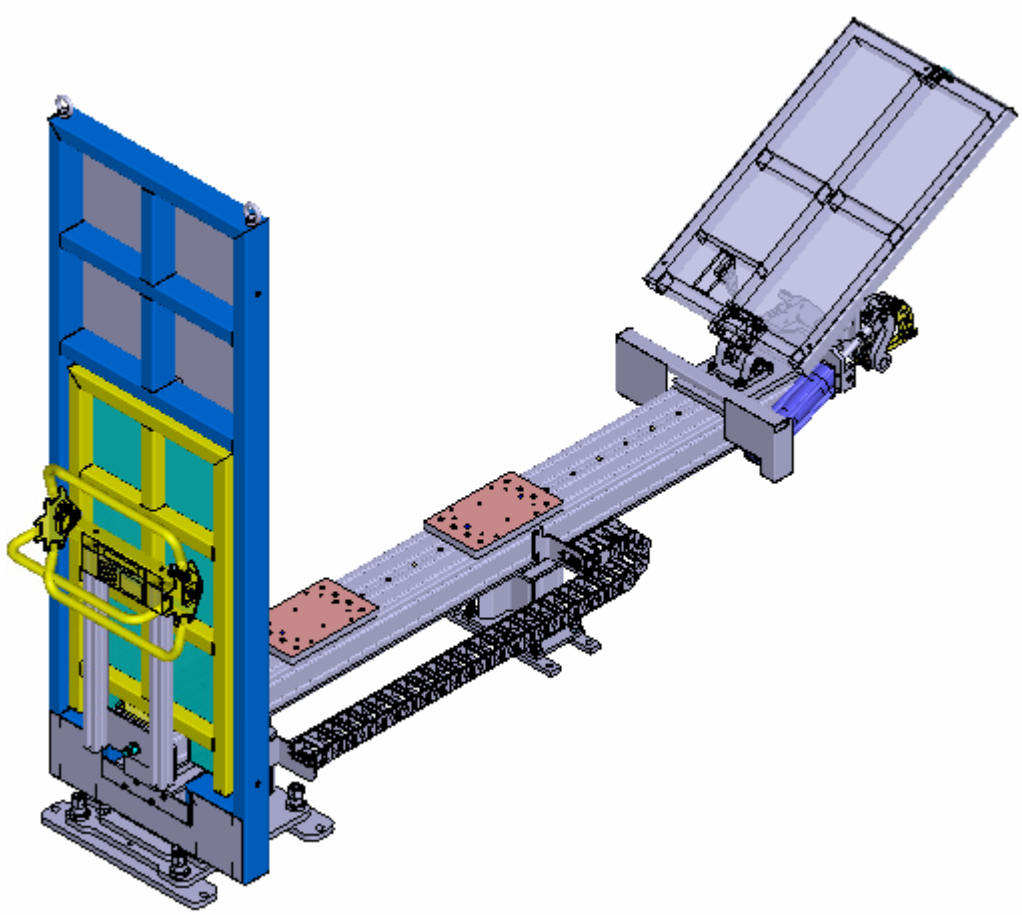
Technical documentation

english

Schleusenschublade (Locks drawer)

Cover sheet



Project detasils:

Manufacturer:

(or his authorized representativeer)

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Am Stadtwald 50
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Autor dokumentation:

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Contents

Section: Table of contents

An EC declaration of incorporation must be issued for this product/machine

EC-Declaration of incorporation ➔ Page 5 – 7

Page 5:	Bauteilschublade „G“	Components drawer „G“
Page 6:	Bauteilschublade „GS“	Components drawer „GS“
Page 7:	Bauteilschublade „GSK“	Components drawer „GSK“

english

EC-Declaration of incorporation

In accordance with the EC Machinery Directive
2006/42EG Attachment II B

Manufacturer:

multinorm GmbH
Am Stadtwald 50
94486 Osterhofen

A person established in the Community who is authorized to compile the relevant technical documentation

Martin Rüpl
multinorm GmbH
Am Stadtwald 50
94486 Osterhofen

Description and identification of the machine

Typ:	Schleusenschublade „G“
Project:	Schleusenschublade
Project.-Nr.	
Manufacturer date:	04_2022

It is expressly declared that the machine complies with the relevant provisions of the following EC directives :

2006/42 EG	Machinery Directive	2006/05
2014/30 EU	EMV-Directive	2014/02

Where the harmonized standards are found:

DIN EN 12100	security of machines– risk assessment	2017/03
DIN EN ISO 13854	security of machines Minimum distances to avoid crushing	2020-01
DIN EN 13857	security of machines Safety distances to prevent upper and lower limbs from reaching hazardous areas	2009-09

It is declared that the machine meets the following basic requirements:
1.1 – 1.4 1.1.3; 1.1.5; 1.1.6; 1.3.1; 1.3.2; 1.3.4; 1.3.7; 1.6.1; 1.7.2; 1.7.3; 1.7.4; 1.7.4.1; 1.7.4.2; 3.6.2;

Notice: The partially completed machinery may not be put into service until, where appropriate, it has been established that the machinery into which the partially completed machinery is to be installed complies with the provisions of this Directive.

Date: 02.04.2022

Signature:

_____ _____

Managing directors 2. Signature

english

EC-Declaration of incorporation

In accordance with the EC Machinery Directive
2006/42EG Attachment II B

Manufacturer:

multinorm GmbH
Am Stadtwald 50
94486 Osterhofen

A person established in the Community who is authorized to compile the relevant technical documentation

Martin Rüpl
multinorm GmbH
Am Stadtwald 50
94486 Osterhofen

Description and identification of the machine

Typ:	Schleusenschublade „GS“
Project:	Schleusenschublade
Project.-Nr.	
Manufacturer date:	04_2022

It is expressly declared that the machine complies with the relevant provisions of the following EC directives :

2006/42 EG	Machinery Directive	2006/05
2014/30 EU	EMV-Directive	2014/02

Where the harmonized standards are found:

DIN EN 12100	security of machines– risk assessment	2017/03
DIN EN ISO 13854	security of machines Minimum distances to avoid crushing	2020-01
DIN EN 13857	security of machines Safety distances to prevent upper and lower limbs from reaching hazardous areas	2009-09

It is declared that the machine meets the following basic requirements:
1.1 – 1.4 1.1.3; 1.1.5; 1.1.6; 1.3.1; 1.3.2; 1.3.4; 1.3.7; 1.6.1; 1.7.2; 1.7.3; 1.7.4; 1.7.4.1; 1.7.4.2; 3.6.2;

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Date: 02.04.2022

Signature:

_____ _____

Managing directors 2. Signature

english

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multinorm GmbH
Am Stadtwald 50
94486 Osterhofen

A person established in the Community who is authorized to compile the relevant technical documentation

Martin Rüpl
multinorm GmbH
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Description and identification of the machine

Typ:	Schleusenschublade „GSK“
Project:	Schleusenschublade
Project.-Nr.	
Manufacturer date:	04_2022

It is expressly declared that the machine complies with the relevant provisions of the following EC directives :

2006/42 EG	Machinery Directive	2006/05
2014/30 EU	EMV-Directive	2014/02

Where the harmonized standards are found:

DIN EN 12100	security of machines– risk assessment	2017/03
DIN EN ISO 13854	security of machines Minimum distances to avoid crushing	2020-01
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Notice: The partially completed machinery may not be put into service until, where appropriate, it has been established that the machinery into which the partially completed machinery is to be installed complies with the provisions of this Directive.

Date: 02.04.2022

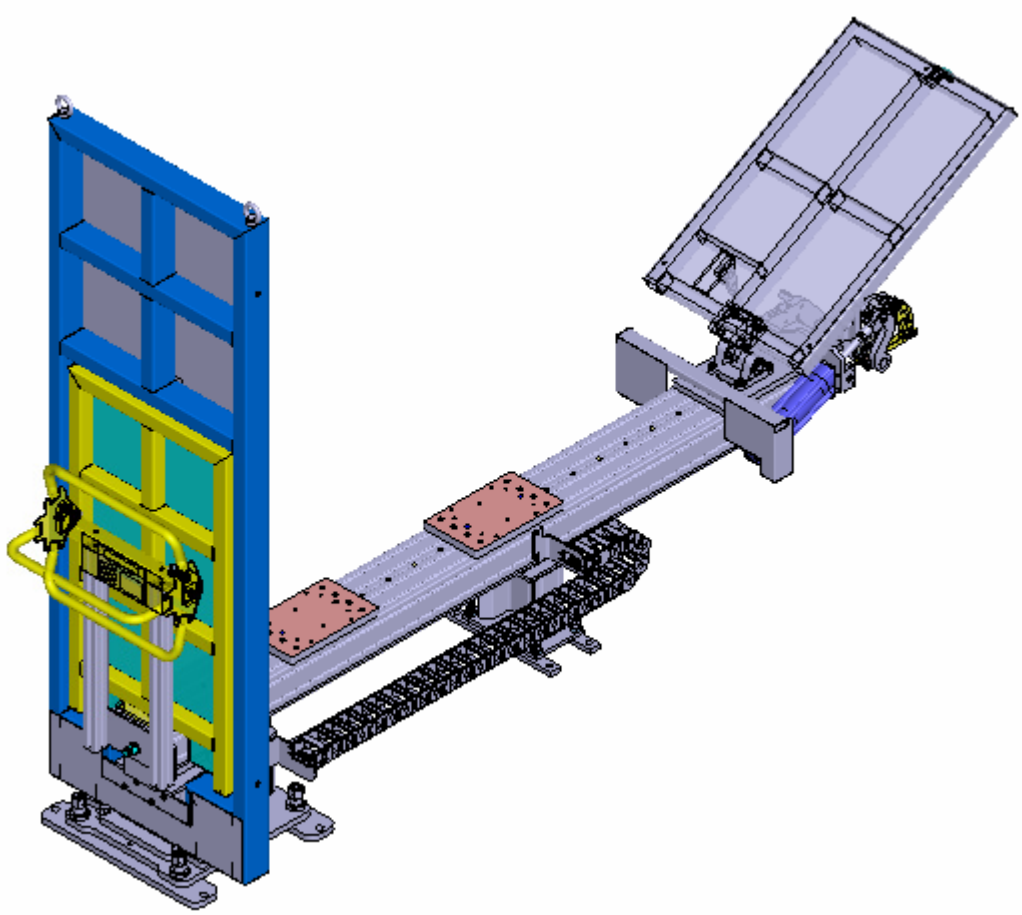
Signature:

_____ _____

Managing directors 2. Signature

Schleusenschublade (Locks drawer)

Section: general part



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01.2 Change documentation

This table documents all changes to the technical documentation during the creation of the documents.

▶ Not valid as proof of changes to the machine/or product itself

Date	the change	from	version
09.04.2022	Start editing	Skrzypczak	V1.0
10.04.2022	editing	Skrzypczak	V1.1
18.04.2022	editing	Skrzypczak	V1.3
20.04.2022	editing	Skrzypczak	V1.4
21.04.2022	editing	Skrzypczak	V1.5
21.04.2022	Handover stand english version	Skrzypczak	V1.6

01.3 general part
01.3.2 Introduktion preface

This documentation contains all technical information and safety-related specifications for the design, manufacture and operation of the manufactured machine.
This document also includes technical specifications and safety requirements for the ntegration of the airlock drawer into an existing system or automated system This document also includes information and specifications for the programming and commissioning of the machine, if required.

With this documentation you are receiving a product from our company.
We would like to take this opportunity to thank you for the trust you have placed in our products.

To ensure safe operation and a long service life of the devices, these instructions including all enclosed technical documents must be read in detail.
Operators and users must familiarise themselves with the contents of these technical documents before using them.

Any further user who integrates the devices or our product into nother machine or machine system is obliged to comply with the specifications relating to questions, design, safety and control, especially those specified for such purposes.

01.3 general part
01.3.3 Author´s data

The technical documentation was created by:

cE-conform

Technische Redaktion - Fachgutachten – Seminare
Fachgutachter Maschinen,-Produktsicherheit und
europäisches Binnenmarktrecht

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Contents of this documentation: technical data, plans, drawings, analyses and other data have been provided by the ordering company for the preparation of this technical documentation.

All documents that have been available up to the completion and finalisation of the documentation have been checked to ensure that they are up to date and, if they are not up to date and do not comply with the applicable European directives, regulations and standards, have been forwarded to the respective manufacturer for correction.

Standards were only checked with regard to their up-to-dateness and presumption of conformity. Whether the standards are or were technically applicable to the product cannot be determined by the author.
In this case, and we assume that this has been sufficiently and thoroughly checked by the manufacturer

The company placing the order is responsible for the correctness of the technical values, drawings and plans of this system.

01.3 general part
01.3.3.1 Autor´s disclaimer

We have checked the content of the documents, values and technical calculations provided with the hardware and software described by the manufacturer to the best of our knowledge for compliance with the applicable European directives.

However, deviations cannot be ruled out, so that we cannot guarantee complete conformity. The information in this publication is checked regularly and any necessary corrections are included in subsequent editions.

The manufacturer of the machine / product / device is responsible for regularly checking that the documents are up to date. The author of this publication can only refer to the manufacturer's specifications and has no influence on the product.

01.3 general part
01.3.4 Copyrigth of the manufacturer

Copyrights of the manufacturerDistribution and duplication of this documentation, utilisation and communication of its contents outside the group of persons for whom this document is intended is not permitted unless expressly permitted. Infringements will result in compensation for damages. All rights are reserved, in particular in the event of a planned patent grant or GM registration.

Use, even partial, of the contents, especially the image material, is hereby prohibited. This document is subject to copyright, which lies solely with the manufacturer of the machine / product.

We would like to point out that violations of this copyright declaration can be reported to the police

Exclusion criteria:

1. further use
If the user requires this machine / this product / this device for further processing in one of his products and integrates it there, the user is authorised to use the contents of this documentation within the scope of his product certification, to enclose it with his overall documentation and thus to pass it on to his end customer.

2. disclosure to third parties
Please read section 0.1.3.9

3. exclusion of the author
The author is also excluded from the declaration, but only in relation to the tasks assigned to him by the manufacturer in the context of creating the technical documentation. The author is also not permitted to pass on data without the manufacturer's consent.

01.3 general part
01.3.5 Manufacturer´s disclaimer

We have checked the contents of this publication for conformity with the hardware and software described to the best of our knowledge. Nevertheless, deviations cannot be ruled out, so that no guarantee can be given for complete conformity. However, we regularly check the information in this publication and will inform you immediately of any necessary corrections and issue change documentation.

01.3 general part
01.3.6 Notes to the user

These documents serve to explain the assembly, commissioning and use of the machine / devices / product and contain not only the specifications with the technical and safety details, but also some design details.

All the specifications stated in this documentation must be read carefully and must be complied with during use, installation, commissioning and then also during ongoing operation by the end customer, as well as throughout the entire service life.

In this context, the circle of users includes not only the operator, but also the integrator, who must integrate this product into his own products / machines or machine systems.

We expressly point out that changes to the concept, installation outside the specifications stated here or changes to the safety concept may result in the system losing its conformity, and may also ead to failures that may result in serious personal injury or material damage. We accept no liability in the event of non-compliance with these documents.
The warranty is also excluded

If this product is reused and a new product is created from it, the reuser must provide these documents in full to the end customer.

Obligation to instruct:
If several persons are involved in the manufacture, assembly or operation of the machine, the superior responsible person is obliged to instruct these persons with regard to the regulations contained in this documentation. This instruction is documented as a precautionary measure.

01.3 general part

01.3.7 Qualified personnel

The product/device associated with this documentation may only be handled by personnel qualified for the respective task, taking into account the documentation associated with the respective task, in particular the safety instructions and warnings contained therein. Qualified personnel are able to recognise risks and avoid potential hazards when handling these products/devices due to their training and experience.

01.3.8 Information on documentation for the operator

To avoid hazards, personal injury, technical problems and damage to the system in the long term, please read this documentation carefully.

Observe all instructions and regulations relating to general safety and health requirements.

Please note that non-compliance with the operating/assembly instructions can not only lead to personal injury, but can also significantly reduce the service life of the machine.

01.3.9 Transfer to third parties

If this documentation is passed on to third parties, it must be handed over to them in full, together with all documents and declarations contained in this documentation.
We expressly draw attention to this information. This only applies if the purchaser of the finished machine / system is not the end customer, but installs the product in one of his machines or resells it. We expressly refer to this information.
Our copyright declaration on page 13 under point 0.1.3.4 applies to the person in the third sequence

01.3 general part
01.3.10 Information pictograms

Text passages marked with this symbol indicate that non-observance of the regulations and specifications may result in life-threatening injuries.

Text passages with this symbol indicate general hazards.
Hazards which are named and shown here do not represent a danger to life and limb of persons.

Text passages with this symbol indicate electrical hazards.
EMF, EMC and hazards during assembly, production and commissioning

General information without major hazard potential
Information on occupational health and safety

Text passages with this symbol contain information on applications where environmental protection and environmental protection guidelines must be observed.

01.3 general part
01.3.11 validity of the documentation

The following service life is planned for this machine

Service life of the machine : until scrapping when using safety-related components that are subject to a performance level assessment, the service life is limited to the value of the years of use of these components

The technical documentation also remains valid until the end of the service life

01.3 general part
01.3.12 product signature

General source of danger
to be installed in places where unforeseeable hazards may occur.

Do not enter / Do not use
Possibly to be attached to the parts that can be used as climbing aids

Other possible pictograms relating to occupational health and safety (to be applied by the operator)

Mandatory wearing of protective work gloves
To be applied by the operator within the scope of his work instructions

Mandatory wearing of protective footwea
To be applied by the operator within the scope of his work instructions

02.1 legal information

02.1.1 Intended use

The component drawer is designed and manufactured to hold tools or trays which can then hold components that can be conveyed by movement in one direction into a production system through fixed, closed protective devices without having to interrupt the production process within this system. The user or integrator determines how the components are picked up.

02.1.2 Not intended use

The term ‘improper use’ includes all work, activities or other actions on the system that do not correspond to the intended use and all possible foreseeable misuse..

02.1.3 List of reasonably foreseeable misuses

(this list is not exhaustive)

- Unauthorised use of the device
- Clamping of tools that are not intended for this device
- Use of the machine in other machines for which no approval exists.
- Unauthorised use of operating elements
- Incorrect operation by the operator
- Non-observance of safety regulations
- Use of the device as a climbing aid to reach higher levels
- Use of the drilling device for processes not intended or use outside the intended use
- Failure to observe the specifications for integration into an existing machine or machine system
- Use of finished hot components as a heat source

Specification according to the Industrial Safety Ordinance::

03.1.1 **residual risk**
03.1.2 **residual risk summary**

1.
Squeezing of the limbs on the hand is possible during the movements of the drawer
- Front window –
This hazard cannot be completely ruled out technically

2.
Squeezing of the limbs on the hand is possible during the movements of the drawer
- rear window –
This hazard cannot be completely ruled out technically

3.
When transporting or installing the drawer, hazards such as
- crushing
- bumping,
- rubbing or scraping
can occur.

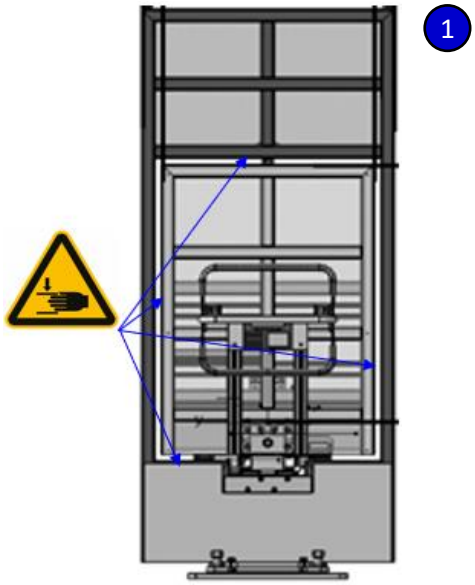
4.
When moving the drawer, it is possible to shear the limbs on the hand at the necessary gap between the wall and the movable part of the drawer
This applies to both the front and the rear window, and this hazard cannot be completely ruled out technically

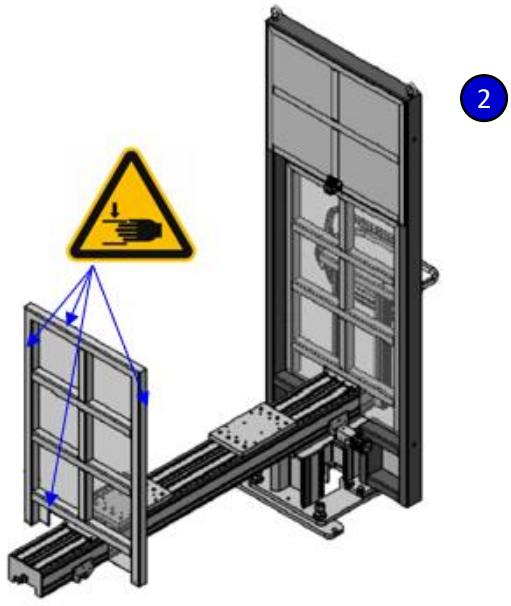
Read sections 03.2 ff to familiarise yourself with the safety regulations

03.2 Safty regulations

03.2.1 Safty concept – overview

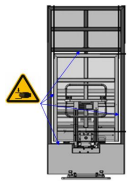
Overview of possible danger points on the machine



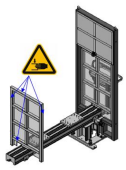


03.2 Safty regulations
03.2.2 general Safty regulations

1 front window:
When moving the drawer, make sure that the limbs of your hands do not get caught in the gap between the movable window and the outer wall of the drawer, wearing gloves if possible.



2 rear window:
When moving the drawer, make sure that the limbs of your hands do not get caught in the gap between the movable window and the outer wall of the drawer; wear gloves if possible.



Transport:
When transporting the drawer, make sure that there are no people in the immediate vicinity of the attached drawer.

Transport must only be carried out with a lifting device that can bear the weight and is approved.

Assembly:
When assembling, pay attention to the moving parts to ensure that no injuries can be caused by unintentional movements.

03.2 Safty regulations
03.2.2 general Safty regulations

Improper use::
Improper use of the interlock drawer can result in minor or even serious injuries, not only to persons but also to property.
It is therefore imperative that this documentation is observed.

Modification of protective or safety devices :
Protective or safety devices must not be modified, bypassed or removed.
Any disregard of this regulation constitutes a gross breach of duty and, in addition to endangering persons, also voids any liability and warranty on the part of the manufacturer

Personal protective equipment :

Activity						
Maintenace	x	-	-	x	x	-
Maintenace	x	-	-	x	x	-
Assembly	x	-	X Depending on construction sit	x	x	-
Set up	X	-	-	X	X	-
Operate	X	-	-	X	X	-
Cleaning	X	-	-	X	X	-
Disposal	x	-	x Depending on construction sit	X	x	-

03.2 Safty regulations
03.2.3 Safty concept / user

Safety regulations and safety measures for the operator and its employees

1.
The operator is obliged to observe and apply all instructions and specifications mentioned under point 03.2.2.

2.
To this end, the operator must ensure that only trained personnel work on the drawer. It must also be ensured that, depending on the size of the components to be handled, only the maximum number of people necessary work on the machine.

3.
In accordance with the Ordinance on Industrial Safety and Health, the operator must reassess the hazards of the machine at regular intervals and take remedial action if necessary.

4.
If the operator integrates the machine into an existing machine system himself, he must also observe and implement the specifications under point 03.2.4.

5.
Advise the operators that gloves must be worn as a precaution.

6.
When installing tools or component holders on the drawer, the corresponding loads must not be exceeded, and after installation of any devices, the user is obliged to assess safety a whole.(e.g. in the case of automated pick-up devices, switch-off in the event of danger).

03.2 Safty regulations
03.2.4 Safty concept / integrator

Safety regulations and safety measures for the integrator / installation personnel

1.
The integrator is obliged to observe and apply all the instructions and specifications listed under point 03.2.2.

2.
When installing tools or component holders on the drawer, the corresponding loads must not be exceeded, and after installing any devices, the integrator is obliged to assess safety as a whole.(e.g. in the case of automated holding devices, switch-off in the event of danger). Please refer to section 05 Technical data.

3.
transport of the machine: read section 06 Assembly instructionsDer Integrator ist

Further measures:

- Inclusion of the device in the protective earthing concept of the existing machine
- The entire device must be integrated into the earthing concept of the reuser or operator in accordance with VDE regulations
- Electrical installation, if required, must be carried out in accordance with applicable VDE regulations.
- Switch cabinets or switch boxes that are operationally live and dangerous for people must be labelled with appropriate pictograms and earthed (if necessary).
- Integration of the machine into the EMC concept of the further user or operator
- Integration of the machine into the emergency stop concept of the overall system (if automatic processes are carried out on the drawer)
- Integration of the machine into the operator protection concept of the overall system. (if automatic processes are run on the drawer)

03.2 Safty regulations
03.2.4 Safty concept / integrator

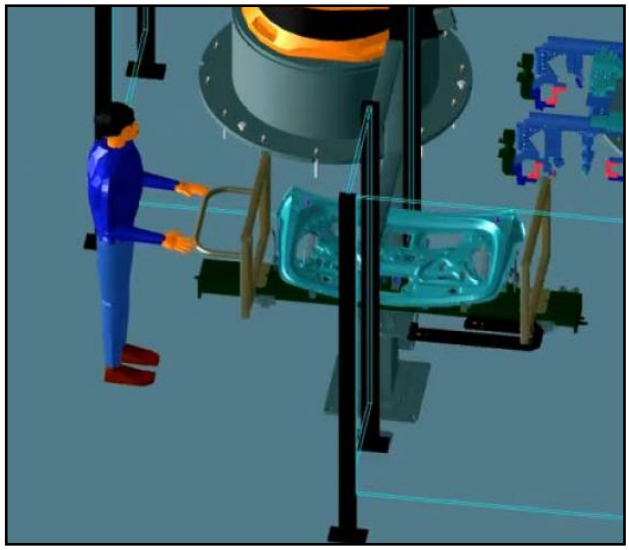
4.
If the integrator automates certain processes, these must be carried out in accordance with applicable guidelines and standards.
However, technical modifications are not permitted without consultation with Multinorm's technical department.

5.
The connection of the existing queries may only be carried out by authorised, trained specialists. After commissioning, the correct function must be checked. Appropriate proof must be provided for safe interrogators.

Schleusenschublade (Locks drawer)

Section: Produkt description

04.1 Produkt description
04.1.1 Produkt-overview / graph

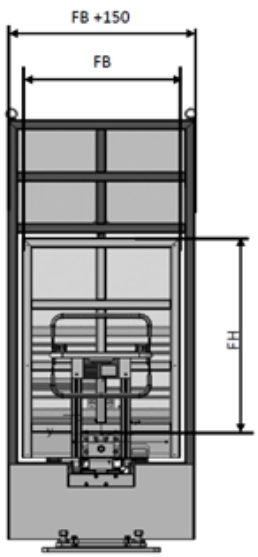


Drawer in partially open position

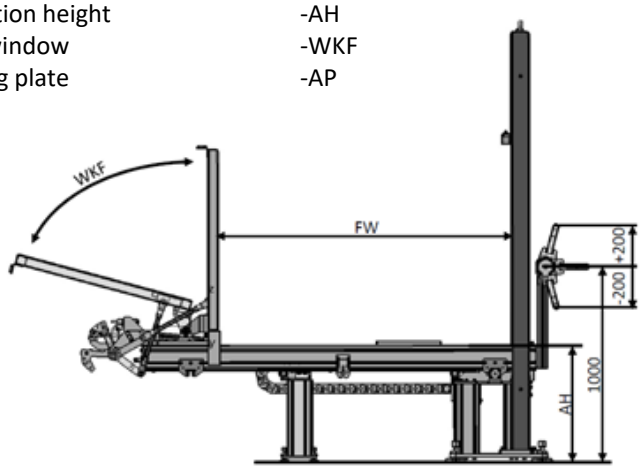
Page 04.1

Dimension designations and abbreviations

Track	-FW
Window height	-FH
Window width	-FB
Installation height	-AH
Angle window	-WKF
Mountig plate	-AP



Page 04.1.1

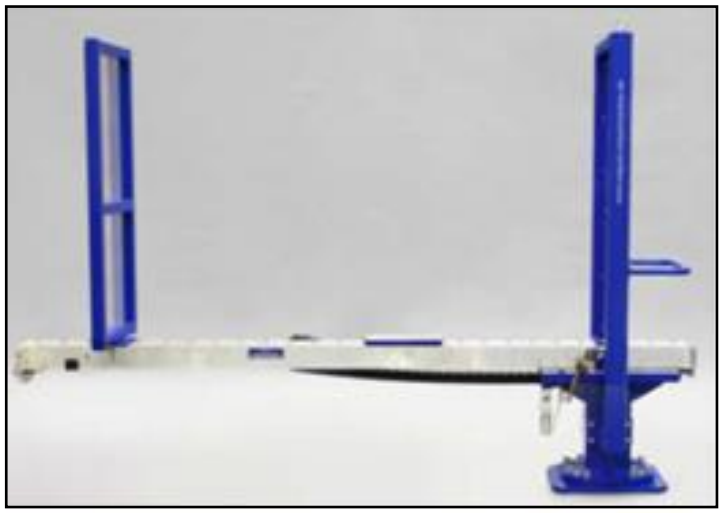


Page 04.1.2

- Total height 2200mm
- Standard strokes 1500 1750 2000mm
- Deviating special designs

04.1 Produkt description
04.1.1 Produkt-overview / graph

Drawer positions
„ retracted“

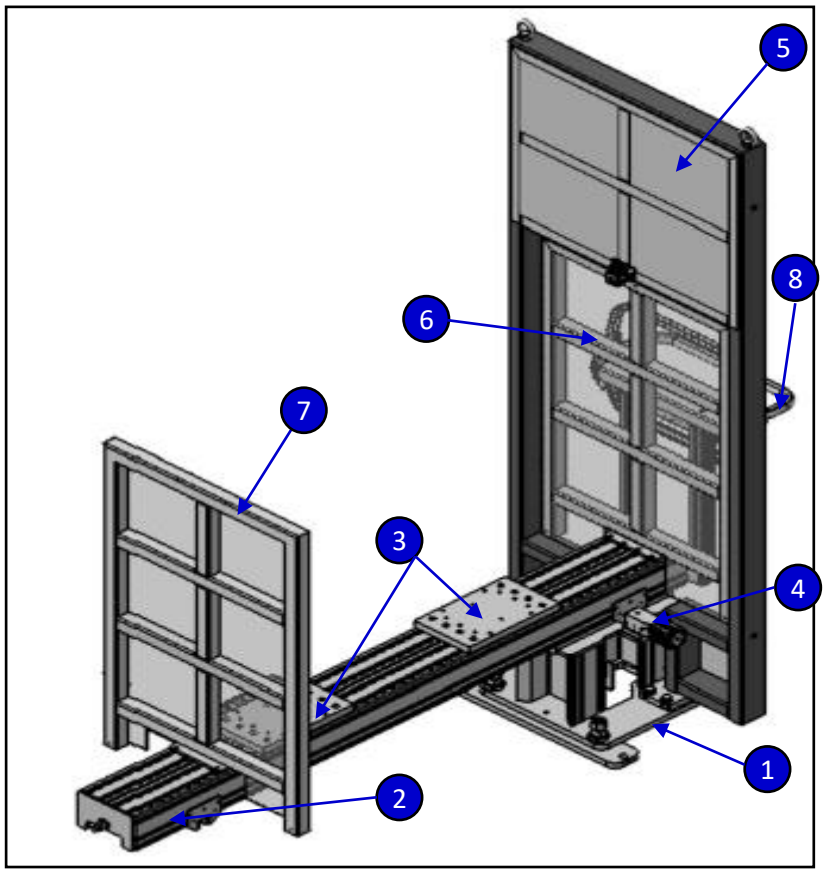


Page 04.2

Drawer positions
„ extended “

Page 04.3

04.1 Produkt description
04.1.2 Construction of the Schleusenschublade

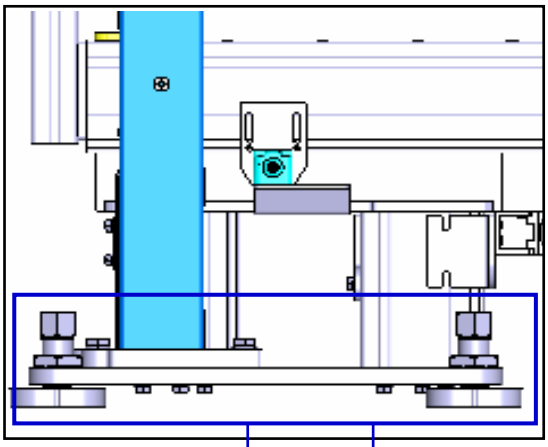


Page 04.4

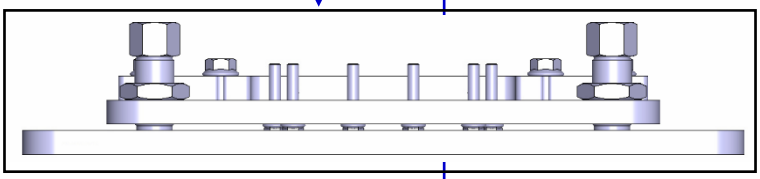
1. Central mounting bracket (Detail 1 from Page 31)
2. Self-supporting guide profile (Detail 2 from Page 33)
3. Adapter plate / plates (Detail 3 from Page 35)
4. Staking out (Detail 4 from Page 37)
5. Base frame edge cover (fixed part)
6. Front movable window
7. Rear movable windowr
8. Handle for moving the drawer

04.2 Component´s description

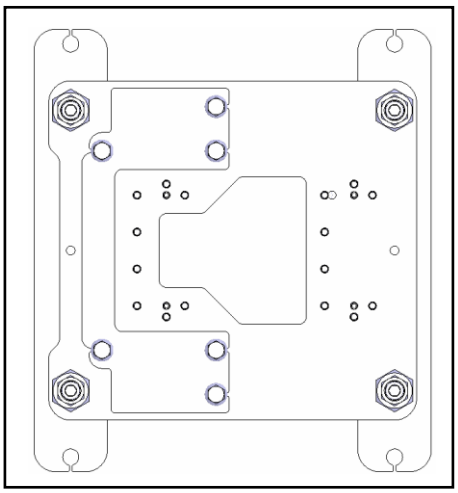
04.2.1 Detail 1: zentral mounting console



Page 04.5



Page 04.6

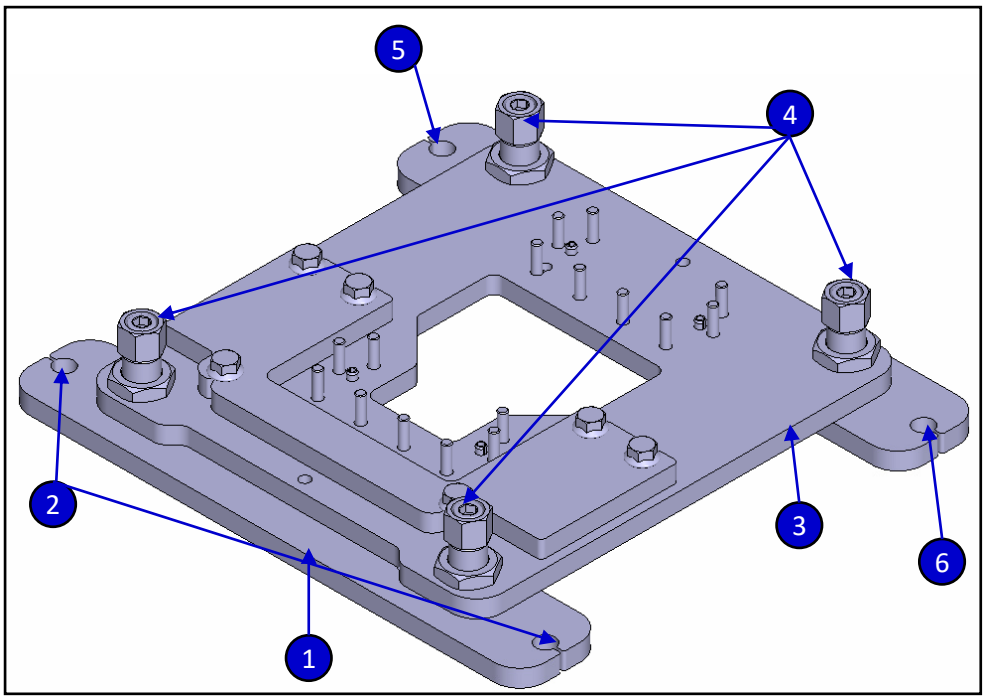


tailed description ➔
from Page 32

Page 04.7

04.2 Component´s description

04.2.1 Detail 1: zentral mounting console



Page 04.8

1 ..... Base plate Floor fastening

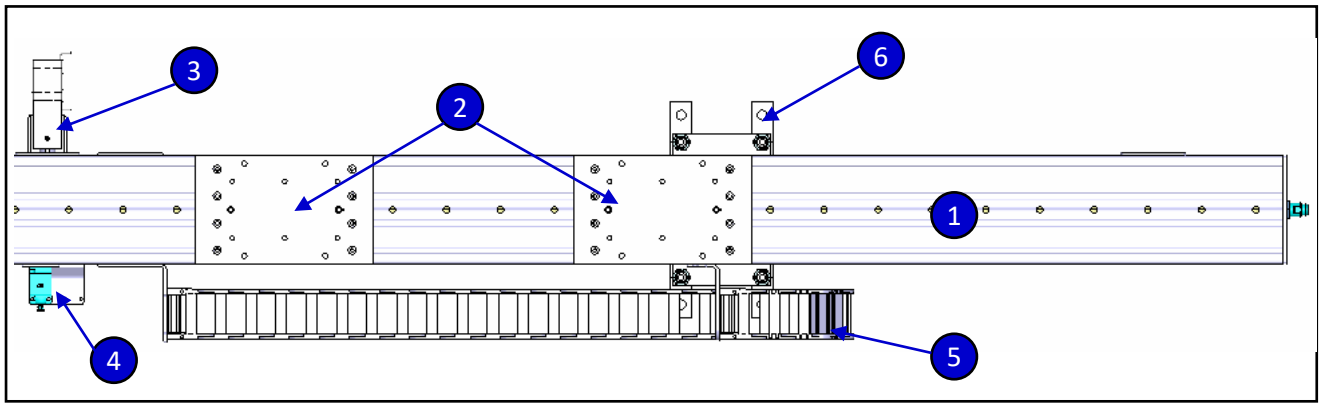
2 5 6 ..... Holes for floor fixing screws

3 ..... Base plate for levelling

4 ..... Levelling screws

Correct floor fastening read section 06 Installation instructions here 06.4 Floor fastening and alignment section 6.5

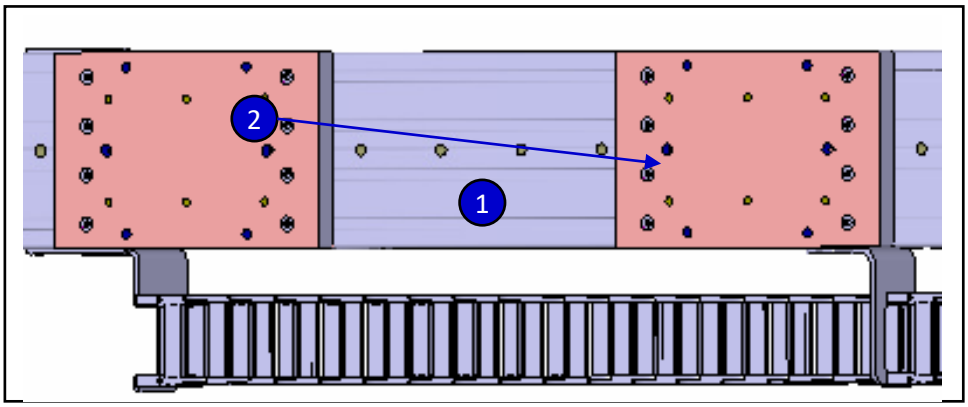
04.2 Component´s description
04.2.2 Detail 2: guide rail



Page 04.9

1. Guide rail
2. Adapter plate / plates
3. Staking out
4. Secure ‘Drawer closed’ query
5. Cable trailing for electrical cables
6. Support roller (For details see variant ‘GS’ section 04.3.2)

04.2 Component´s description
04.2.2 Detail 2: guide rail



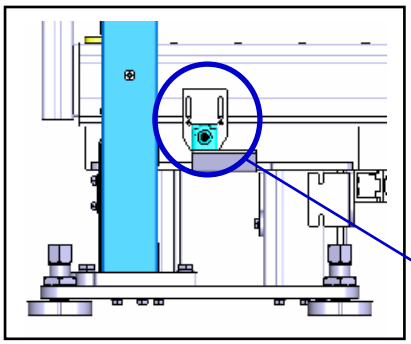
Page 04.10

Guide rail with adapter plates

1 Guide rail

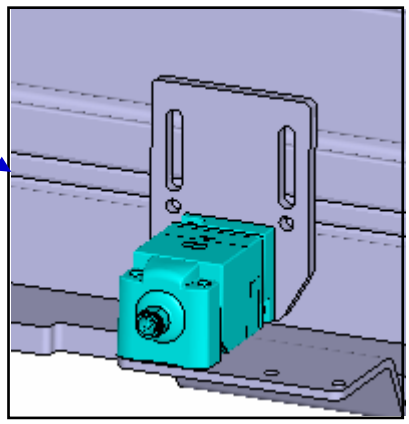
2 Adapter plate

Safe query:
Gives a safe signal when the drawer is correctly and completely closed.



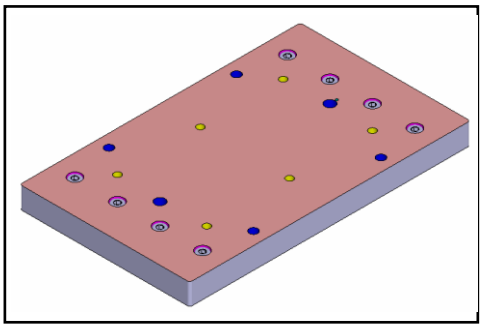
Page 04.11

Detail secure query



Page 04.12

04.2 Component´s description
04.2.3 Detail 3: adapter plate

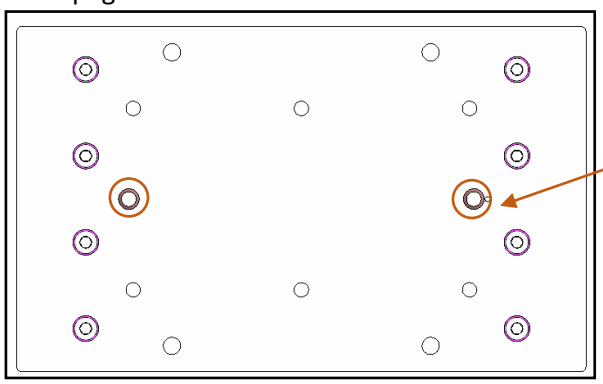


The adapter plate 7 plates serve as an interface to the base plate and the component holder or tool holder and can be moved lengthways in a grid of 105 mm.

The tool base plate is fastened using 4x M10 threads and 4x 10H7 dowel pins.

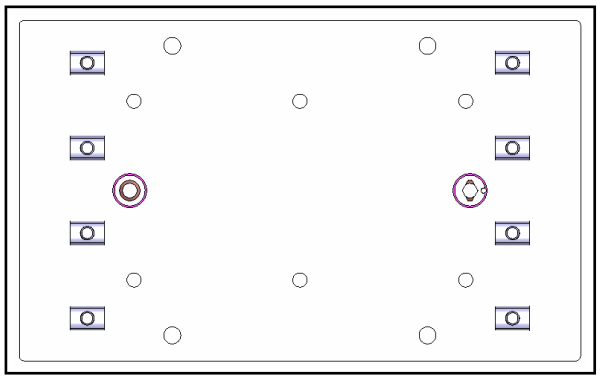
Page 04.13

Front page



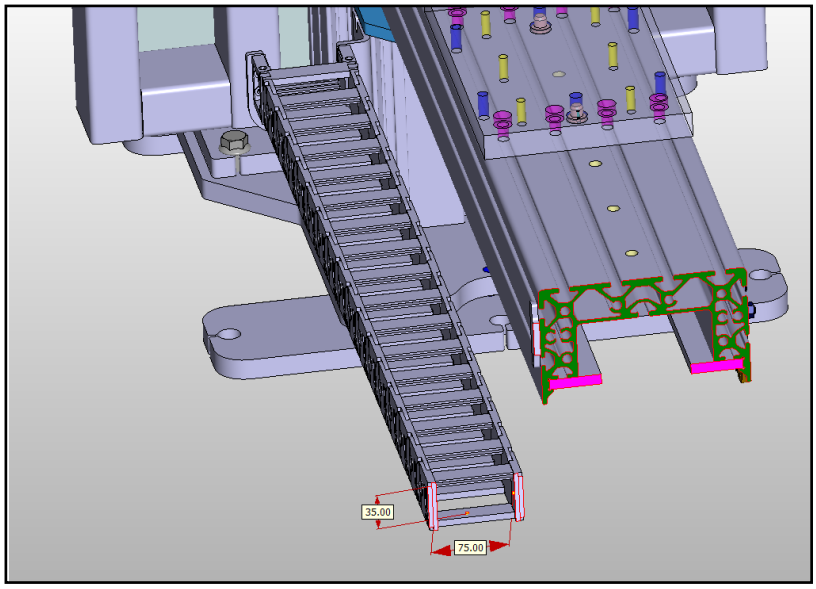
Page 04.14

Back



Page 04.15

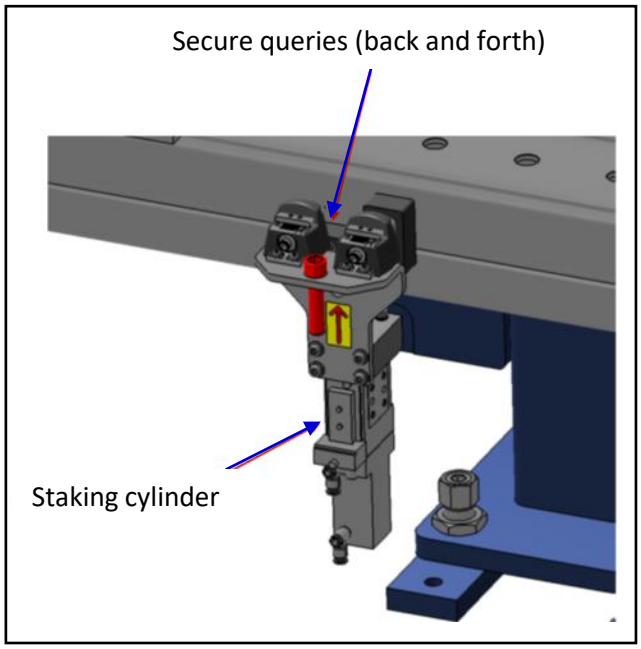
04.2 Component´s description
04.2.3 Detail 3: adapter plate



Page 04.16

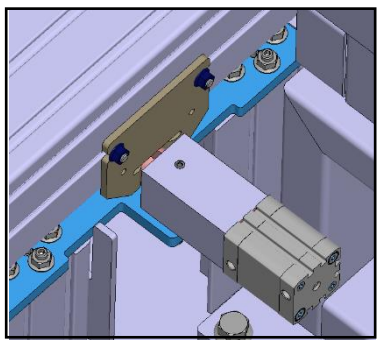
The tool base plate is fastened using 4x M10 threads and 4x 10H7 dowel pins.

04.2 Component´s description
04.2.4 Detail 4: Stakeout

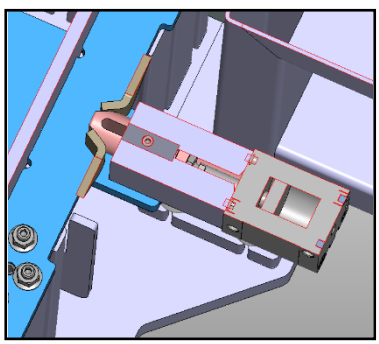


Page 04.17

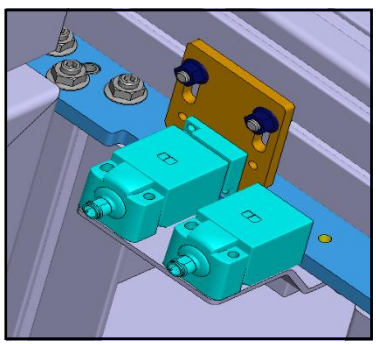
The two end positions are pneumatically staked out and reliably sensed; the release list described in the ADM is binding when selecting components..



Ansicht von oben Page 04.18



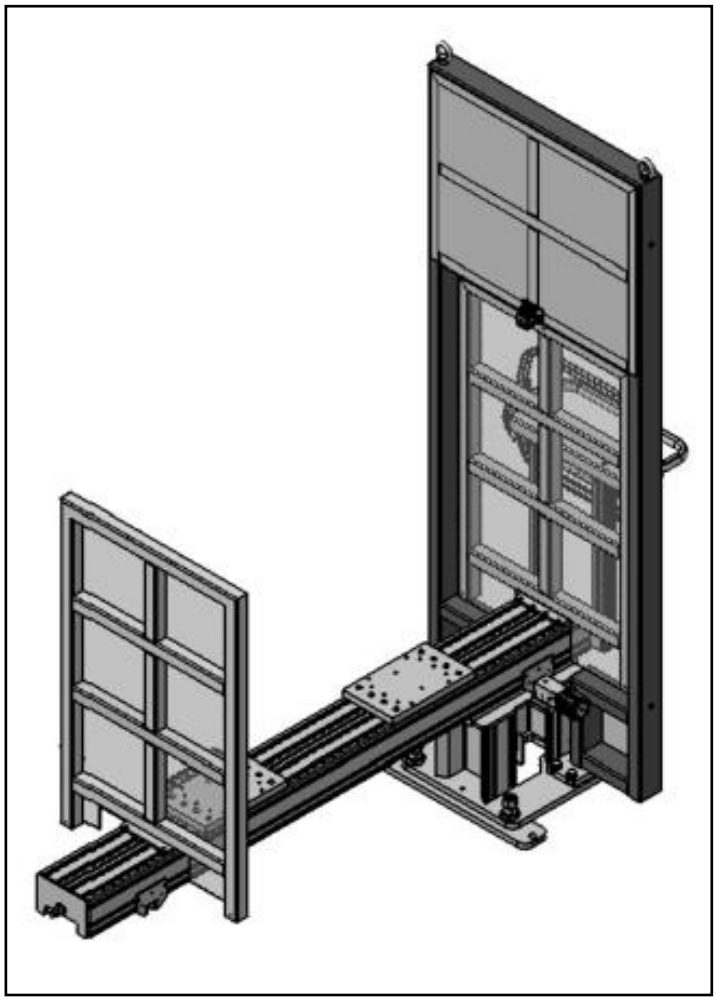
Ansicht von unten Page 04.19



Sichere Abfragen Page 04.20

04.3 Variant selection

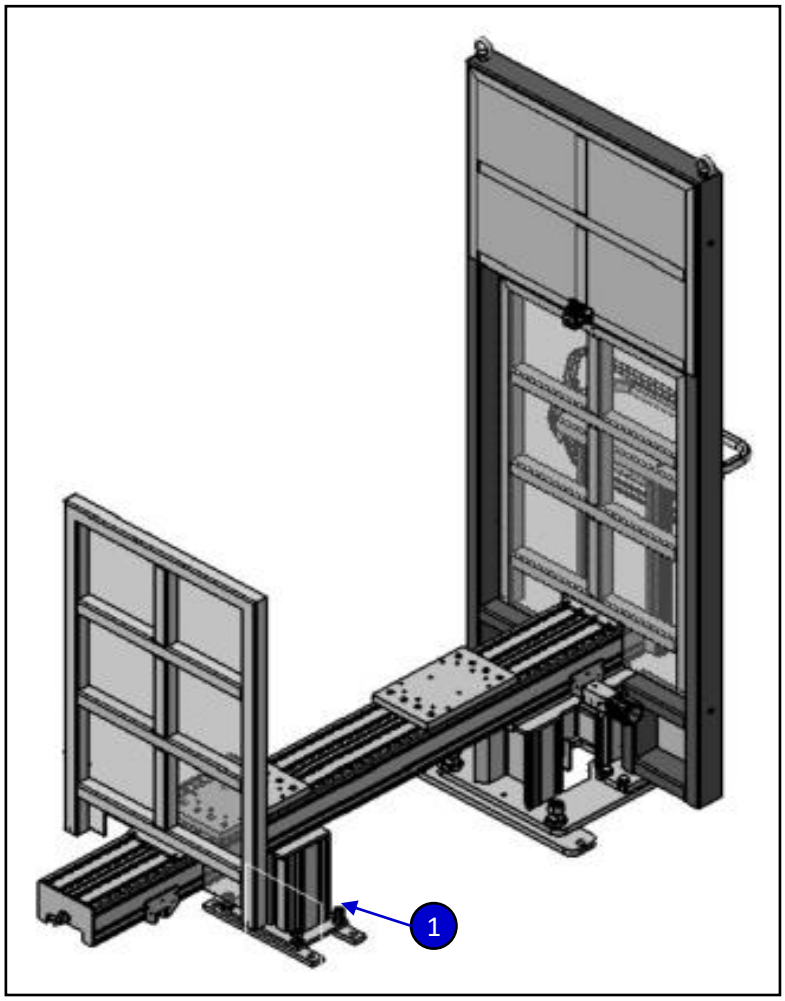
04.3.1 Model 1: G basic version



Page 04.21

This is the basic version of the interlock drawer; detailed descriptions can be found in the subsections of section 04.

04.3 Variant selection
04.3.1 Model 2: GS with support roller



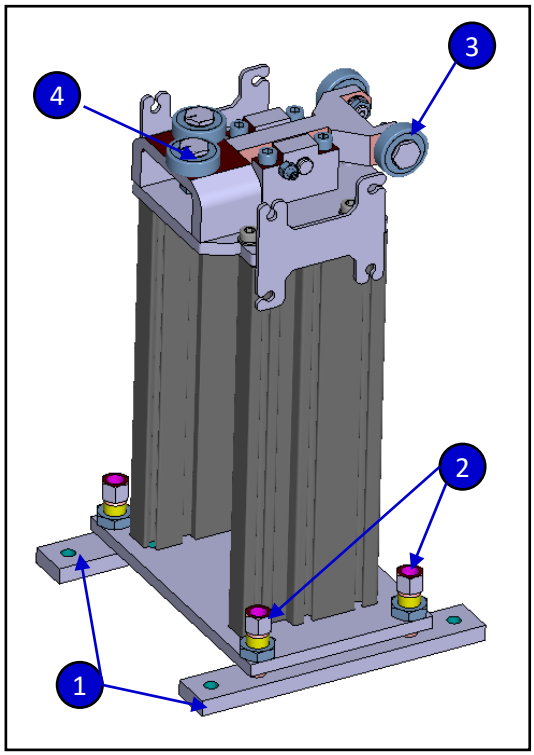
Page 04.22

The basic version can also be fitted with a support roller on request. This is used when the table is heavily loaded or the stroke is too long. The support roller supports the drawer when retracted and therefore also increases the repeat accuracy with regard to the height of the table.

The support roller is recommended for removal by robots

1 Support roller (Detail Page 40)

04.3 Variant selection
04.3.1 Model 2: GS with support roller



Multinorm Support roller

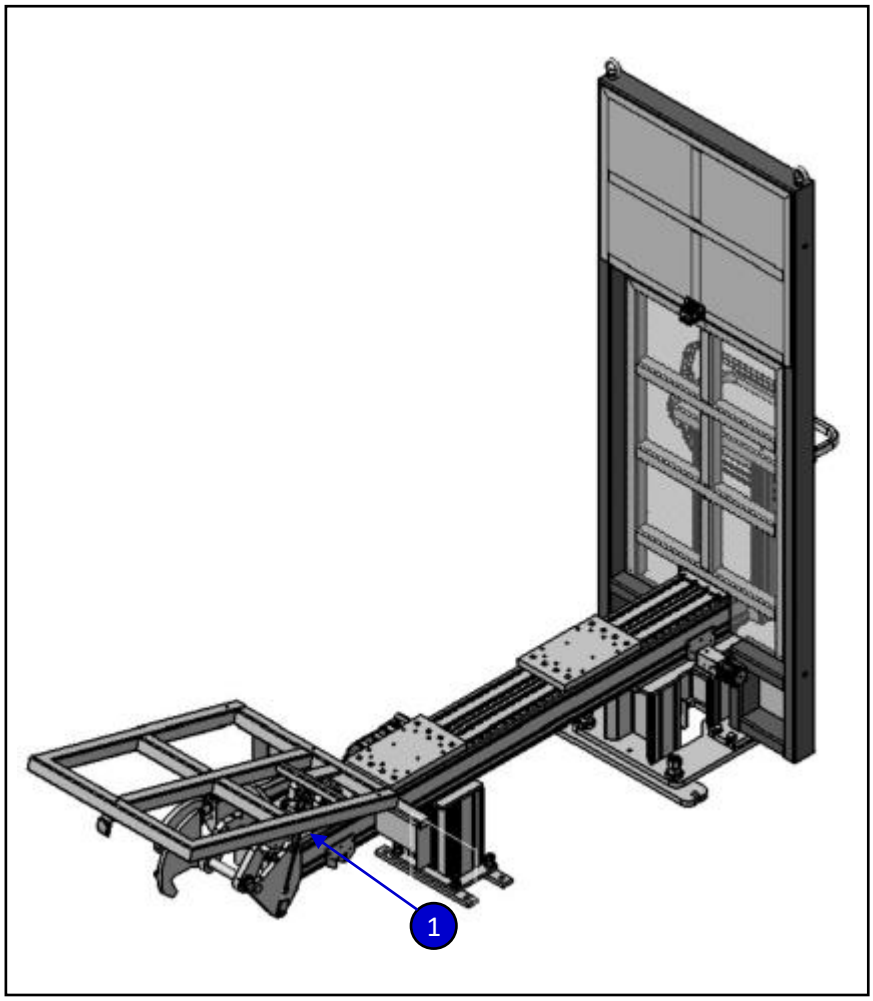
- Retrofittable
- Tunability (shims)
- Positioning via centring bolt
- Repeat accuracy max. 0.15 mm
- No increase in initial and traversing force (? 2.1.4 Ergonomics)

Page 04.23

1. Base plates with holes for fixing to the floor
2. Levelling screws
3. Support rollers for horizontal guidance of the rail
4. Support rollers for vertical guidance of the rail

Assembly and alignment of the support roller in the assembly instructions section 6

04.3 Variant selection
04.3.3 Model 3: GSK with support and tilt window

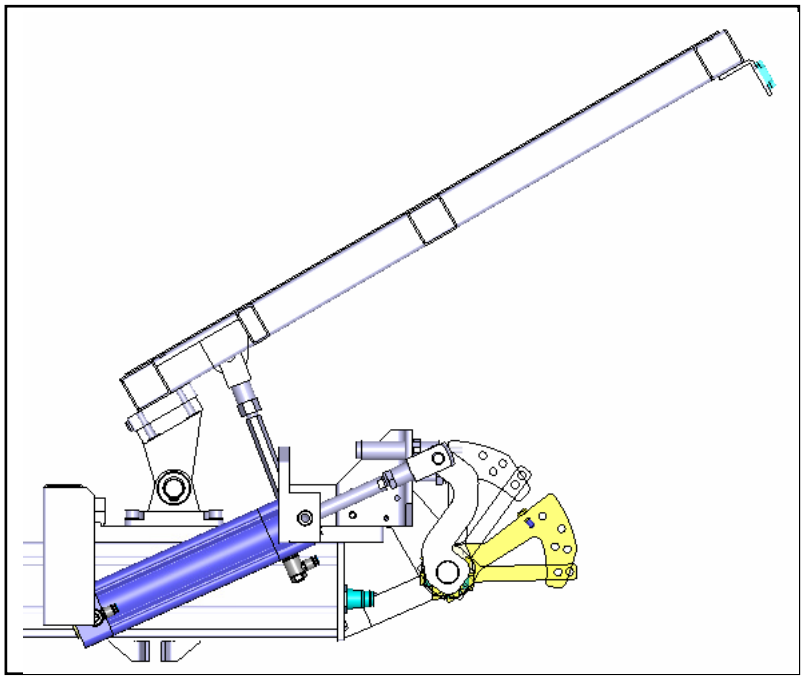


Page 04.24

3 version of the drawer has an adjustable window for better accessibility when removing components.

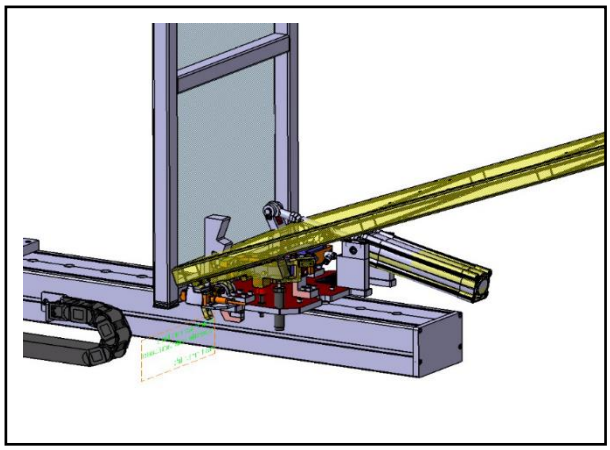
1 Tilting rear window (Detail from page 42)

04.3 Variant selection
04.3.3 Model 3: GSK with support and tilt window



Tiltinjg Window Details

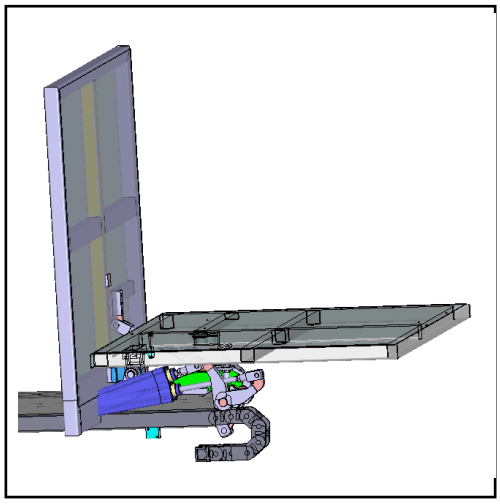
Page 04.25



- Hinged protective window in the system
- Secure initiators when closed
- Closed toggle-locked
- Various swivelling angles possible

Page 04.26

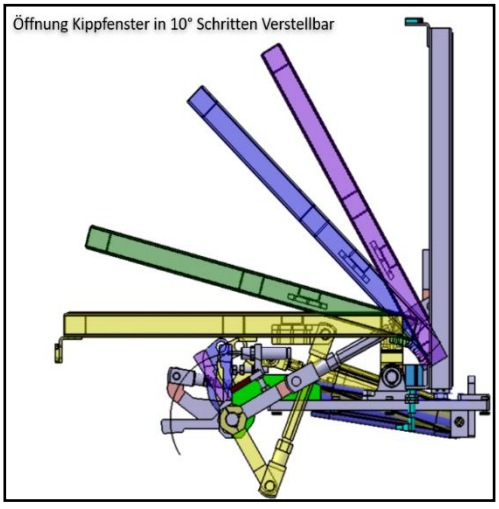
04.3 Variant selection
04.3.3 Model 3: GSK with support and tilt window



Tiltinjg Window Details

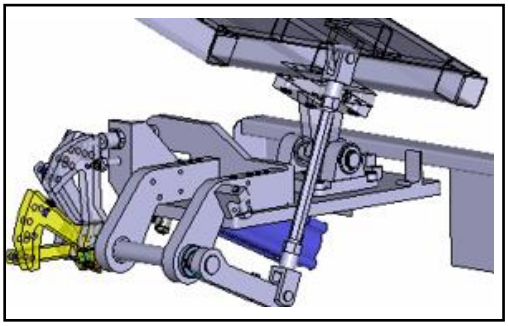
Page 04.27

Tilt window end positions



Page 04.28

Adjustable angle possible in 10 degree steps



Window drive via pneumatic cylinder

Page 04.29

05.0 technical data

05.1 weight

Permissible weight load of the drawer with different strokes

Hub	Max. F1	Max F1 w. Support roller
1500mm	200kg	300kg
1750mm	175kg	275kg
2000mm	125kg	225kg

Table 5.1

05.2 05.2 Loads and forces

Travelling forces according to current measurement

Table load	Starting force	Medium Force	
0kg	19N	18N	Default
	ca. 21N	ca. 18N	Value multinorm
75kg	43N	21N	Default
	ca. 23N	ca. 21N	Value multinorm
125kg			DEfault
	ca. 23N	ca. 21N	Value multinorm

Table 5.2

Measurement performed

Page 5.1

05.0 technical Data
05.3 technical declarations

General information :

- Protection class: IP65
- Fire protection class B2
- Ozone / UV resistance OK
- Welding spatter / bead resistance OK
- LABS freedom OK
- Design of components in contact with fluid for industrial cooling water no contact Noise
- Sound immission Sound pressure < 75db i.O.
- Maximum ambient temperature <50 degrees
- Minimum ambient temperature > 0 degrees
- Permissible humidity 90%
- Maximum altitude above sea level 2000m
- Total weight see type plate
- Compressed air 6-10bar purified instrument air

Electrical information:

○ Control voltage	24VDC +/- 20%
○ Voltage range	240V, 400V, 110V, 500V , 400V +/- 20%
○ frequency	50 – 60 Hz
○ Interference emission Category	C3
○ Power factor correction	0,95-1,0

○ Safety components :

❖ Supplied safe components fulfil PL d-e

06 Assembly Instructions
06.1 Transport

Safety regulations Transport

Only suitable lifting gear and load-bearing equipment may be used to transport the drawer. This depends on the weight. Please refer to the respective type plate

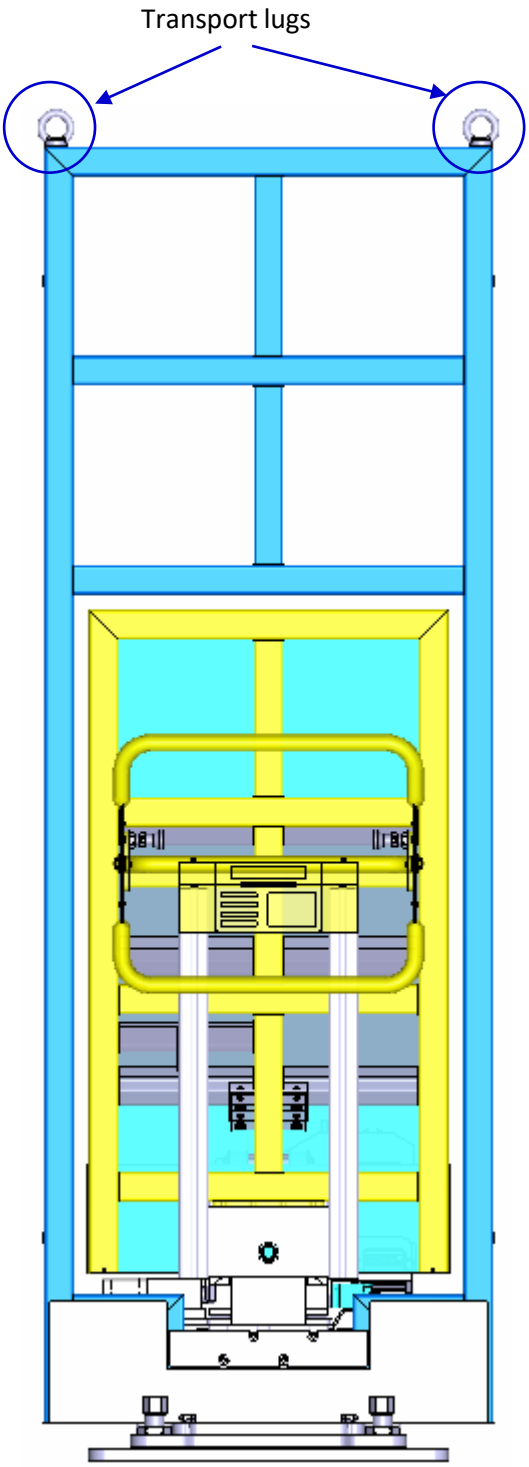
Lifting gear: This means of transport must be able to lift the entire weight of the machine and its load-bearing capacity must be designed accordingly.

LAM: Lifting equipment must be able to lift the entire weight of the machine and its load capacity must be designed accordingly.

All load handling attachments and lifting gear must comply with the applicable directives and standards.

Only use tested load handling attachments!

06 Assembly Instructions
06.1 Transport

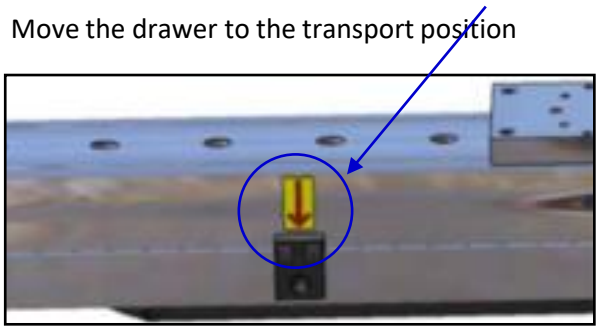


Use suitable lifting gear, eyelets or shackles!

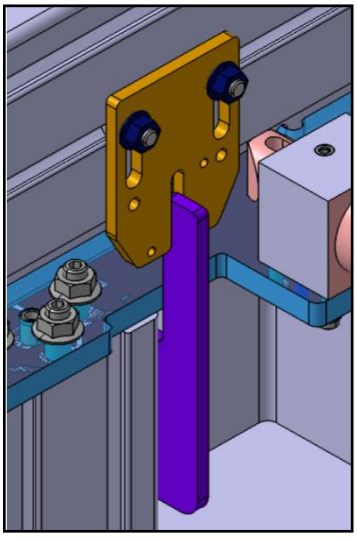
06 Assembly Instructions
06.1 Transport

Before transport

Move the drawer to the transport position



Page 06.1



Then secure the guide rail against slipping as shown in Fig. 06.2.

The drawer can then be transported by crane.

Page 06.2

06.0 Assembly Information

06.2 Minimum space requirement

The minimum space requirement depends on the length of the guide rail and also the width required to accommodate the required components.

Therefore, a general specification cannot be given.

06.3 Environment conditions

Before setting up the interlock drawer, ensure that the foundation is level and can bear the weight of the machine. The foundation must be able to absorb the forces accordingly.

The location should be in a closed room. Care should be taken to ensure low humidity when selecting the premises.

Rooms required for maintenance, servicing and operation must not be restricted.

06.4 Ground attachment- Foundation

06.4.1 general specification

The ground conditions and the forces acting must be taken into account when fastening.

HAST M16 x 140/25 bolt anchors are recommended for secure fastening of the bracket and the support roller. (The drilling depth is 115mm with a diameter of 16mm.

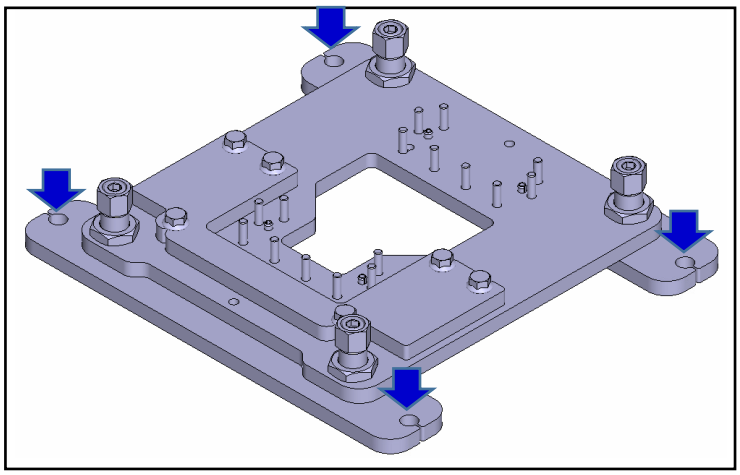
The bolts must be tightened to a torque of 110 Nm.

Fastening and aligning from Page 50

06.0 **Assembly Information**
06.4 **Ground attachment- Foundation**
06.4.2 **Fastening central fastening console**

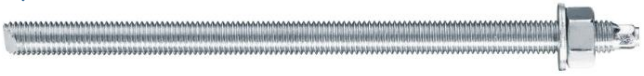
The base plate of the central fixing bracket must be fixed to the floor using the 4 fixing holes provided (see labelling in Figure 04.3).

For fastening screws, see section 06.4.1

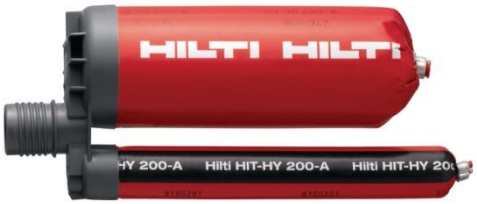


Page 04.3

Hilti Adhesive anchor HAS-U 5,8 M16 x 190



Page 04.4



Page 04.5

06.0 Assembly Information
06.4 Ground attachment- Foundation
06.4.2 Fastening central fastening console

Foundation quality / concrete quality

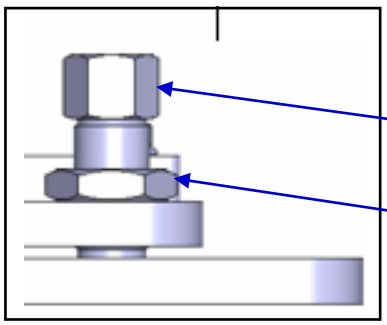
When constructing concrete foundations, the load-bearing capacity of the substrate and country-specific building regulations must be taken into account.The concrete must be uncracked and fulfil the quality of the following standards.

B25 nach DIN 1045 : 1988
C20/25 nach DIN EN 206-1:2001 / DIN 1045-2: 2001

However, the injection mortar is also suitable for cracked concrete of grade
C20/25 bis C50/60

Anchoring depth:	125mm
Base material thickness	160mm
Tightening torque	110 Nm

06.0 **Assembly Information**
06.4 **Ground attachment- Foundation**
06.4.2 **Fastening central fastening console**

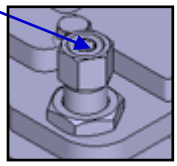


Page 04.4

Cylinder head screw

Levelling screw

Lock nut



Page 04.5

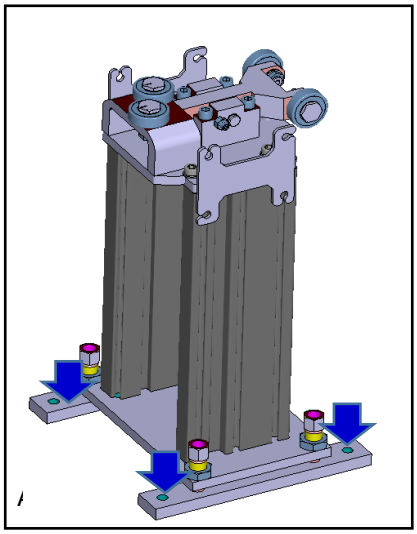
Procedure :

- Screw in the levelling screw up to the foundation plate and screw in the cylinder head screw up to the stop. (do not tighten completely)
- Turn the levelling screw so that the height changes
- Position all 4 screws until the bracket is levelled.
- Finally, the cylinder screw and the lock nut must be firmly tightened

06.0 Assembly Information
06.4 Ground attachment- Foundation
06.4.3 Fastening support roller

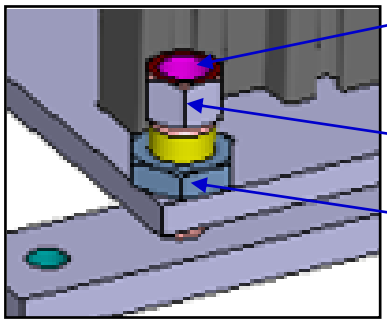
The base plate of the support roller must be fastened to the floor using the 4 fixing holes provided (see labelling in Figure 04.6).

For fastening screws, see section 06.4.1



Page 04.6

Fasteners Hilti Klebanker HAS-U
5.8 16x190
For details see pages 50 and 51



Cylinder head screw

Levelling screw

Lock nut

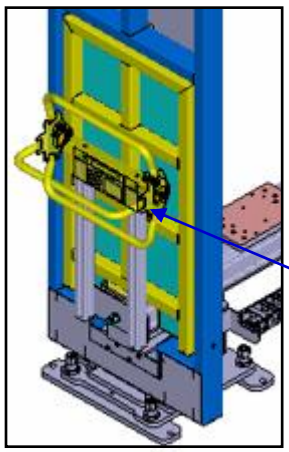
Page 04.7

Procedure :

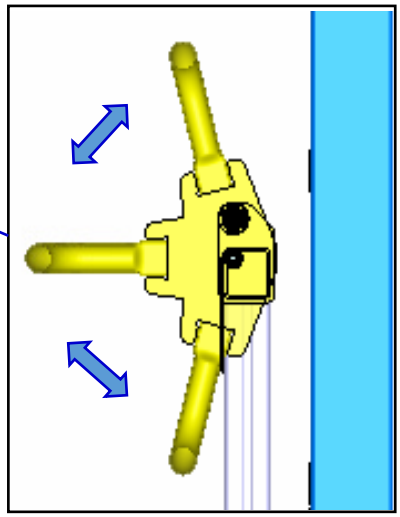
- Screw in the levelling screw up to the foundation plate and screw in the cylinder head screw up to the stop. (do not tighten completely)
- Turn the levelling screw so that the height changes
- Position all 4 screws until the bracket is levelled.
- Finally, the cylinder screw and the lock nut must be firmly tightened

06.0 **Assembly Information**
06.4 **Ground attachment- Foundation**
06.4.4 **Detail adjustable straps**

The bracket on the front part of the device is adjustable.This allows it to be adjusted to the best ergonomic position for the respective operator.



Page 04.8



Page 04.9

07 Maintenance revision
07.1 Maintenance revision genraly

In the event of abnormalities, malfunctions or foreseeable faults, operation of the the machine immediately. Report this situation to your supervisor.

The following must be observed during maintenance and inspection work!

Safety instructions for maintenance and repair

Depending on the trade, repairs to the system may only be carried out by trained, authorised specialists. This applies to both mechanical and electrical maintenance and inspection work

Switch cabinets or other electrical equipment must remain unopened and locked as long as there is no urgent need to open them.

The appliance may only be switched back on after repair work, maintenance or inspection if it has been repaired properly and all safety devices have been checked properly.

Measures before maintenance:

- Before starting any flame-cutting, welding, soldering and grinding work, written authorisation must be obtained from the department placing the order. Proceed in accordance with the operator's instructions.
- For all maintenance and servicing work, the pneumatic or hydraulic components must be shut down and/or depressurised by operating the shut-off valves.
- Lubricants and auxiliary materials used must comply with the legal and internal specifications.
- The use of substances containing silicone is not permitted.

07 Maintenance revision
07.1 Maintenance revision genraly

Measures Regulations before cleaning:

Regular cleaning ensures trouble-free operation, safety and value retention of the machine.
Mainly residues of dust, adhesives, oils, greases and residues from production must be removed.

Improper cleaning can cause damage

The following is not permitted:

- Blowing out machine parts with compressed air
- The use of high-pressure cleaners
- Incorrect cleaning agents can cause considerable damage to the machine

07 Maintenance revision
07.2 Maintenance revision mechanics

Mechanical maintenance and servicing may only be carried out by authorised, trained specialist personnel.

In addition, all work must be carried out in accordance with the maintenance and servicing schedules for the individual auxiliary components contained in the documentation.All general safety regulations and safety measures must also be observed.

Mechanical revision
The deadlines for the revision of mechanical components must be carried out without restriction in accordance with the timely revision plan.
The specifications of the manufacturer of the individual components always apply, unless an overall inspection plan is required.
Always observe the maintenance and inspection cycles in the documentation of the individual component manufacturers.

If neither is specified, at least the legal requirements for the inspection of mechanical safety components must be applied.

Note:
Failure to comply with the specified maintenance requirements and inspection, servicing and cleaning intervals may result in accelerated wear of certain components, which may also lead to total failure.
In this case, our guarantee will be cancelled.

07 Maintenance revision
07.2 Maintenance revision mechanics

Lubrication and maintenance schedule

The maintenance table describes the most important measures with their time intervals and emphasises the importance of carrying them out.
Components that are subject to mandatory inspection must be serviced and inspected by authorised bodies.
Maintenance by the manufacturer is recommended.

Machine components	Interval	Measure
entire device	6 Months	Cleaning
Electrical equipment	6 Months	Visual inspection or DGU V3 test
Pneumatic devices	6 Months	Visual inspectionAcoustic inspection
Rail guide system	6 Months	lubricate
Toothed belt if available	2000 Hours.	stretch

Further information:

Electrical equipment:	The electrical parts on the machine are basically maintenance-free. Only clean if heavily soiled
Lubrication:	Apart from the guide carriages of the rail guide, the machine requires no lubrication. The lubrication intervals are every six months with a maximum quantity of 1 cm^3 / carriage. The following should be used: Lithium soaps, lithium complex soap greases based on mineral oil

07 Maintenance revision
07.3 Maintenance revision electrical

Electrical maintenance or servicing work:

In preparation for electrical and mechanical work on system components that carry voltages that are dangerous to people during operation, the following must be done before work is carried out by a qualified electrician.

Activities to be carried out before starting work

1. Unlocking the device
   Removing the fuses of identical safety components
2. Secure against being switched on again
   Take the fuse into safekeeping
3. Determine absence of voltage
   Perform measurement
4. Ggf. Earthing and short-circuiting
5. Cover or cordon off neighbouring live parts
6.
   - If necessary, document the safe condition
   - Inform the maintenance technician carrying out the work in detail about the system parts that are in the vicinity but have not been disconnected or label them

general note::

The above activities are only to be carried out when maintenance and repair work is being carried out on appliances that require voltages greater than 50V AC for regulated operation.

07 Maintenance revision
07.3 Maintenance revision electrical

Who is authorised to carry out repairs, maintenance and inspections? :

Electrical systems and equipment may only be maintained by a qualified electrician or under the direction and supervision of a qualified electrician in accordance with the electrotechnical regulations. The contractor must also ensure that the electrical systems and equipment are operated in accordance with the electrotechnical regulations.

: Specifications for machines and machine systems :

If an electrical system or electrical equipment is found to be defective, i.e. it does not or no longer complies with the electrotechnical rules, the contractor must ensure that the defect is rectified immediately and, if there is an urgent danger until then, ensure that the electrical system or electrical equipment is not regulations, the contractor must ensure that the defect is rectified immediately and, if there is an urgent danger until then, ensure that the electrical system or electrical equipment is not used in its defective condition.used in the defective condition.

Test intervals for electrical systems and components

Plant Equipment	Inspection period	Typ of test	Examiner
Electrical installations and stationary equipment	4 year	for proper condition	Qualified electrician
Electrical installations and stationary equipment Electrical equipment in special rooms and installations	1 year		Qualified electrician
Protective measures with fault current Protective devices in non-stationary systems	1 Months	for effectiveness	Qualified electrician
Residual current Residual current and residual voltage protective devices - Stationary systems - Non-stationary systems	 6 Months daily	for proper function by actuating the test device	user

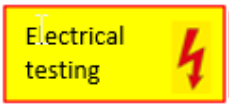
Attention:

The inspection and revision deadlines may vary from country to country. Find out about the relevant deadlines in your country

07 Maintenance revision
07.3 Maintenance revision electrical

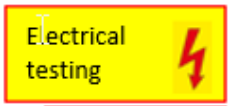
Electrical inspection / inspection tasks and duties The following must be checked as part of the electrical inspection :

A visual inspection must be carried out to determine :



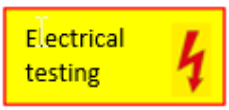
- whether the device(s) is/are in proper condition
- whether protection against contact with live parts during operation is guaranteed
- whether the upstream fuses or overcurrent devices correspond to the conductor cross-sections
- whether lines and cables are properly laid, fastened and connected (tighten terminal points)
- whether there are any braising points on cables and lines

The following tests must also be carried out :



- Measurements must be carried out to verify the measures taken to protect against excessive contact voltage on parts that are not energised during operation (protective conductor test):
- The contact resistance between the labelled protective conductor connection of the plasma cutting system and all touchable metallic parts that are not live during operation must be < 0.1 Ohm for cable cross-sections > 6 mm2 (otherwise observe EN 60204-1).

The insulating capacity of the winding and cable insulation must also be verified :



- The insulation capacity of the winding and cable insulation must be verified: Insulation value between windings and housing (protective conductor connection) in cold and dry condition > 2.5 M-ohms
- Insulation value between upper and lower voltage winding of transformer T1 in cold and dry condition > 5 M-Ohm

07 Maintenance revision
07.3 Maintenance revision electrical

Electrical revision
verification and test equipment

The tests must be documented and countersigned by the inspector.
The operator is hereby advised to keep a corresponding maintenance or system logbook or to include the measurement results and test logs of the commissioning test (initial test) in his maintenance and inspection system.

Inspection marks must be affixed to the system, machine, device or product if repeat inspections are necessary

08 Dismantling disposal

08.1 Dismantling

The service life of the machine is specified until it is scrapped.
However, dismantling for reuse elsewhere cannot be ruled out.

The same behavioural and safety rules must be observed and applied during disassembly as during assembly or operation of the machine.

When dismantling the machine, all parts of the machine that can no longer be reused must be disposed of properly in accordance with environmental guidelines. Special attention must be paid to the recyclability of the individual components. These recycling materials must be handled accordingly.

Substances that cannot be disposed of in the normal way must be disposed of in the manner prescribed by law.
This also applies to substances and materials that require special storage after dismantling.

08 Dismantling disposal
08.2 disposal

The service life of the machine has been written out until it is scrapped.

If the machine is scrapped, all parts of the machine must be disposed of properly in accordance with the environmental guidelines. Special attention must be paid to the recyclability of the individual components. These recycling materials must be handled accordingly.

Substances that cannot be disposed of in the normal way must be disposed of in the manner prescribed by law.
This also applies to substances and materials that require special storage after dismantling.

Umweltbewusst entsorgen!

08 **Dismantling disposal**
08.3 **Enviromental information**

Environmental notice

We save paper for the sake of the environment

We have refrained from printing out much of the data and documents in this documentation and only make them available on the data carrier.
We hope that this is also in your interest.

We thank you for your understanding!

Thanks

Schleusenschublade (Locks drawer)

Section: **Guidelines and Standards**

Guidelines

Die Maschine geht konform mit folgenden Richtlinien:

2006/42 EG	Richtlinie des europäischen Parlaments über Maschinen und zur Änderung der Richtlinie 95/16 EG	2006-05
2014/30 EU	Richtlinie des europäischen Parlaments zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit	2014-02

Standards:

Die Maschine geht konform mit folgenden Normen:

DIN EN 12100	Richtlinie des europäischen Parlaments über Maschinen und zur Änderung der Richtlinie 95/16 EG	2011-04
DIN EN 13855	Sicherheit von Maschinen — Sicherheitsabstände gegen das Erreichen von Gefährdungsbereichen mit den oberen und unteren Gliedmaßen (ISO 13857:2008)	2009-09
DIN EN 13854	Sicherheit von Maschinen Mindestabstände zur Vermeidung Quetschen	2020-01