INDEX

Transport, installation, commissioning

G200.3
G220.3
G320 compact
(turning length 900 mm)

DIE232EN - 2025-01-20
0125/Sp (Transport, Installation, Commissioning)/20194060

Note on applicability

Illustrations in this publication may deviate from the product supplied. Errors and omissions due to technical progress expected.

A word on copyright

INDEX

INDEX

INDEX

General note

All documents and drawings (working documents) required for the operation of the machine can be found on the supplied data carrier under Chapter 1, "Instructions", or Chapter 2, "Diagrams and drawings").

Documents and drawings of auxiliary units from other manufacturers can be found in Chapter 3, "Third-party documentation".

In addition, these data/documents are stored on the controller. *

(* - **iXpanel** installation required)

Explanation of symbols

Explanation of the symbols used in the user documentation:

1.

This symbol warns against a direct, imminent danger to the life and health of individuals. Failure to observe this danger warning may result in severe health impairment, such as perilous injury and even death.

2.

This symbol warns against a direct, imminent danger from electricity. Failure to observe this danger warning may result in severe health impairment, such as perilous injury and even death.

3.

This symbol indicates important notes for the proper operation of the machine.
Failure to observe this caution may cause malfunctions on the machine.
This can result in damage to entire assemblies or parts thereof.

Safety instructions

The user documentation, in particular, the document "Safety Instructions and Technical Specifications" must be observed.

The safety instructions described in this document relate exclusively to the transport, installation, and commissioning of the machine.

Information on transport, installation, commissioning

Use only suitable hydraulic jacks or a crane to lift the machine.
When transporting with armored rollers, ensure that the rollers used have the appropriate load-bearing capacity.
Use plastic plates or Teflon plates to reduce rolling resistance and to bridge unevenness and cracks.

If air cushions are used when transporting the machine to the installation site, be sure to observe the relevant manufacturer's documentation of the air cushion manufacturer.

When selecting the modules, the following should be observed:

- **Condition of the floor.**
- **Suitable size (load capacity), lifting height, and number of modules.**

If the floor is cracked or slightly porous, the manufacturer states that a foil should be laid out on the travel path.

INDEX uses the model 4K27NHDL from AeroGO

Transport locks can be identified by their red color.

All transport devices and transport locks (painted red) that are described in this documentation are part of the machine equipment and remain on the machine or with the customer.

They must not be sent back to **INDEX**.

Remove all transport locks prior to commissioning.

Store the removed transport locks in a safe place so they are available for other transport in the future.

Improper transport, installation and commissioning of the machine can cause accidents. This may cause damage or malfunctions to the machine for which **INDEX** does not accept any liability or provide any warranty.

Carefully plan the unloading, transport to the installation site, installation, and commissioning of the machine before delivery. Be sure to observe the following instructions in this document.

Transport instructions and manufacturer documentation are available for separate units such as chip conveyors, bar guides, bar loading magazines, etc. Observe the following chapters - Chapter 1 "Instructions" - Chapter 3 "Third-party documentation".

The closing type of the safety interlock (**CTP-LBI**) of the work area door has a feature that prevents:

- that people may inadvertently lock themselves in the event of a power failure or when the machine is switched off with the work area door open,
- that the activated closing function is deactivated in the event of a power failure.

(Source EUCHNER GmbH + Co. KG)

General hazards during on-site transport

Danger to life!

Do not step under suspended loads.

Machines must be transported by authorized and qualified personnel only.

Act responsibly when transporting the system and always consider the consequences. Avoid dangerous and risky actions.

Slopes and gradients (driveways, ramps, etc.) are particularly dangerous. Use extra care if such passageways cannot be avoided.

Ensure secure and proper seating of the load. If necessary, use additional fixtures to ensure that the cargo is not able to slip.

The transport vehicles must be able to produce sufficient traction and braking forces for safe transport.

Dimensions and masses

The machine and control cabinet masses are indicated on the corresponding installation plan (Chapter 2, "Diagrams and drawings").

The masses of any separate units supplied can be found in the relevant installation plan, the special transport instructions/manufacturer documentation for these configuration levels or auxiliary units.

Transport and lifting devices

For lifting and transporting the individual units, only lifting and transporting aids having sufficient capacity and a loading platform must be used.

Preparations

This section is addressed to the persons responsible for the installation and their staff.
The information provided here allows you to prepare the installation site and its surroundings such that the machine, when delivered, can be installed and put into operation immediately.

Be sure to carefully plan the delivery, unloading, and transporting of the machine from the unloading site to the installation site.

The installation plan applicable to this machine was already submitted for approval after the contract award. When the machine is delivered, it can be found in Chapter 2, "Diagrams and drawings" on the supplied data carrier and the controller (**iXpanel** installation required).

Take the size (dimensions) and masses of each unit into consideration.

Suitable transporting and lifting devices must be available when the machine is delivered.

Any obstacles along the transport route from the unloading site to the installation site must be eliminated before the machine is delivered.

Check the transport route for load-carrying capacity, levelness, damaged pavement, traverse grooves, slopes, gradients, etc.

Is the width and height of entrances and gates sufficient?

If elevators are to be used, do they have sufficient capacities?

Proper planning will pay off!

Suitable transporting and lifting devices

Suitable transporting and lifting devices must be available when the machine is delivered:

- Crane
- Truck-mounted crane
- Forklift
- Heavy-duty trailer
- Armored roller
- Air cushion
- Armored rollers
- Hydraulic jacks
- Forklift truck (only for separate units)

Space requirements

The following must be ensured:

- Sufficient free space around the machine.
- Sufficient movement space for the operator.
- Sufficient space for maintenance and repair.
- It must be possible to open all doors of the machine completely.
- Space for placing blank and workpiece pallets, collection bins, chip trolleys, tool trolleys, etc.

Use the installation plan in Chapter 2 "Diagrams and drawings" to determine the required space.

For auxiliary units, such as bar guides, bar loading magazines, etc., there are special installation plans (Chapter 2, "Diagrams and drawings").

Floor condition

A special foundation is not necessary. Only the load-carrying capacity and strength of the floor area must be suitable for the machine weight based on constructional aspects.

Comply with the requirements set out in ***DIN 18202:2019***.
In particular, note the information regarding **"Flatness tolerance for finished floors"**.

There must be **no expansion joints** in the area of the machine footprint.

The guidelines and regulations applicable in the country of use must be followed.

Fastening/anchoring

Doweling of the machine is not necessary.

Bar feeders must always be doweled.
The machine does not need to be doweled in conjunction with a bar feeder.
Follow the relevant operating instructions.

iXcenter must always be doweled.
The machine does not need to be doweled in conjunction with an **iXcenter**.
Follow the relevant operating instructions.

When mounting a robot cell from a third-party manufacturer, doweling is recommended.
The machine does not need to be doweled in conjunction with the robot cell from a third-party manufacturer.
Be sure to follow the relevant third-party documentation.

Ambient conditions

See ambient conditions in document "Safety Instructions and Technical Specifications"

If the actual conditions at the installation site differ from these specifications, be sure to contact INDEX or an INDEX representative.

Power supply

The guidelines and regulations applicable in the country of use must be followed.

The power grid connection to the machine should be as short as possible.
Use a sufficient wire size.

The power supply for the machine requires a stable supply grid.
The operating voltage may fluctuate no more than +10% or -10%.

The power grid connection must be executed according to the regulations of the responsible electric utility company and in compliance with VDE regulations. For further information, see installation plan in Chapter 2 "Diagrams and drawings".

Main circuit breaker

Check that the building connection has sufficient capacity to cover the additional load to be protected.
Discuss any unclear conditions with your local electricity supplier.

The main circuit breaker is not included in the delivery of the machine.
It must be installed outside the machine according **to DIN EN 60204-1**.
If a transformer is required, the main circuit breaker must be installed after the transformer, i.e., on the secondary side. The fuse protection on the primary side must be designed according to the connection data of pre-transformer.
The loads to be protected depend on the existing operating voltage.

The following values can be taken from the nameplate of the machine or the circuit diagram in Chapter 2 "Diagrams and drawings":

- Machine connection,
- Operating voltage,
- Main circuit breaker.

External data transfer

Do not lay data cables directly next to power cables.

To transfer data between the machine and external computers or servers, install appropriate metal conduits for the data cable.

The connection to the internal network (DNC) requires an RJ45 network cable.

An additional connection to the external network (IoT) must be made with a separate RJ45 network cable.

Compressed-air supply

Observe the max. allowed connection pressure for the machine. See pneumatic diagram in Chapter 2 “Diagrams and drawings”.

Machines equipped with pneumatically operated components require a compressed-air supply with the following capacity:

Operating pressure	6 to 10 bar
Air consumption	depending on the machine equipment
Air requirement for rotating windows	briefly up to approx. 1000 L/min.

If the machine has a rotating window, it should be ensured that a sufficiently dimensioned cross-section of the compressed air supply lines is available for a higher compressed air consumption on site. Both pneumatic feeders on the machine can be used for this purpose.

For the air supply on the machine, see the installation plan in Chapter 2 “Diagrams and drawings”.

Pressure accumulator

If the machine was shipped by plane, all pressure accumulators attached to the machine are depressurized and emptied.
Before commissioning the machine, a specialist must refill all pressure accumulators with nitrogen (N_2). The prescribed pressures must be observed.
For the prescribed pressures, see “Hydraulic diagrams” (Chapter 2 “Diagrams and drawings”).

The guidelines and regulations applicable in the country of use must be followed.

Operating material to be provided

- Coolant [1)]
- Lubricating oil [1)]
- Hydraulic fluid [1)]
- 1 kg of high-performance grease for chuck
- Cooling lubricant

Information on the lubricating oils, hydraulic oils, grease, and cooling lubricant types and filling quantities used at **INDEX** can be found in the following documents: Chapter 1 Instructions: "Information on working media" "Hydraulic diagrams" and "Installation plan" "in Chapter 2 "Diagrams and drawings".).

Caution:
Be sure to use only hydraulic fluid according to **ISO 4406**, having a purity grade of **15/13** (10 µm absolute).
Hydraulic fluid: **HLPD 32**
Lubricating oil: **CGLP 68**
Coolant **Antifrogen N** (100 L required)

[1)] The machine is delivered with a full tank.

Pumps and tanks

Changing the hydraulic fluid and cooling lubricant is part of the periodic maintenance tasks.

To fill the machine's hydraulic tank with hydraulic fluid, a pump with a 10 µm fine filter (absolute) is required that may be used for this purpose only.

A simple pump is sufficient to extract the used hydraulic fluid or cooling lubricant. The same pump may be used to fill the cooling lubricant tank; however, it must be thoroughly flushed with fresh cooling lubricant.

A robust container is required for collecting the extracted fluids. Suitable containers are metal barrels of sufficient capacity and with proper labels, which can be tightly closed.

Chip removal

If a chip conveyor is used, a chip trolley, its height matching the chip conveyor's discharge height, is required.
The chip trolley should have a device for draining the accumulating cooling lubricant so it can be returned to the cooling lubricant tank.
This will protect the environment and save costs.

Disposal of used operating materials

Decide in advance how to dispose of used operating fluids such as hydraulic fluid, lubricating oil, and cooling lubricant in an environmentally friendly manner.

Observing the ground and wastewater regulations

The guidelines and regulations applicable in the country of use must be followed.

The machine contains water-polluting substances such as water-miscible cooling lubricants and mineral oils. These substances may leak from the machine in case of adverse events.
Therefore, the machine must be installed in a place that excludes any harm by these substances to water or groundwater.

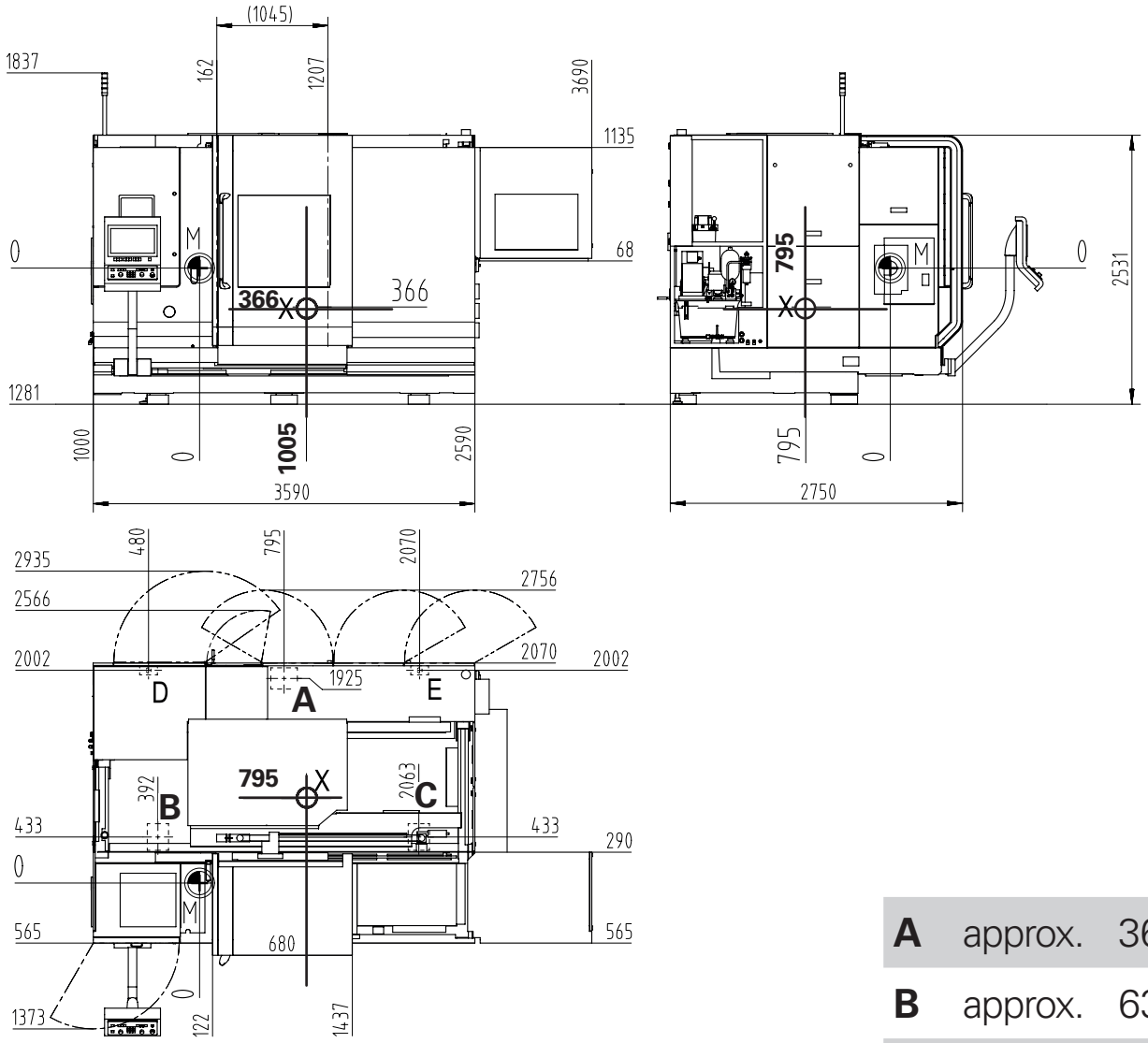
Possible preventive measures:

– Place the machine inside a tight trough.
– Seal the floor of the factory hall.

Transport

Transport plan and center of gravity (without means of transport)

G200.3/G220.3 G320 compact (900 mm)



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A	approx.	3600 kg
B	approx.	6300 kg
C	approx.	4400 kg
D	approx.	300 kg
E	approx.	300 kg

X center of gravity

Visualization of a machine in standard version.
Check the currently valid installation plan!
The position of the center of gravity may change depending on the machine's equipment.

Delivery

Machine

The machine is delivered by truck.

The machine is in the following condition when delivered:

– Hydraulic tank and lubricating oil tanks will be full.
**(The filler neck of the hydraulic tank is closed.
Refit the filling and breathing filter before commissioning.)**

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Fig.: Blanking plug

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Example:
Filling and breathing filter
by ARGO-HYTOS GmbH

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Fig.:
Example of filler neck

– The cooling lubricant tank will be empty. The machine has a chip conveyor with an integrated cooling lubricant tank or a separate cooling lubricant cleaning system. The chip conveyor and cooling lubricant cleaning system are separate units.
– Certain moving parts on the machine, such as the work area doors and the swiveling operating terminal, are secured by transport locks or were removed.
– Protruding machine parts hampering the transport may have been removed.
– All blank parts of the machine were treated by spray-covering with an anti-rust agent.

Other separate units

Certain configuration levels or auxiliary units, such as chip conveyors, bar guides, bar loading magazines, etc., are usually separate units.

For transport and attachment of a robot cell – **iXcenter** – observe the corresponding documentation for **iXcenter**.

Chip conveyors usually rest on a transport base for shipping.

The bar guides and bar loading magazines are delivered in a special shipping crate.

Loose parts, such as keys, tools, and fittings, are supplied in a separate box, which may be included with a separate unit.

Before unloading, check the machine, the enclosed accessories, and any separate units for external damage and completeness (compare with bill of lading or delivery note).

Have the carrier confirm any damage or missing parts on the bill of lading or delivery note.

Have the carrier confirm any damage or missing parts on the bill of lading or delivery note.

Document and photograph any transport damage.

Notify **INDEX** or the **INDEX** representative.

INDEX G2xx.3 G320 compact 900 mm

Transporting the machine

Kunde: _____

Projekt.-Nr.: _____ Masch. Nr: _____

Machine mass

approx. 14500 kg

(Incl. slings)

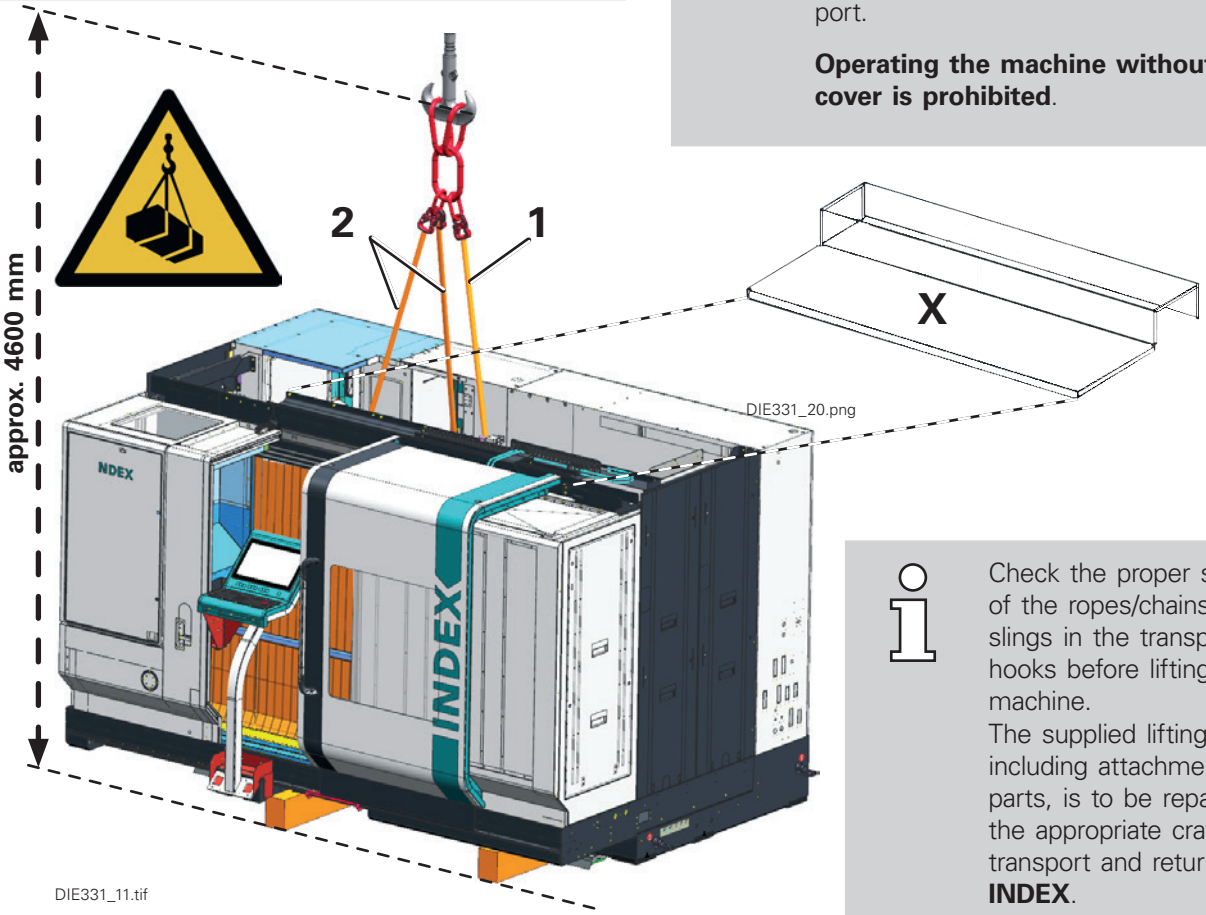
Danger to life!

Do not step under suspended loads.

Cover **X** has been removed for crane transport.

This cover must be refitted after transport.

Operating the machine without this cover is prohibited.



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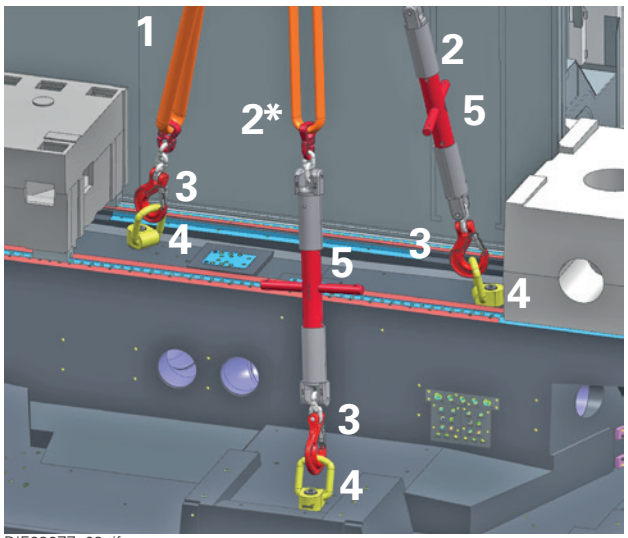
Check the proper seating of the ropes/chains/round slings in the transport hooks before lifting the machine.
The supplied lifting device, including attachment parts, is to be repacked in the appropriate crate after transport and returned to **INDEX**.



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Rear of the machine

	Pos.	pcs.	Name
Lifting device			Round sling, for example:
	1	1	Round sling 8 t/2150 mm
	2	1	Round sling 8 t/1400 mm (at turnbuckle)
	2*	1	Round sling 8 t/1850 mm (at turnbuckle)
	3	3	Heavy-duty hook (safety hook 10 t)
	4	3	Load stand M36
	5	2	Turnbuckle

If covers are inserted in the machine to protect the ball screw, the linear guides, and/or the glass scale, the **slinging equipment must first be dismantled** before these protective covers are removed.

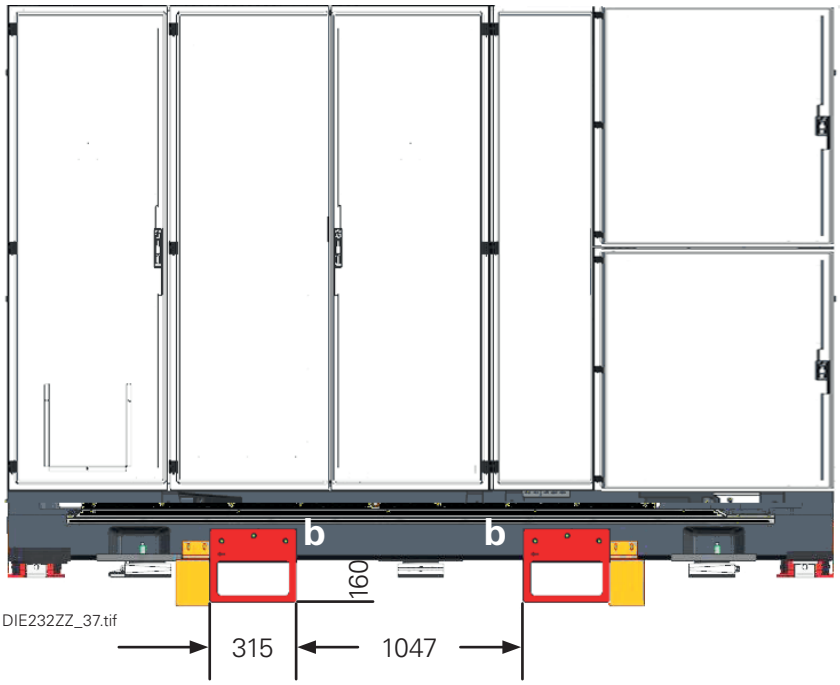
The covers should be kept for any new transport of the machine and, if necessary, remounted.

Transporting with a forklift

Danger to life!

Do not step under suspended loads.

When transporting with a forklift, the forklift must enter the transport lugs (b) from the control cabinet side!
Use anti-slip mats between the forklift tines and the machine bed.



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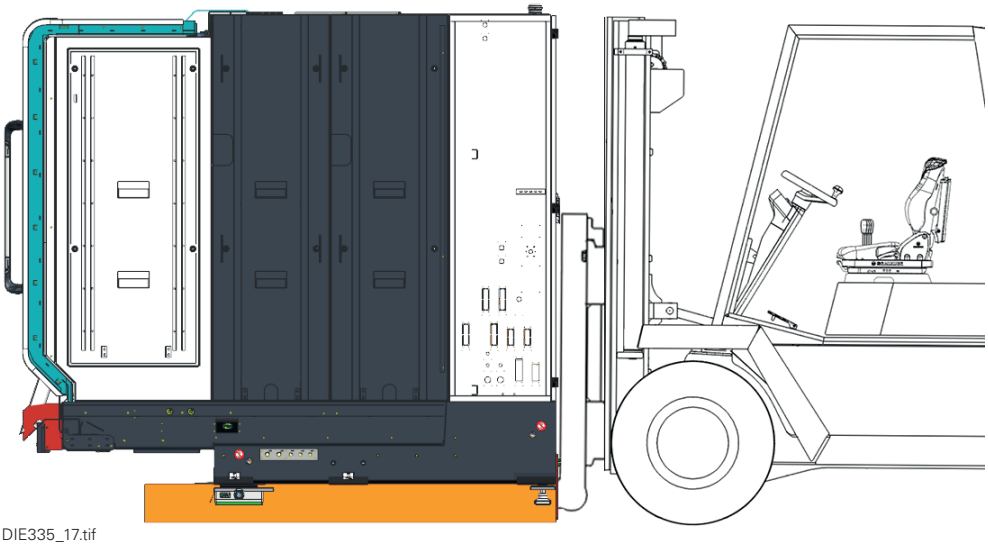
View: Rear of the machine



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The machine was placed on wooden planks for transport.

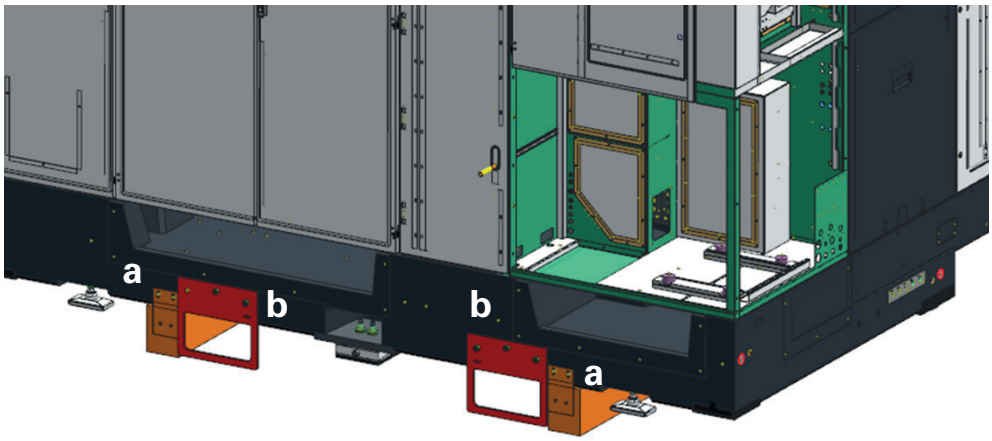
These wooden planks must be removed before installation at the intended installation site.

For this purpose, the machine must be slightly raised and supported by the crane or hydraulic jacks. Then, unscrew and remove the transport locks (**x**) of the wooden planks (**a**) and the transport lugs (**b**).

When using a hydraulic jack, always lift on one side only.

Keep transport lugs, wooden planks, and the associated transport locks for any further transport.

Do not return to INDEX or an INDEX representative.



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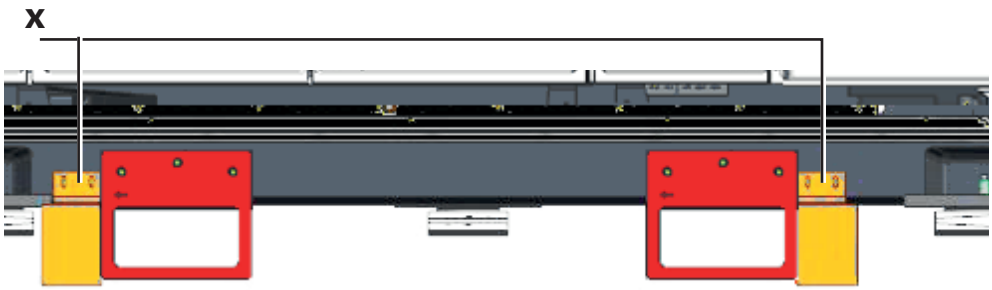

Working with hydraulic jacks

Due to the machine's high center of gravity, we stipulate transporting with armored rollers only on absolutely even and horizontal ground.

INDEX uses plastic plates or Teflon plates to bridge slightly uneven points and to reduce the rolling resistance.
This applies in particular to transporting on irregular or soft grounds such as industrial parquet floors or rubber or PVC-based floor covers, etc.

To protect the machine bed when lifting the machine with hydraulic jacks, steel plates are cast into the machine bed at the following points. It is nevertheless recommended to use anti-slip mats between the machine bed and the lifting lug (**c**) on the hydraulic jack.

Also, use anti-slip mats between the machine bed and the armored rollers/steering gear.

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Only use sufficiently dimensioned hydraulic jacks to lift or lower the machine.

Always apply the hydraulic jacks only where indicated (see fig.).

Be sure to provide three-point support when lifting or lowering the machine with hydraulic jacks: Two armored rollers or supporting on the floor on one side, hydraulic jacks on the other side.

Always lift the machine with hydraulic jacks on one narrow side only. The other narrow side must rest on the transport means or on the floor.

Do not lift the machine more than absolutely necessary.

As the center of gravity is not in the center of the machine, if 2 hydraulic jacks are used, each hydraulic jack should have a minimum capacity of 1/3 of the machine mass.

If only one hydraulic jack is used, it should have a capacity of at least 2/3 of the machine mass.

Lifting and lowering the machine with hydraulic jacks

.... when transporting with rollers

Use only armored rollers with a total minimum load capacity of **15 t**. The plate support (Ø170 mm) of the steerable armored rollers fits into the receptacle (200 mm) provided for this purpose in the machine bed.

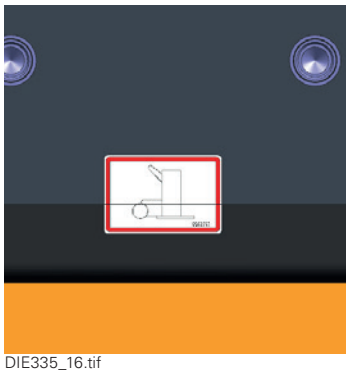

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Fig.
Sign for hydraulic jack locations

The figure below shows the locations where the hydraulic jacks **X** and armored rollers **Y** must be positioned on the machine frame.

Steel plates are cast in at the described points to reinforce the machine bed. They are additionally marked with a sign (see illustration).

Procedure:

Lifting

- This procedure applies in principle also to lowering the machine after the transport using rollers – only in reverse order.
- **It is essential to connect and secure both fixed armored rollers with a bar b.**

- Attach hydraulic jacks **X** and raise the machine.
- Place suitable timber underneath and secure.
- Release the clamp on the bar **b** and push the armored rollers together.

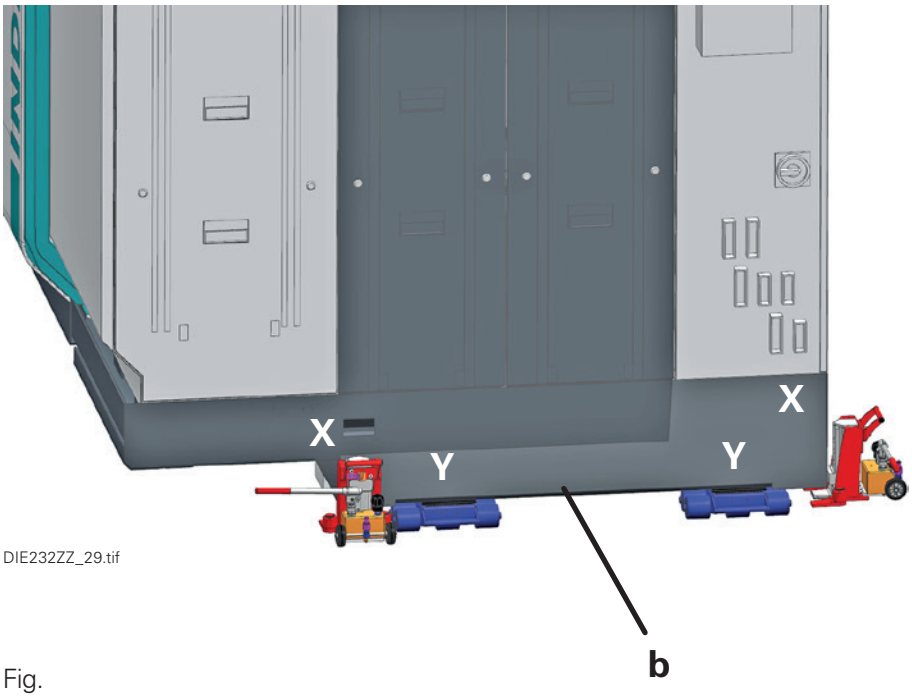

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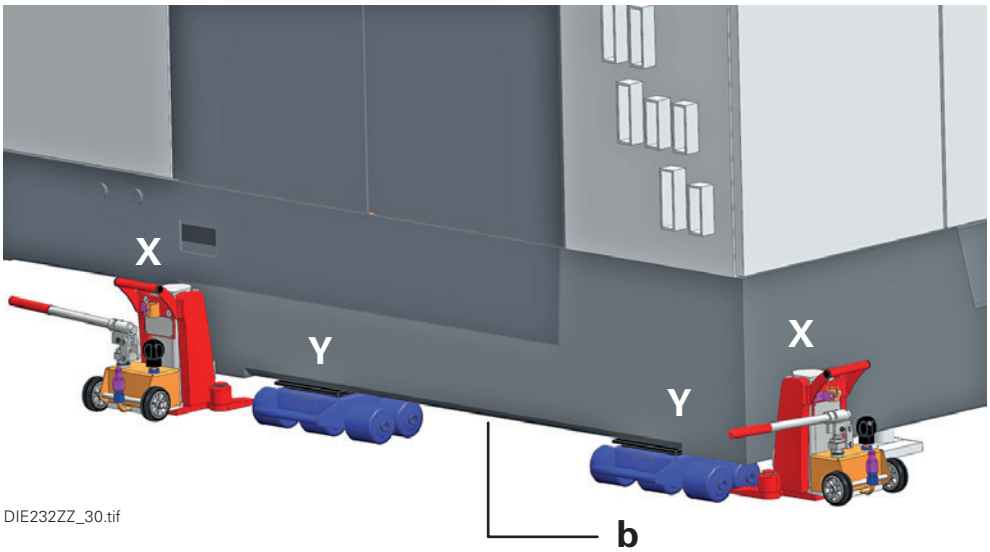
Fig.
Locations for hydraulic jacks and armored rollers

- Slide rigid armored rollers **Y** between the hydraulic jacks under the machine and pull them apart again to the required extent. The rigid armored rollers must each be positioned on the outer edge **A** of the machine bed.
- Tighten the clamp on the bar **b** again.

Place anti-slip mats between the machine and the support of the armored rollers.

- Lower the machine onto the armored rollers and remove the hydraulic jacks **X**.



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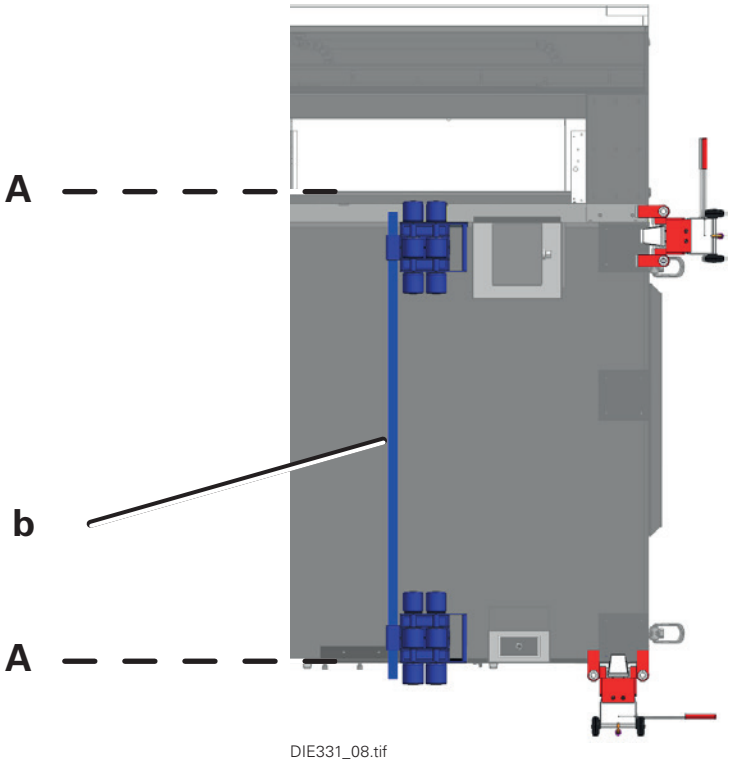

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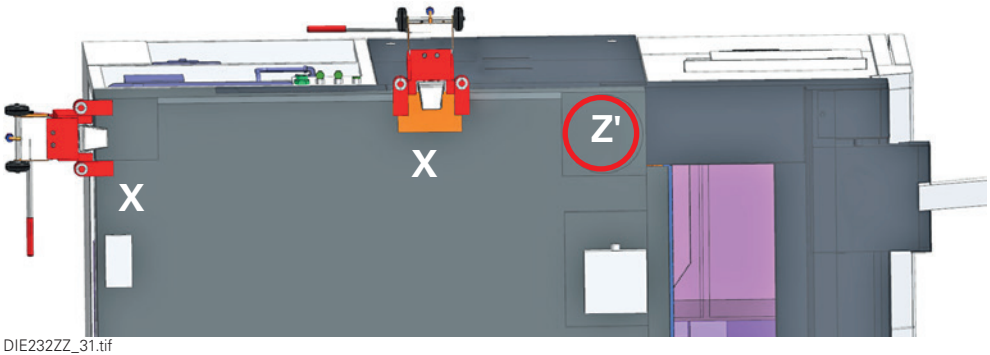
Retracting the steering gear

- Attach hydraulic jacks **X** and raise the machine.
  Place suitable timbers underneath and secure. Fig.: Locations for hydraulic jacks and steering gear.
- Move the steering gear **Z** under the machines. Make sure that the plate support of the steering gear is seated correctly in the provided mounting (**Z'**) under the machine bed.



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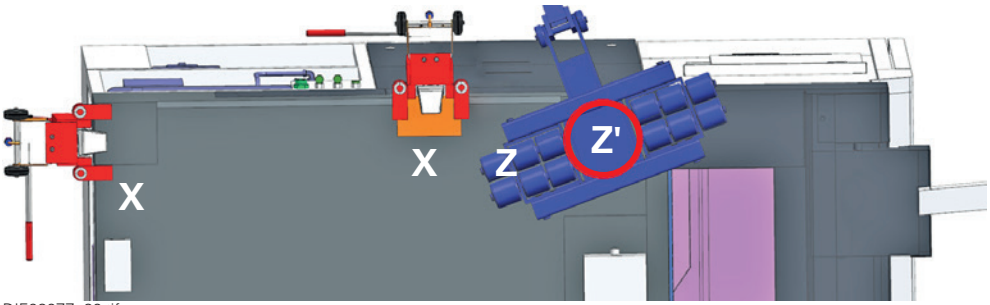

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Fig.: Locations for hydraulic jacks and the steering gear.

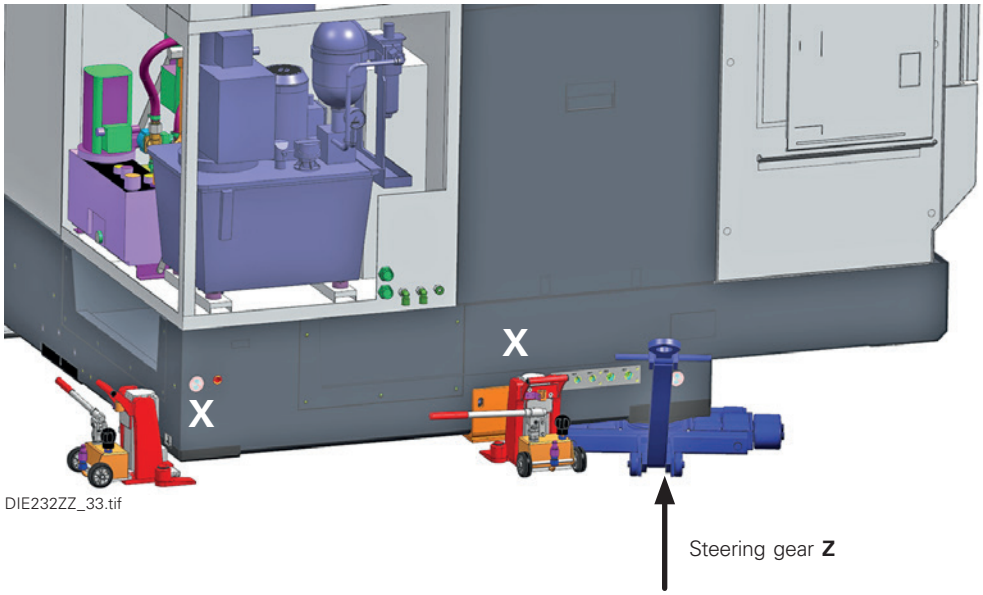

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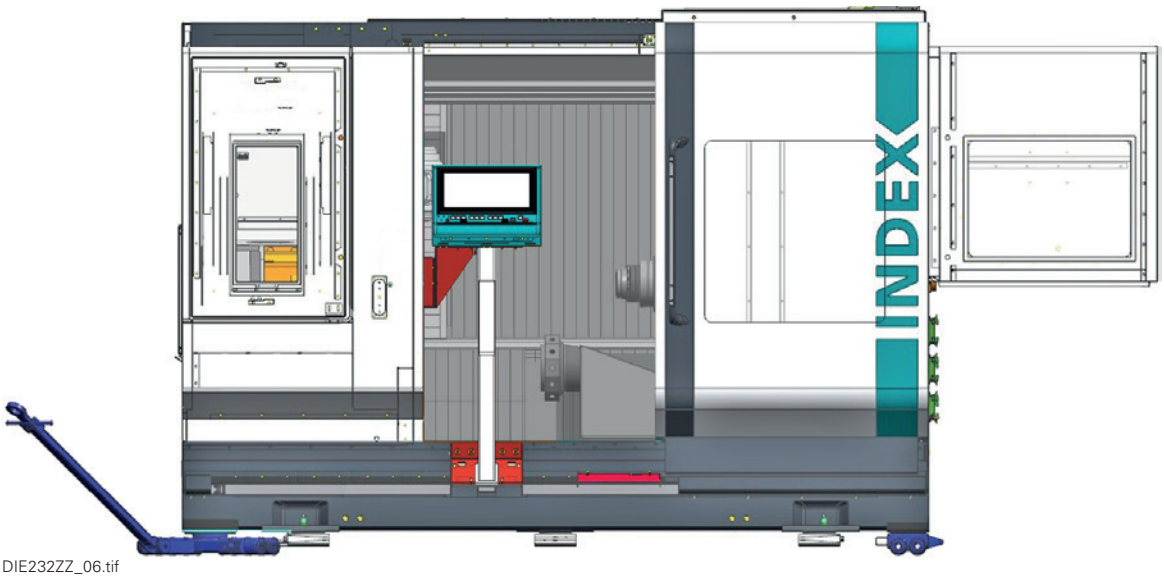
Fig.: Locations for hydraulic jacks and steering gear

- Lower the machine onto the steering gear and remove the hydraulic jacks **X**.

Now the machine is ready for further transport.

It may only be pushed or pressed on the drawbar of the steering gear.

If a forklift or similar is used for support, the drawbar of the steering gear must be hooked into the coupling provided for this purpose and secured.



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.... when transporting with air cushions

After selecting the appropriate air-cushion modules for this machine, the following procedure must be followed.

Procedure:

1. Lift the machine using hydraulic jacks. Proceed, as described in Section "... when transporting with rollers".

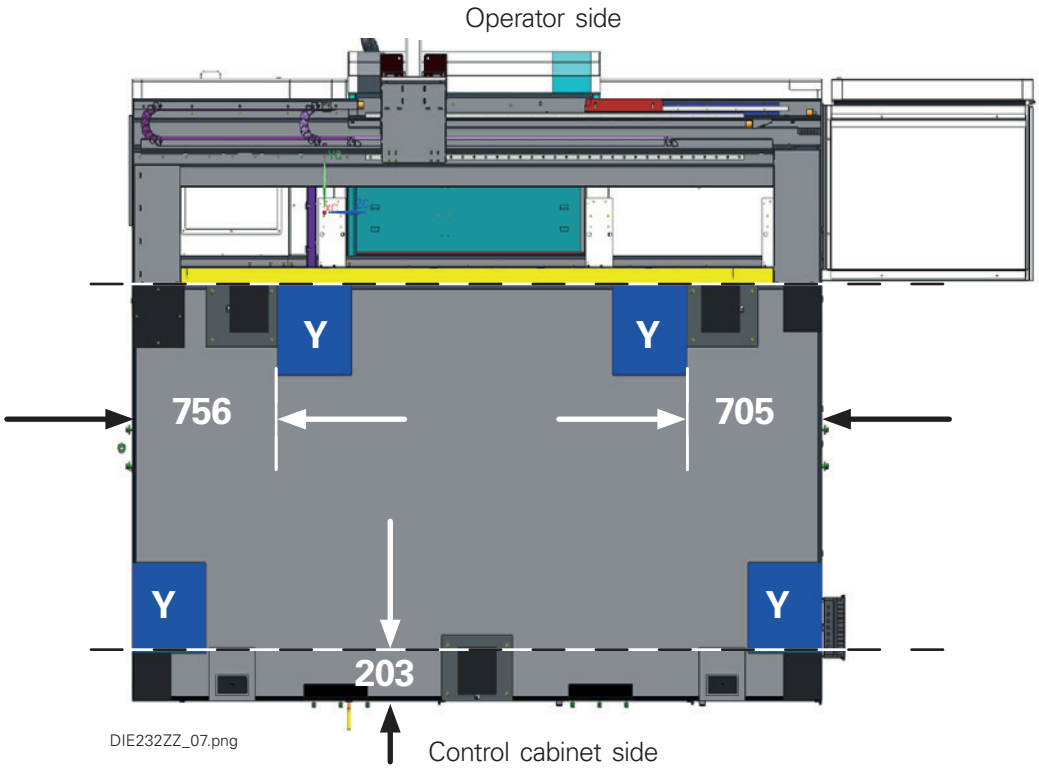
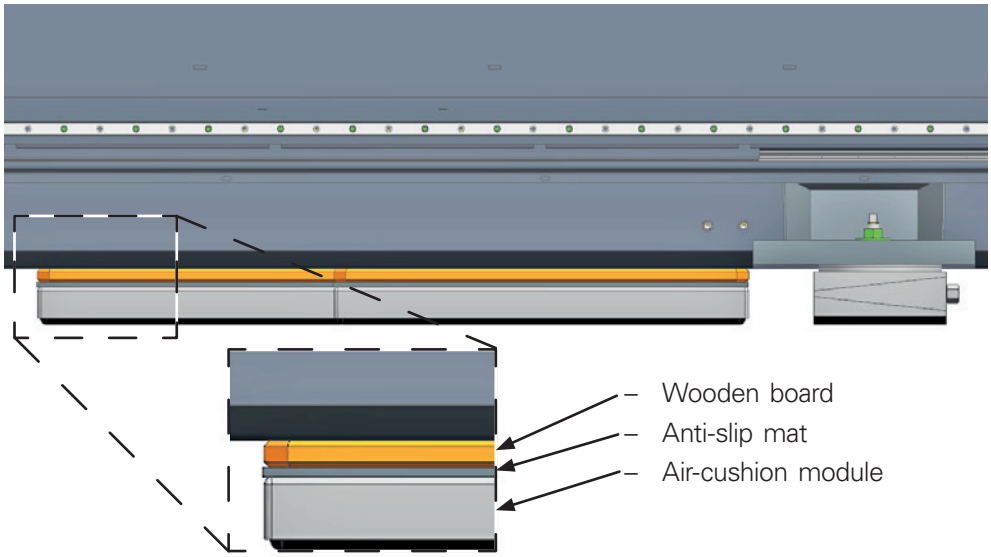


Fig.: 1
Locations of the air-cushion modules under the machine.

2. Place air cushion modules **Y** under the machine according to the specified dimensions.
   Only position the air cushion modules at the places under the respective reinforcements/ribs. A maximum projection of 100 mm beyond the outline is permitted.

3. Wooden boards and anti-slip mats must be placed between the air-cushion modules and the machine.



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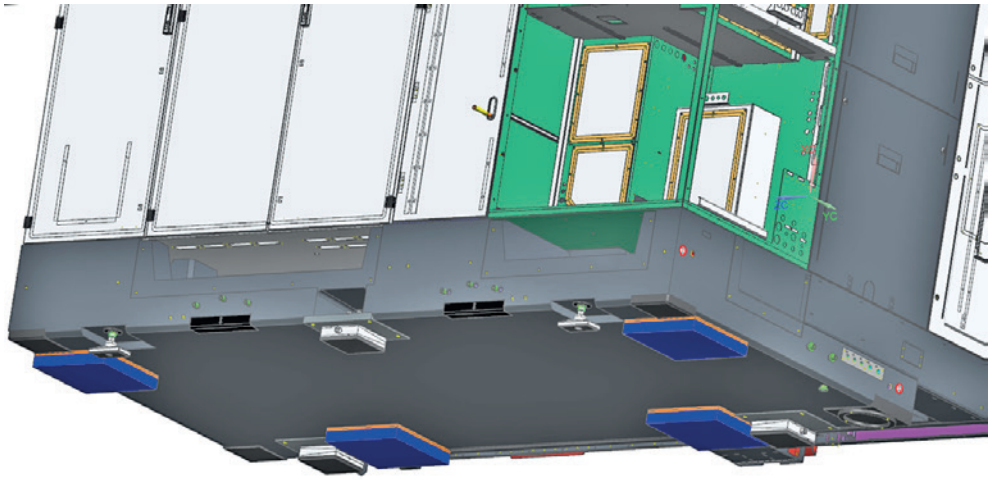

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Locations of the transport locks on the machine

Transport locks for work area door and operating terminal

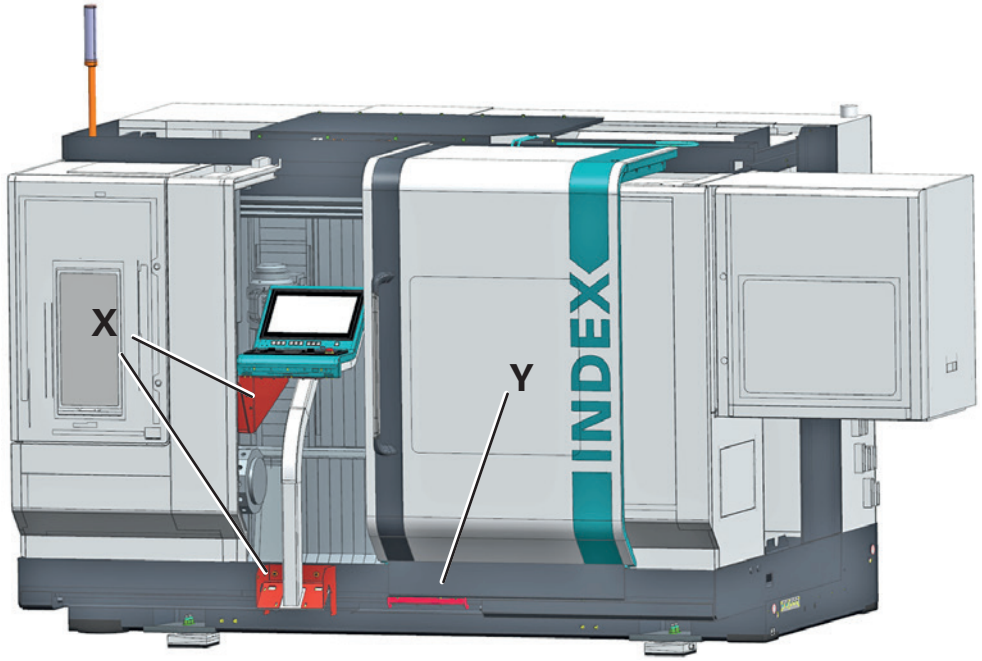
For transporting the machine, the work area door was opened and secured (**Y**).

The operating terminal was partially detached and swiveled into the work area position.
The operating terminal was secured using the of the transport lock (**X**).

- Release and remove the transport lock of the work area door (**Y**) from the guide rail and the cover of the work area door.

Always stabilize the operating terminal when swiveling it out and removing the transport locks (X) (danger of tipping over).

- Removing the transport lock (**X**).
- Swing the operating terminal back to the position outside the work area and screw it to the operating terminal slide.



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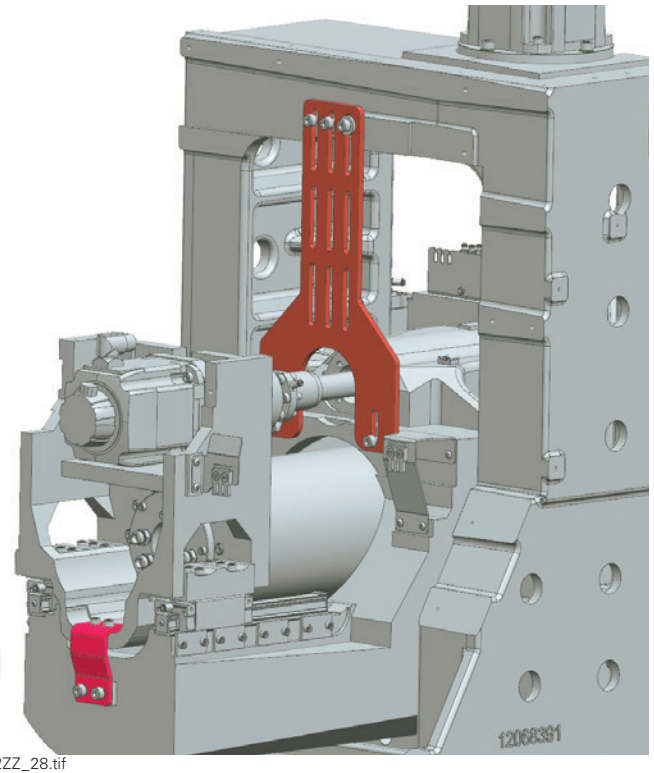
Transport locks of tool carrier

Tool carrier 1 (=* top) G200.3

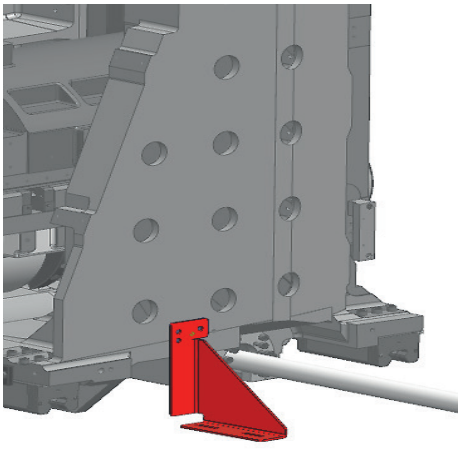
Before attaching the transport locks, the tool carriers were moved to the following positions:

The tool carriers are located at defined positions and are secured there with transport locks.
If the machine is at the installation site, the transport locks must be removed before commissioning.
Before a new transport/change of location, the tool carriers must be moved back to the defined positions, and the transport locks must be installed.



DIE232ZZ_28.tif

TC1	
X	65
Y	-60
Z	600



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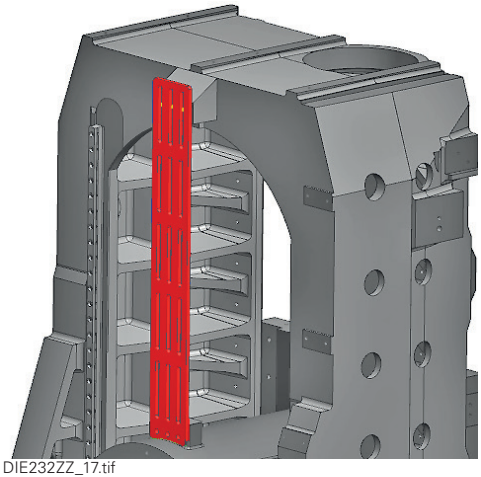
(*TC = tool carrier)

Tool carrier 1 (TC* top) G220.3/G320 with milling spindle

Before attaching the transport locks, the tool carriers were moved to the following positions:

X1



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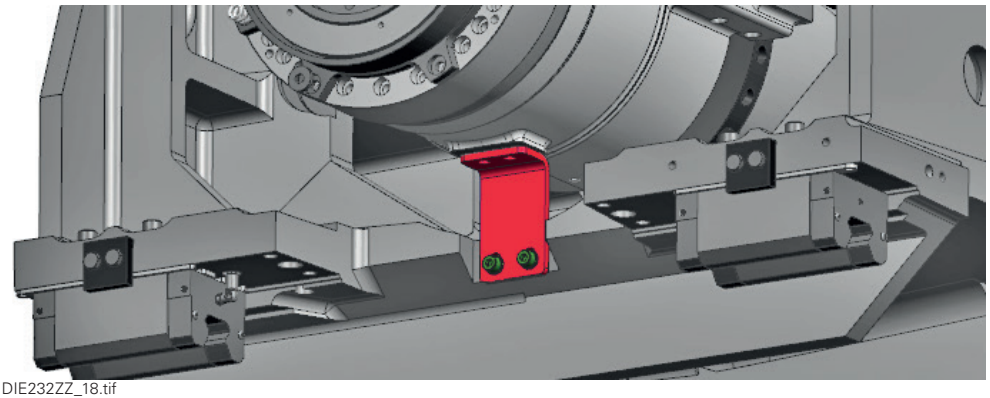
TC1	
X	0
Y	-60
Z	700

Y1



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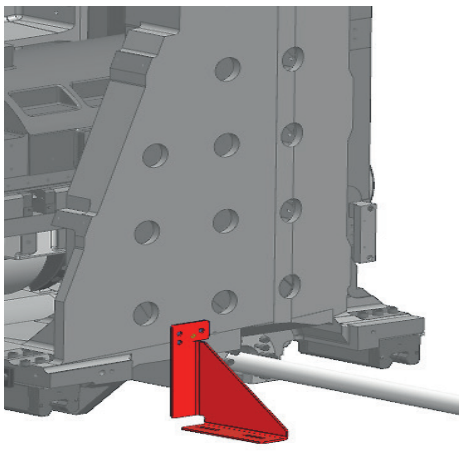
Z1



DIE232ZZ_16.tif

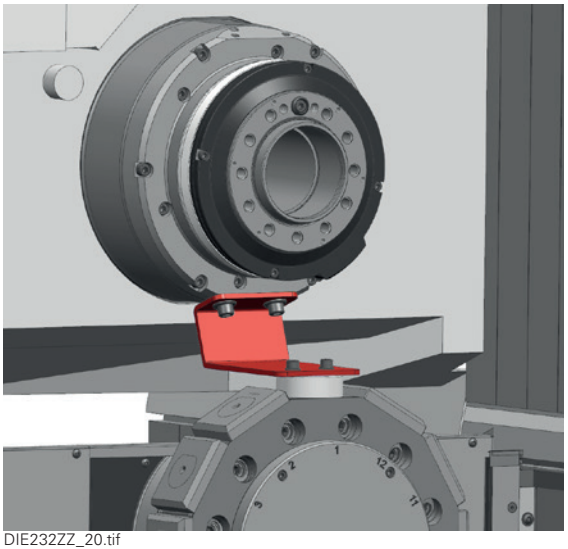
(*TC = tool carrier)

Tool carriers 2 and 3 (TC* bottom) G200.3/G220.3/G320

There are no separate transport locks for the X axes on tool carriers 2 and 3.
These are braked without power.

Before attaching the transport locks, the tool carriers were moved to the following positions:

TC2		G320 compact
D76	D90	D102
X 218	X 230	X 245
Y 5	Y 0	Y 25
Z 85	Z 93	Z 70



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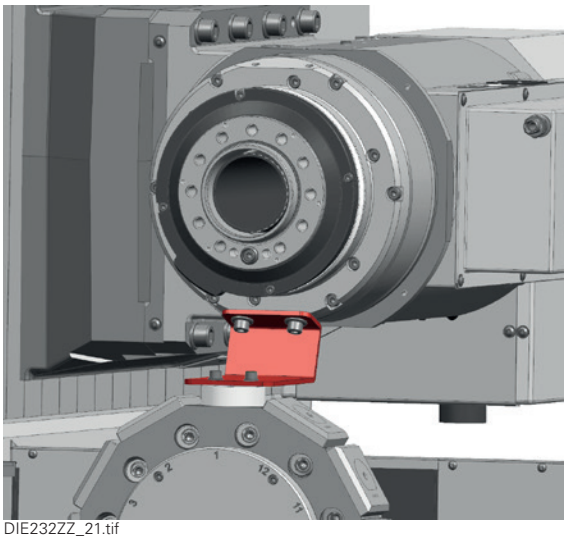
TC3	
D76	D90
X 218	on request
Y 5	
Z 1105	



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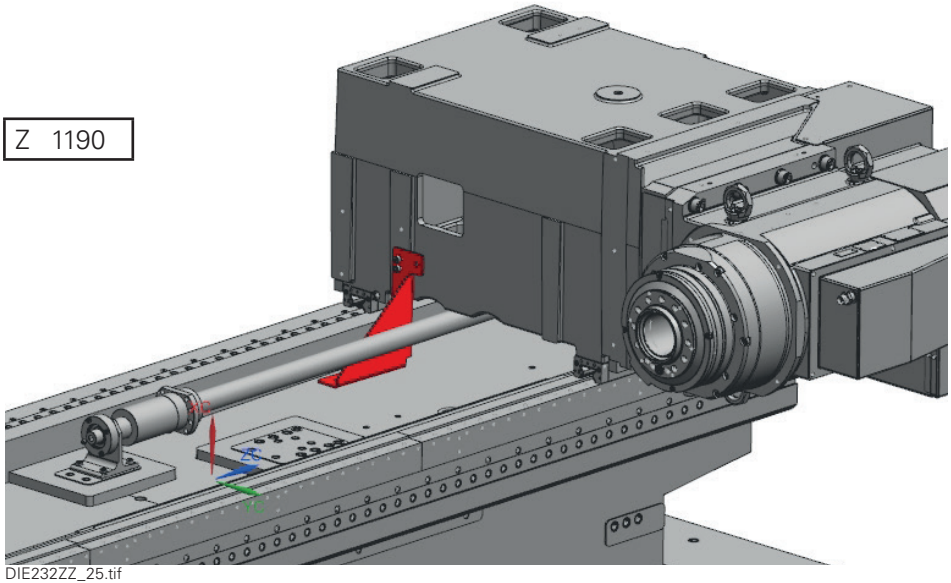
(*TC = tool carrier)

Counter spindle

Z5

Z 1190



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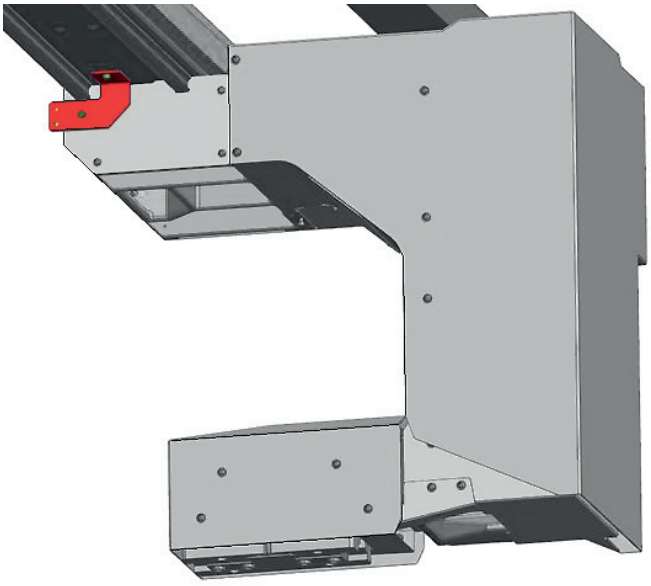
Workpiece handling unit

Z8



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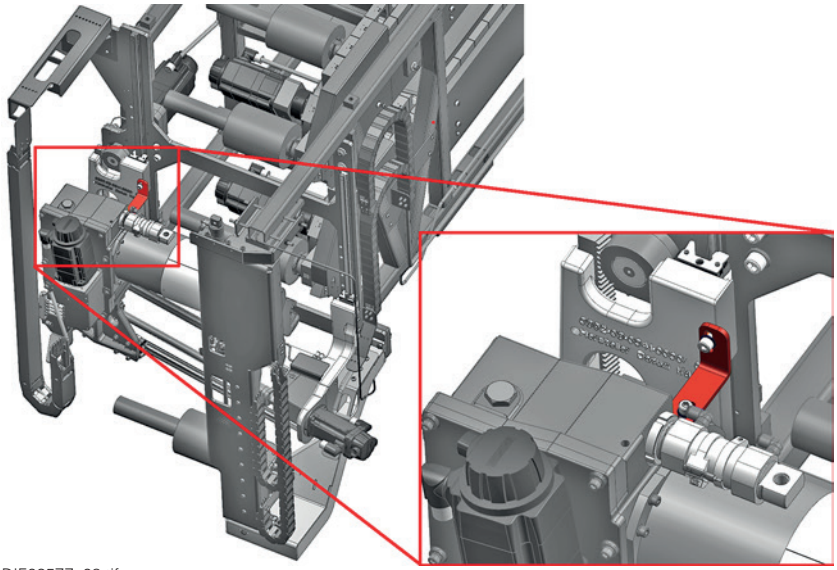
Workpiece handling unit 1 shaft	Z 1300
Workpiece handling unit 2 shafts	Z 1360
Workpiece handling unit 1 flange	Z 1560

(Relative to center of the gripper and the machine zero point)

Tool magazine



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Unloading and transporting of separate units

Configuration levels or auxiliary units such as chip conveyors, bar guides, bar loading magazines are separate units.
They have dedicated transport regulations that must be observed for unloading and transporting.
(Chapter 1 “Instructions” - Chapter 3 “Third-party documentation”)

Do not step under suspended loads.

Minor separate units do not have specific transport regulations.
They either rest on a pallet or are included in the packaging of another unit.

Follow the manufacturer’s documentation!

Documents and drawings of auxiliary units from other manufacturers can be found in Chapter 3, “Third-party documentation”.

Use suitable round slings or straps for unloading and transporting.

Attach the round slings or straps, making sure they cannot slip and the load is securely suspended.

Attach the ropes or straps to any eyebolts that are provided for transport.

Unpack the accessories and check them for completeness

After unloading, unpack the machine accessories and check them against the information on the delivery form for completeness (compare with the bill of lading or delivery form).

In case of discrepancies, contact **INDEX** or your **INDEX** representative.

Installation

Electrical connection

Important notes

Caution: danger to life

All work on the electrical equipment must be carried out exclusively by properly trained qualified personnel.

The control voltages are connected on one side with PE according to EN 60204-1. See the information on the circuit diagram.

Only open the control cabinet when the main switch is switched off. When the main switch is switched on, secure the area in accordance with the applicable safety standards.

See the order confirmation for the precise electrical requirements. The electrical documentation supplied is definitive and binding. They should be available to **INDEX** customer service at all times.

The machine must be connected to the electrical supply network via the main switch (multi-wire cable). The connection must be made with a clockwise rotating field.
The electrical connection is indicated in the wiring diagram.

The machine is prepared for connection to three-phase power lines (TN-S network).

Before connecting the machine, check that the existing power settings and network form of the respective power supply company match the ratings defined for the machine.
If this is not the case, a transformer is required.

The guidelines and regulations applicable in the country of use must be followed.

Fluidic system

The cooling compressor, lubrication unit, and hydraulic system are located on the left front/rear side of the machine.

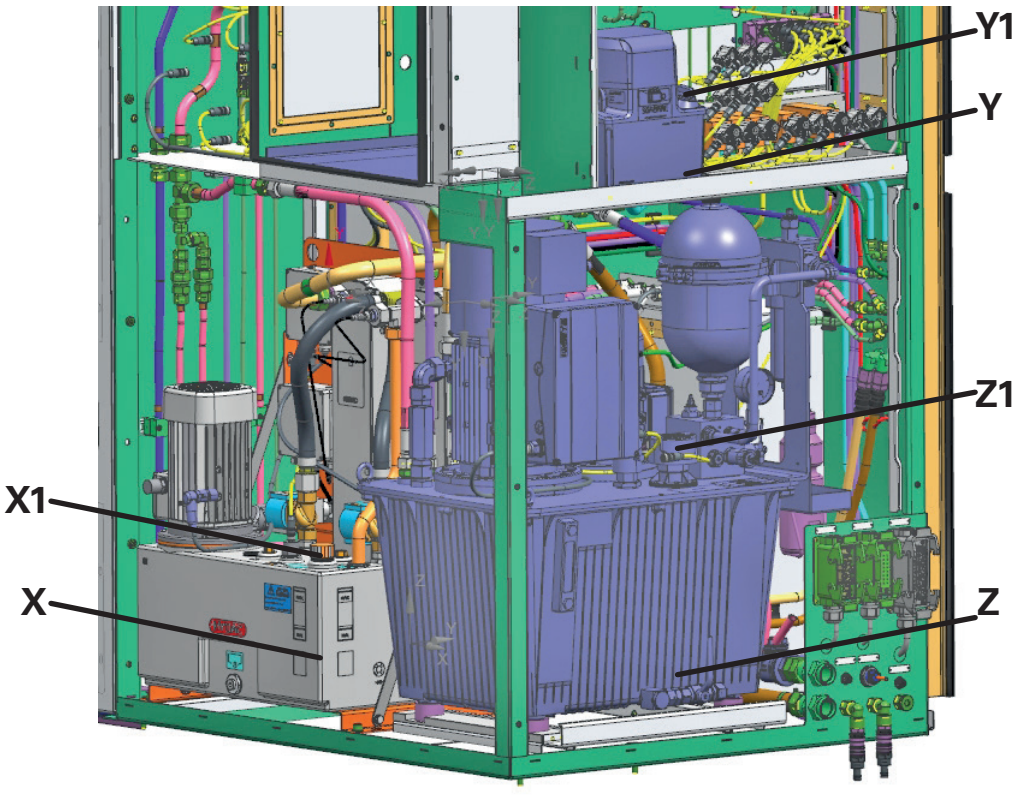
Coolant tank (**X**), lubricating oil tank (**Y**), and hydraulic tank (**Z**) were not emptied before transport.

Fill in only the coolant indicated on the coolant tank (**X**) at the filler neck (**X1**).
The filler neck has a ventilation opening.

Fill in only the oil type indicated on the lubricating oil tank (**Y**) at the filler neck (**Y1**).
The filler neck has a ventilation opening.

Fill in only the fluid type indicated on the hydraulic tank (**Z**) at the filler neck (**Z1**).
The filler neck has a ventilation opening.

A selection of lubricating oils, hydraulic fluids, grease and cooling lubricant types and filling quantities can be found in the following documents: Chapter 1 Instructions: "Information on working media" "Hydraulic diagrams" "Installation plan" "in Chapter 2 "Diagrams and drawings".).



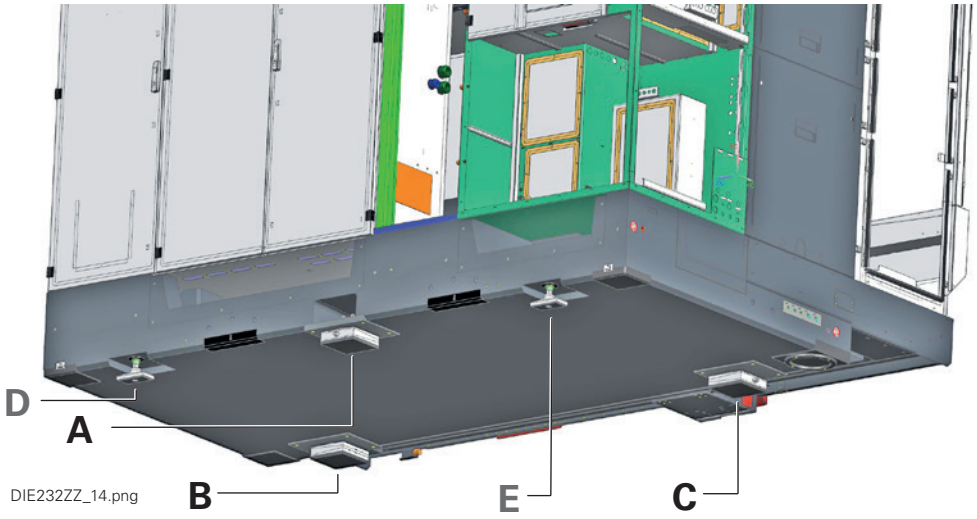
DIE232ZZ_09.jpg

Installing the machine

The G200.3/G220.3 machines are equipped with five adjustable machine feet as standard. Only machine feet **A, B, C** (wedge shoes) are used to level the machine.

To enable the installation of a bar feeder, the machine must be adjusted to 1400 mm +/- the main spindle height. Note the adjustment range of the wedge shoes +/- 10 mm.

Be sure to follow the procedure described below.
Before finally setting the machine down at the installation site, turn the machine feet **D**, **E** back as far as necessary. They must not affect the alignment of the machine. Also, rotate the wedge shoes **A, B, C** so that the set screws **(1)** point outwards.



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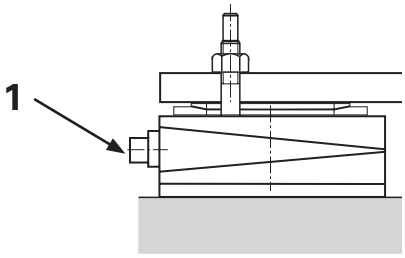
Adjustable machine foot (wedge shoe)
A, B, C



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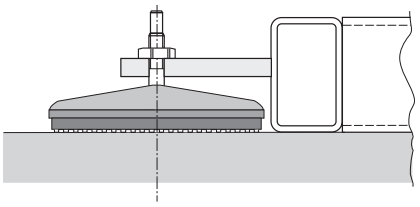
Adjustable machine foot
D, E



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Leveling the machine

(Accuracy 0.1 mm/m – also check by inverting the level)

Leveling in the Z and Y directions

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To level the machine, place spirit levels at certain points. For example: precision spirit level 0.10 mm/m (Roeckle).

Leveling in the Z direction

– Place the spirit level on the guide rail Z1.

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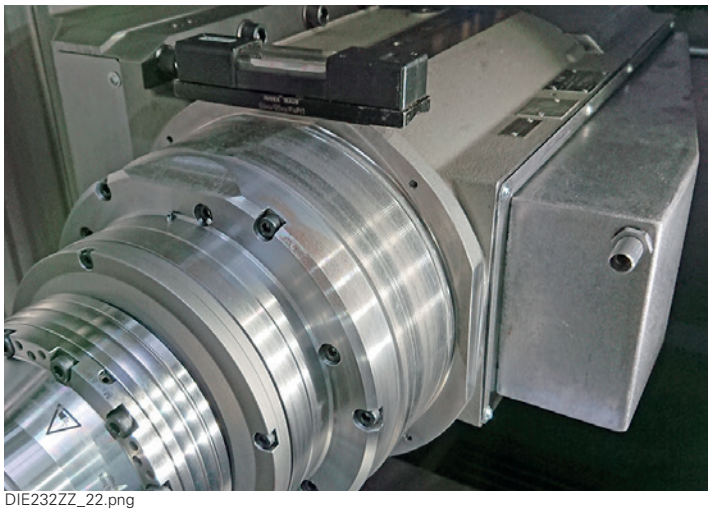
Leveling in the Y direction

– Place a second spirit level on the surface of the counter spindle (Fig.) (Y direction).



DIE232ZZ_22.png

– Next, level the machine by adjusting the machine feet **A**, **B**, and **C**. The machine must then be absolutely horizontal.
– Do not remove the spirit levels yet.

A dial gauge is required for adjusting the machine feet **D** and **E** as described below. Place the dial gauge at the bottom on a flat surface (small metal plate **1**) and set it against the machine bed from below.

– Next, tighten the machine feet **D** and **E** to a pretension of 0.1 mm (check with the dial gauge).

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– While setting the machine feet **D**, **E**, the position of the machine must not change.

To verify, check the indications of the two spirit levels once again.

After completing the leveling procedure, remove the spirit levels from the machine.

In addition, all covers must be reinstalled, and all access doors must be closed.

Installation and leveling of configuration levels and auxiliary units

The bar feeder must always be doweled in conjunction with a bar feeder, the machine does not need to be doweled.

Bar feeders have leveling elements that allow them to be aligned flush with the work spindle with ± 0.1 mm/m accuracy.

The conveyor belt, pallet station, etc., also have leveling elements that allow them to be aligned longitudinally and laterally to the main spindle's axis of rotation with ± 0.1 mm/m accuracy.

(For further information, see the corresponding installation plan in Chapter 2 "Diagrams and drawings".)

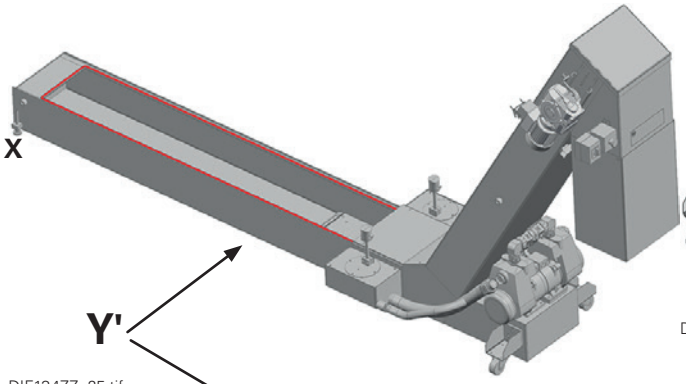
Installation and leveling of the chip conveyor

When setting up or installing the chip conveyor in the machine, make sure that:

- after being pushed into the machine, the chip conveyor is raised enough using the adjusting screws (**X**),
- and that the circumferential sealing lip of the chip conveyor (**Y'**) rests against and seals the contact surface (**Y**) underneath the machine.

Always lower the chip conveyor before removing it from the machine. Use the adjusting screws (**X**) to lower the chip conveyor until it is back on the rollers.
Pay attention to sealing lips (**Y'**)!

Due to the different chip conveyors that can be installed on the machines, the respective manufacturer's documentation must be observed during installation.



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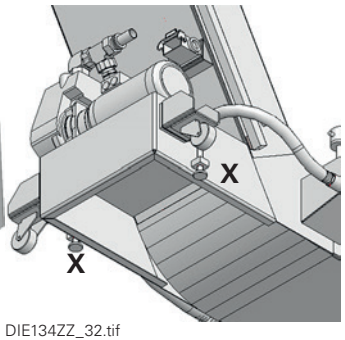

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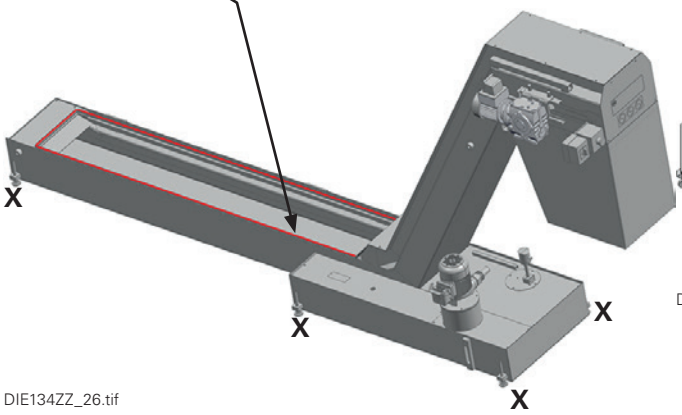

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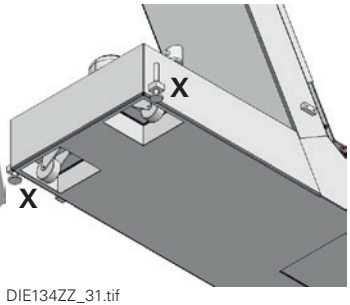

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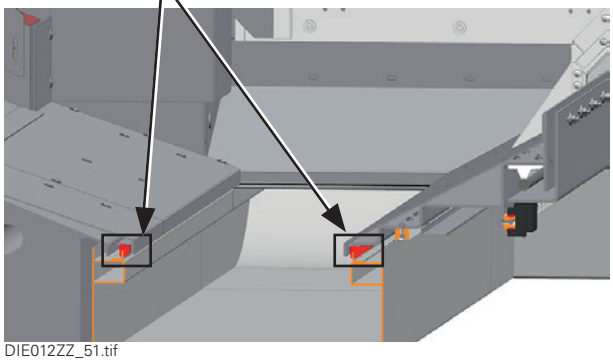
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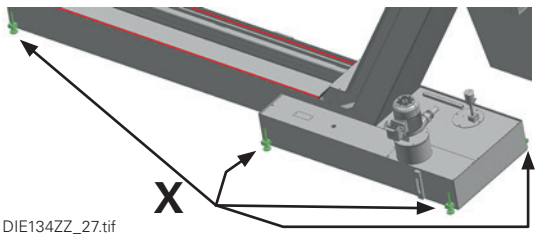

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Commissioning

This section lists all the actions that must be carried out in the order given before the machine is ready for start-up.

Before commissioning the machine, unscrew all transport locks (**recognizable by their red color**) and keep them for another transport in the future.
Refer to Section "Location of transport locks".

Be sure to reattach the work area cover above the machine after removing the lifting device.

Fit the cover panel (**X**) before commissioning the machine.

Operating the machine without this cover plate (X) is prohibited.

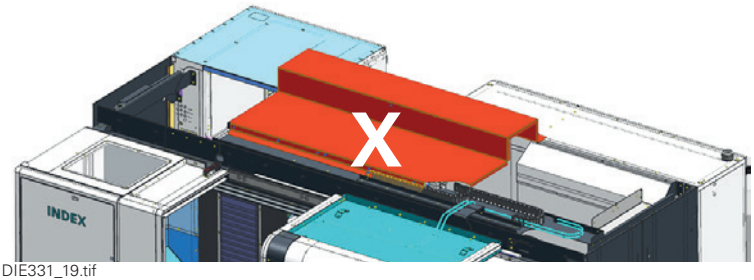

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Fig.: Example of a cover (**X**)

Cleaning the machine

All blank parts of the machine were treated by spray-covering with an anti-rust agent. Usually, this protective cover is flushed away by the cooling lubricant during the operation of the machine.

Solvent may splash into the eyes when cleaning the machine. Protect your eyes by wearing suitable safety goggles.
Protect your hands and arms during cleaning work in the work area of the machine. Wear long-sleeved clothing and suitable gloves.
Risk of injury by sharp machine parts and cutting edges.

The anti-rust agent must be washed off if the machine is put into operation after a long time and the protective layer has become very tough.

The mounting surfaces for tool holders and auxiliary units must also be cleaned.

For this purpose, only solvents may be used that do not affect the machine paint. Suitable solutions are turpentine, petroleum, or benzene.

Check the operating fluid levels and replenish, if necessary.

Hydraulic system: ..... Fluid level check

Cooling lubricant system..... Replenish cooling lubricant.

Central lubrication system: ..... Oil level check

Auxiliary units..... Oil level check

Cooling: ..... Level check

Observe the quality of working media such as lubricating oil, hydraulic fluid, cooling lubricant and cooling, as well as the filling quantities and filling points. Information on this can be found in Chapter 1 Instructions: "Information on working media" and "Hydraulic diagrams" and "Machine installation plan" in Chapter 2, "Diagrams and drawings".

Pressure accumulator

If the machine was shipped by plane, all pressure accumulators attached to the machine are depressurized.
Before commissioning the machine, a specialist must refill all pressure accumulators with nitrogen (N_2). The prescribed pressures must be observed.
For the prescribed pressures, see the hydraulic diagrams in Chapter 2 "Diagrams and drawings".

Data loss due to prolonged downtime

The machine is functional only after all data have been entered.

After a prolonged downtime of the machine, data may be lost in the RAM.
In such a case, the lost data must be re-entered or re-loaded before the machine can be put back into operation.

The data are recorded in the start-up report and backed up on a storage medium. The start-up report and the storage medium are located in the document pocket in the control cabinet door.

Switching on the machine

See document "Operating the machine".

Relocation

Be sure to clean the contact surfaces of oil and grease before reattaching the transport locks.

Refer to Sections “Transporting the machine” and “Location of the transport locks”.

Replace filling/breathing filters on the hydraulic unit and cooling compressor with blanking plugs.

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Fig.:
Example of filler neck and blanking plug

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Example:
Filling and breathing filter
by ARGO-HYTOS GmbH

Additional information for any new transport of the machine

Before transporting the machine again, be sure to read Chapter "Transporting" and Section "Location of the transport locks ....".

All transport locks and transport devices must be mounted. To fit the transport locks, assemblies may need to be moved to a defined position.

When assembling the slings, be careful not to damage the ballscrew or the glass scale.

The tightening torque of 300 Nm for the screws (M36) of the slings must be strictly observed.

Checking the lifting device

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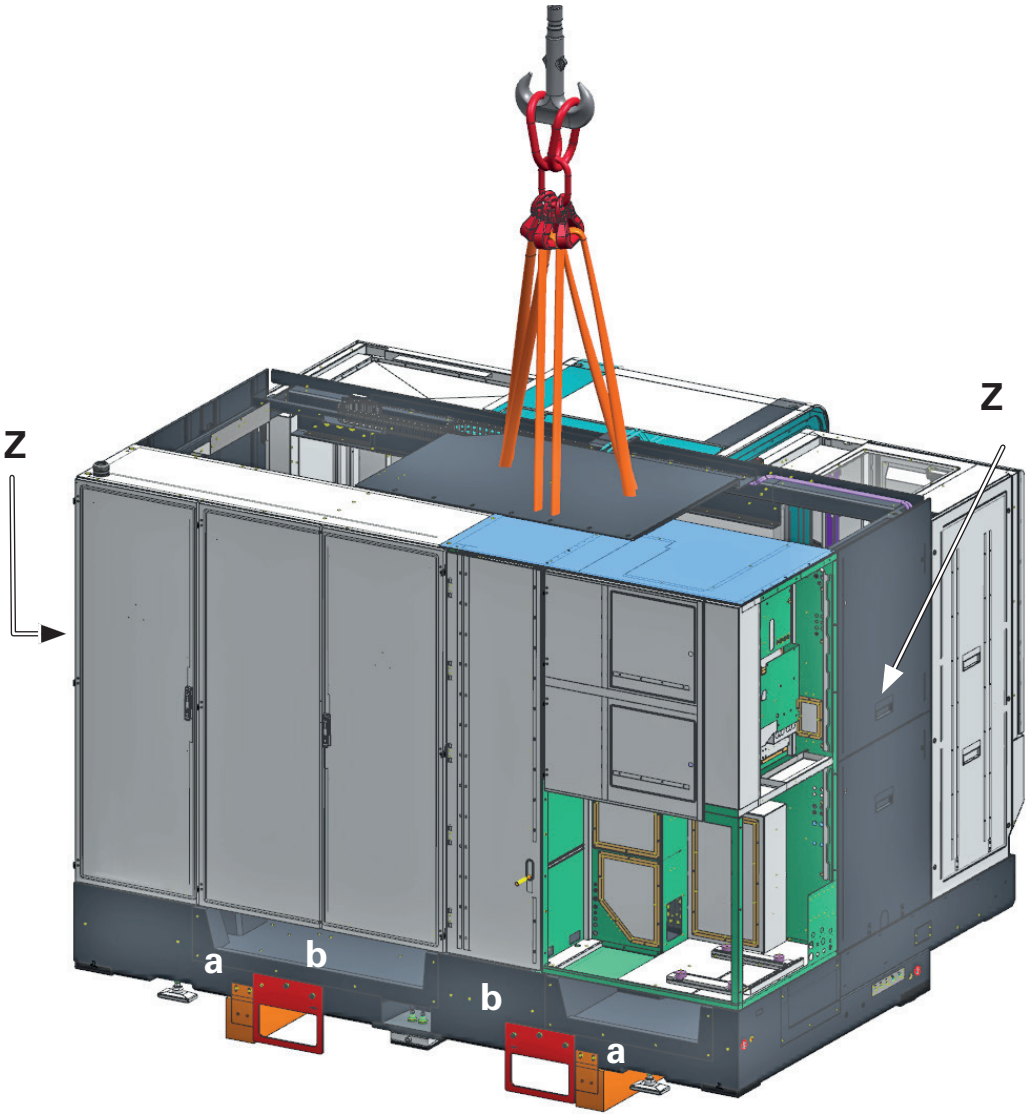
Before re-use, be sure to check and evaluate the entire transport gear (visual inspection).

In the event of obvious damage, such as deformation or cracks, it must no longer be used.

Fig.:
View of slinging equipment as a whole
– with turnbuckle

Loading the machine onto a truck

1. First, the wooden planks (**a**) must be reassembled (additionally fixed with tab washers (**c**)).
2. When transporting with a forklift truck, the transport lugs (**b**) must be mounted.
3. In addition, several side panels (**Z**) on both sides of the machine must be removed for lashing on the truck.



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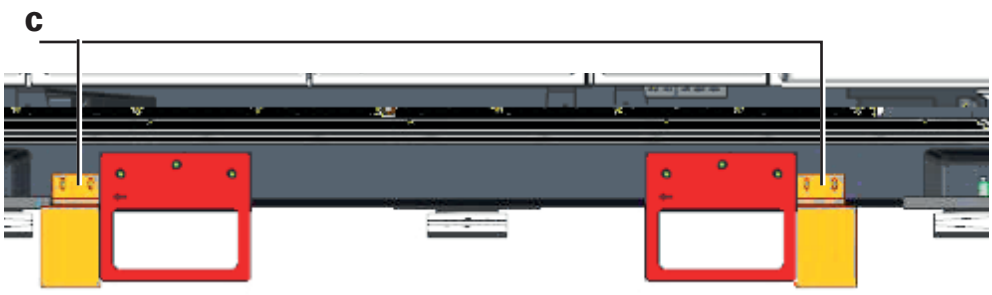
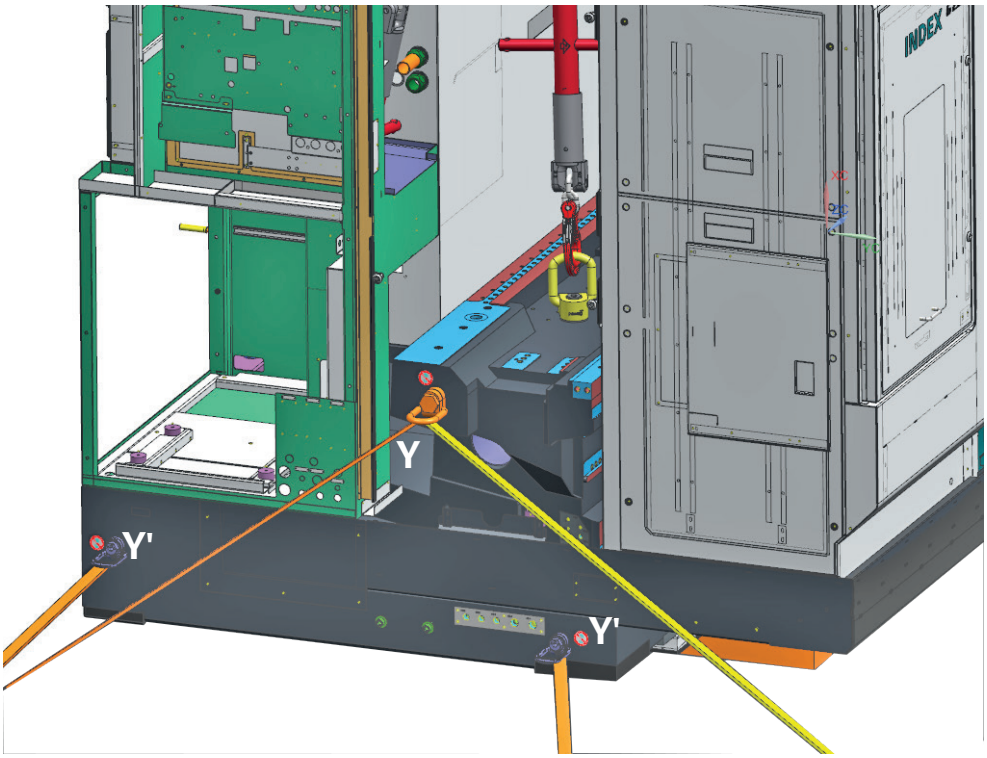


Suspension and lashing points

Anti-slip mats must be placed between the loading platform and the two screwed-on wooden planks.
The machine must be secured using the lashing points (**Y+Y'**) to prevent slipping on the loading platform.



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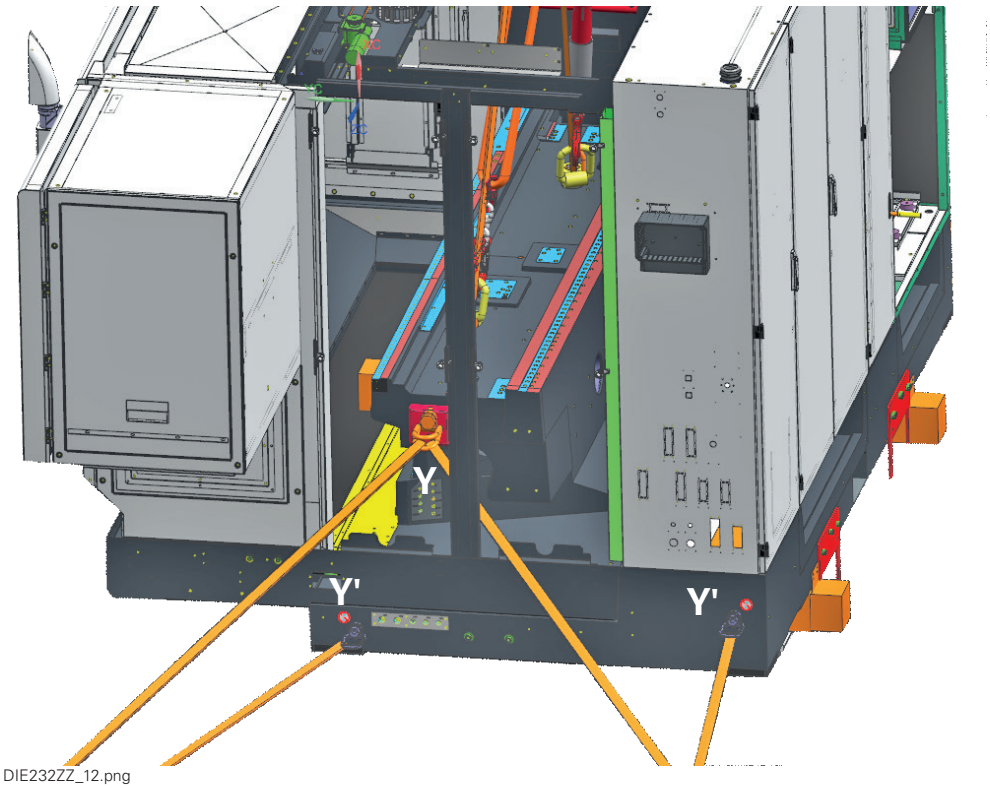

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Accessories

Only for machines equipped with chip conveyor

Unscrew the cooling lubricant line at the screw connection above the cooling lubricant tank. Loosen the connections of the power supply lines to the cooling lubricant pump and to the chip conveyor motor.

Pull out the chip conveyor and clean it.

Only for machines with a separate workpiece feeder

Disconnect the energy supplies, and close the connections, if applicable.

Provide the appropriate lifting device for the respective workpiece feeder.

Pressure accumulator

For transport by air, all pressure accumulators attached to the machine must be depressurized and emptied by a specialist.

Set the main switch to OFF and lock it against powering on.

Depressurize the hydraulic system by opening the accumulator drain valves.

The guidelines and regulations applicable in the country of use must be followed.

INDEX

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www.index-werke.de

Änderungen • Technische Dokumentation • Abt. TED INDEX

Titel:	Transport, Aufstellung, Inbetriebnahme Transport der Maschine	**Lit. Nr.:**	DIE232DE DIE233DE	**Aus-gabe:**	2024-09-02	
Maschine:	G200.3 G220.3 DL900 mm	**Steue-rung:**	-	**Spra-che:**	Deutsch	
Datum:	2024-04-03	**Name:**	Kugler/ Spohrer	**PDF vorhanden?**	ja	

Anmerkung: Das fertig ausgefüllte Formular ist die letzte Seite der elektronischen Datei und liegt auch den Druckvorlagen bei.

Bemerkungen bzw. Änderungen zum Vorgänger

Datum/ Version	**Änderungsbeschreibung**	**Seite**	**Name**
08.06.2021	Start. Vorgängerdokument DIE140DE, Dokumente DIE232DE+DIE233DE anlegen	alle	Kg
17.06.2021	1.Recherche mit A.Negele, Inhalte der G220.3 einarbeiten (Texte/Grafiken).	alle	Kg
19.08.2021	Vorab-Dokument (Entwurf) fertig. An Kerstin, Achim, R.Stark	alle	Kg
21.09.2021	Korrektur Transportsicherung WT oben mit MFS von Stefan Schaller (Y-Wert)	30	Kg
29.09.2021	CI lt. H.Gondek	alle	Kg
05.10.2021	Ergänzung Transportsicherung GSP von R.Stark (Grafik + Z-Wert),	31	Kg
05.10.2021	(Teilweise falsche) Infos von M.Brill. Neue Infos+Grafiken von Achim+R.Stark	viele	Kg
13.10.2021	Dokument publiziert	alle	Kg
20.12.2021	Neue Transportsicherungen für WT unten (Grafiken+Tabelle aktualisiert)	31	Kg
25.01.2022	Dokument nun auch gültig für G200.3. Anpassungen/Ergänzungen ... neue Grafik	Cover, 30	Kg
04.02.2022	Neue Transportposition für WT (Werte aktualisiert). Keine Holzabdeckungen	20, 31	Kg
2022-12-05	Überarbeiten nach Übernahme von Dieter. Einfügen "Bodenbeschaffenheit" und Anschluss der Maschine nach Staiger. Info Book - Verwendung/Position des Lenkfahrwerks Telleraufnahme am Maschinenbett - Überarbeiten der Ansichten beim Kranentransport und Hebevorrichtung. Abgleichen/Anpassen mit TNX220.3 Abschnitt der "Verdübeln der Maschine" neu	kompl.	Sp
2023.03.15	Entfernen Nullserie vom Titelblatt - Einfügen Transportsicherung Werkzeugwechsler Wassermann (lt. Stark)		
2024-04-03	Transportplan und Gewichtsverteilung prüfen und anpassen		
2024-09-02	Einfügen der G320 compact/Transportsicherungen/Schutzblech oben	div.	Sp