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Transport

Series	**V160**
Control system	**C200-4D**

LU1202.10041-0603
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Validity note

Illustration may differ slightly from the product which was delivered. This will not impair the understanding.

This document is subject to modifications due to technical progress.

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General safety instructions

V160

Means of transport

For loading and transporting the machine only use lifting gear, load suspension devices and suitable trucks with sufficient carrying force and loading space.

The machine must always be lifted expertly by making use of appropriate lifting gear and according to the specifications stated in the operating instructions. When lifting the machine by means of a crane use the pertaining transport equipment. This applies also to certain additional transport devices.

Observe the prescribed carrying force and length when choosing your own transport equipment and carrying ropes. For carrying and installing the machine use a crane and faultless carrying ropes according to the relevant regulations and directives and which are dimensioned for such a load.

Personnel qualification

Machines may be transported by authorized and qualified persons only. Only entrust experienced persons with fastening of loads, lifting of the machine and instructing crane drivers.

The person who guides in the crane driver must stand in sight of the driver or must have voice contact.

Transport locking devices

Before carrying the machine attach transport locking devices and equipment necessary to prevent an unintentional shifting of the machine.

Secure the load by guying it with tapes or ropes. Fix the tapes or ropes to the intended points at the machine and at the truck.

Stay under suspended loads

There must be no person or limbs of a person under suspended loads.

Additional transport devices

Observe the pertaining transport instructions for additional transport devices (e.g. swarf conveyor or charging and discharge units).

Anticorrosive

Anticorrosives may contain harmful substances. Only use anticorrosives in thoroughly ventilated rooms and wear approriate personal protective equipment.

Anticorrosvies have a low flash point (40-60C). Do not use them in the vecinity of uncovered fire, flying sparks (e.g. welding work) or other sources of heat.

Please read the manufacturer’s instructions.

Hydraulic unit

Environmental pollution caused by hydraulic oil leaking out

The hydraulic oil remains in the hydraulic unit during transport. Observe the relevant regulations when transporting the machine.

Use all transport locking devices to prevent that hydraulic oil leaks out.

Air and sea transport

Prior to air or sea transport, gas pressure on all pressure accumulators must be depressurised.

Before start-up, the gas pressure must be reestablished on all pressure accumulators.

Only qualified persons are allowed to reestablish the gas pressure with nitrogen (N_2). Heed technical data when reestablishing gas pressure.

Protection against corrosion

During transport, the machine must be protected against corrosion. Apply a water displacing anticorrosive containing hydrocarbon (dewatering fluid) to all bare parts (e.g. product 396/12 from Castrol).

If the machine is transported by sea, it must be wrapped together with desiccants (e.g. hygroscopic powder or VCI mats) into plastic foil.

Means of transport

Suspension devices for transport by crane

A suspension device is required for transporting the machine with a crane:

The suspension device consists of:

- 1 T-traverse
- 4 mounting hooks
- 2 transporting ropes
- 2 chains

The suspension device will be delivered together with the machine against payment. It can be returned against credit after installation of the machine.

Hydraulic jack

Basically the following applies to the use of an hydraulic jack:

- The hydraulic jack must stand fast so that it cannot slide.
- The hydraulic jack must have sufficient carrying force.
- The machine must not be lifted or lowered more than 10mm during each lifting/lowering operation.

  Proceed step by step and place suitable material under the machine.
- The machine must have at least three contact points. The hydraulic jack must not be used at more than one point.

Transport wheels

Basically the following applies to the use of transport wheels:

- The transport wheels must have sufficient carrying force.
- Connect the steerable transport wheel to the rigid wheels using steel cables thus preventing the transport wheels from slipping when the machine is pulled.

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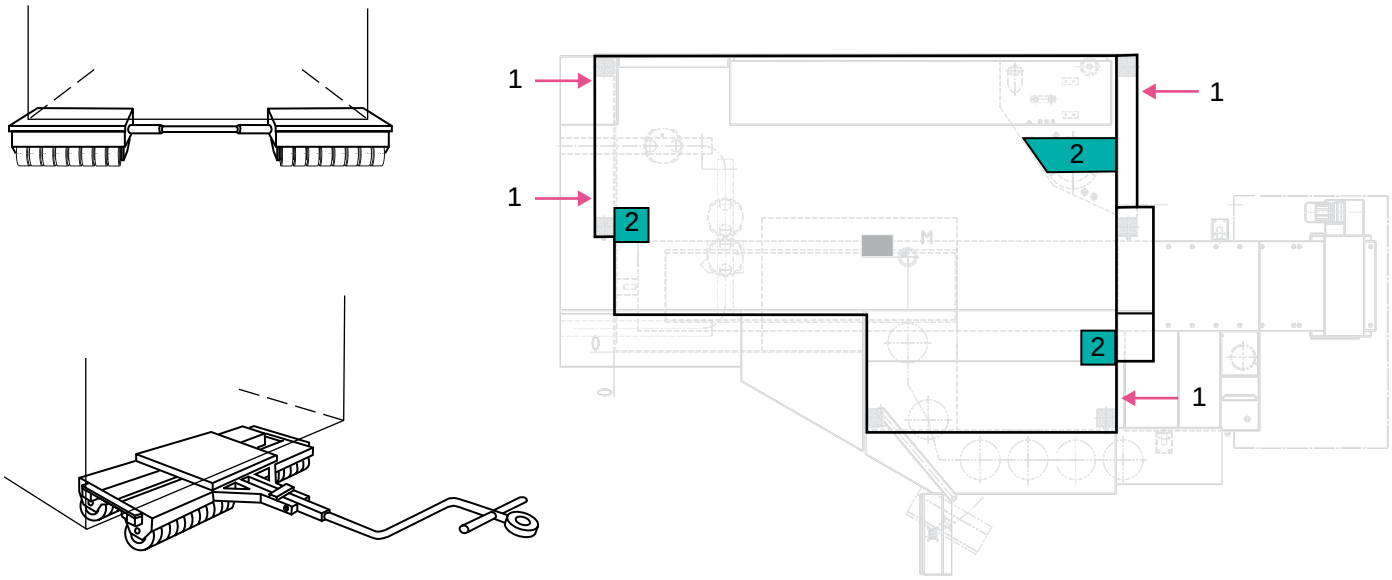

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Use of the transport wheels

1 Hard points for hydraulic jack
2 Seat for transport wheels

Transport locking devices

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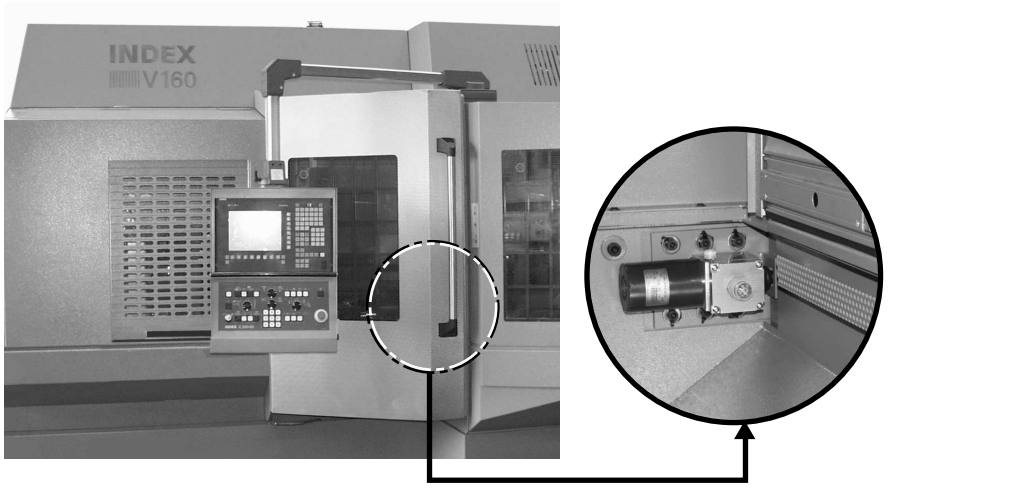
Securing the sliding door



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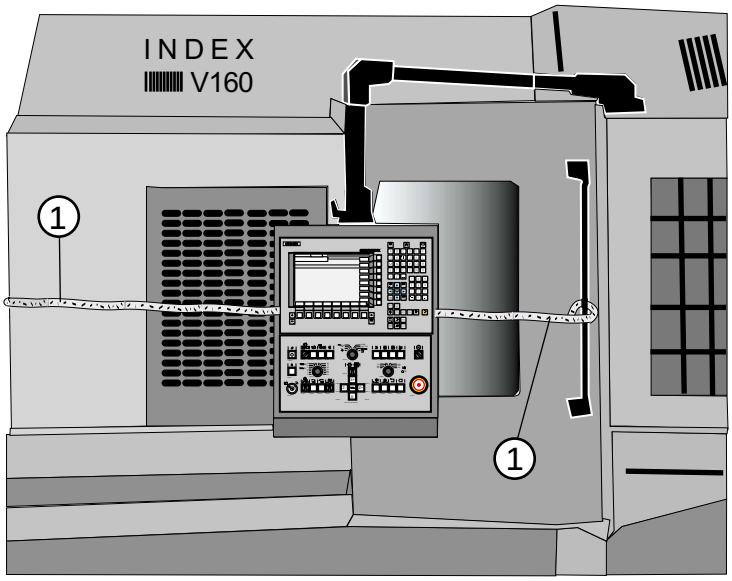
Hood switch of the sliding door in the machining area

1. Close the sliding door completely. After machine switch-OFF, the sliding hood is locked and secured by the hood switch.

Securing the operating panel



v160_maschine_vorne_strich.eps

1 String or rope

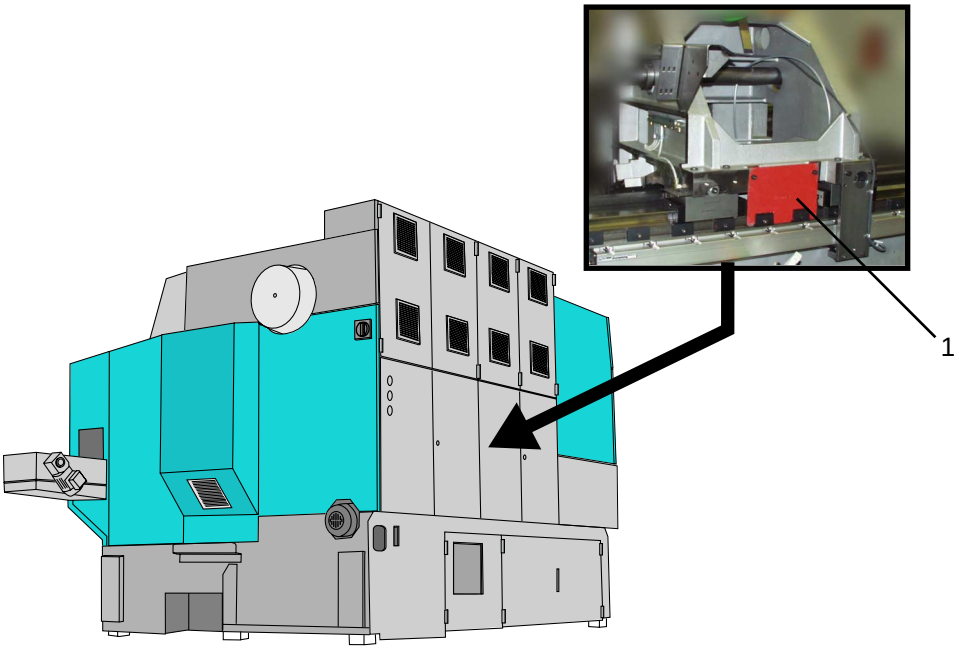
1. Swivel operating panel and supporting arm into transport position and secure with thick string or rope.

Slide position during transport

To prevent damaging of the machine during transport, certain movable elements must be fixed in a defined position. This is done by attaching respectively mounting of special transport locking devices.

Transport locking devices can be identified by their red colour.

Cross slide (lathe saddle and spindle slide rest)



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1 Securing the X-axis during transport

X-axisTraverse cross slide into the X *) direction

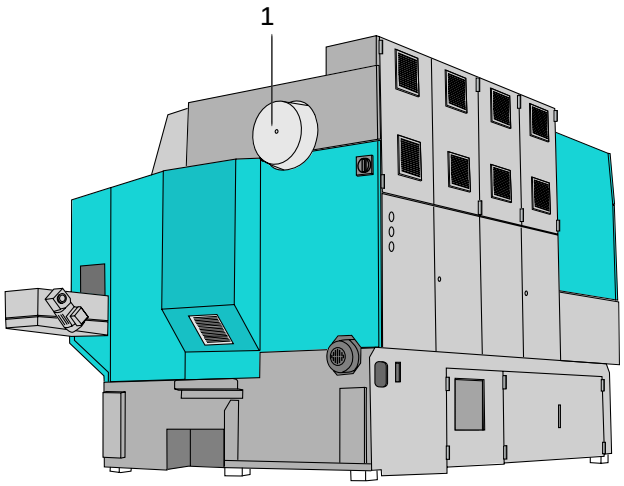
Secure cross slide in transport position by means of locking plate and cheese head screw M6x16. The attachment position of the locking plate is behind the switch cabinet.

Z axisTraverse cross slide in Z- direction into absolute end position (concerning this see "Operating the machine")

*The approach of the X-axis position of the cross slide happens individually from machine to machine. This slide position and the ideal gravity centre resulting thereof follows from the equipment of the machine (e.g.: turret, double turret, PUS (pallet circulating systems) in different sizes and types.

1. Mounting of transport locking devices

Removing the spindle airing filter



v160_2-1.eps

1. Detach airing filter (1)

Hydraulic unit

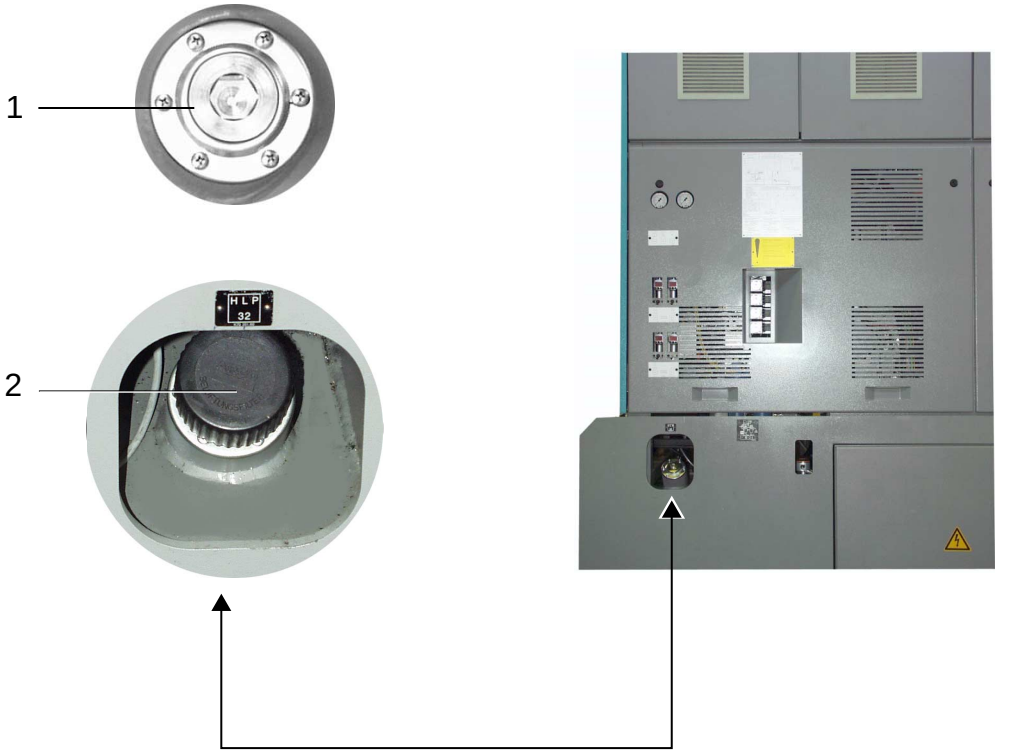
Filling and airing filter on the filler neck

The hydraulic oil remains in the hydraulic unit during transport. The filler neck of the hydraulic unit is sealed by means of a screw so that no hydraulic oil can emerge. After the transport, this screw must be replaced by the filling and airing filter.

Pre-conditions

The following tools are required:

- Hexagon socket key, 22 mm



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Sealing screw at the hydraulic unit

1 Sealing screw (mounted)
2 Filling neck with filling and airing filter (mounted)

1. Unscrew the sealing screw (1) at the filler neck (2).

2. Attach the safety chain to the filling and airing filter (2).

3. Screw in the filling and airing filter and tighten manually.

Pressure of pressure accumulators

Prior to air or sea transport, gas pressure on all pressure accumulators must be depressurised.

Warning!

⇒ Pressure accumulators may be depressurised by authorised and qualified persons only.

⇒ Observe the prescribed pressure when filling the pressure accumulator.

1. Depressurise the pressure accumulators.

Loading and unloading the machine

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Designation and activity

1. Step-by-step description of the required activities.

Loading the machine

Pre-conditions

The following information only applies to series version machines. Different rope lengths and different suspension points at the load girder may result in case of machines with additional attachments. Therefore, as a matter of principle, use the transport equipment pertaining to the machine, only.

In case of doubt, please contact our customer service.

Loading of the machine

The following transport means are required for transporting the machine with a crane:

- 1 T-traverse
- 4 transport hooks
- 1 transporting rope, Dia 20 , length 2500
- 1 transporting rope, Dia 20 , length 2150
- 1 shortable chain, Dia 20 , length 1200
- 1 shortable chain, Dia 20 , length 1200 (shortened by 2 links)

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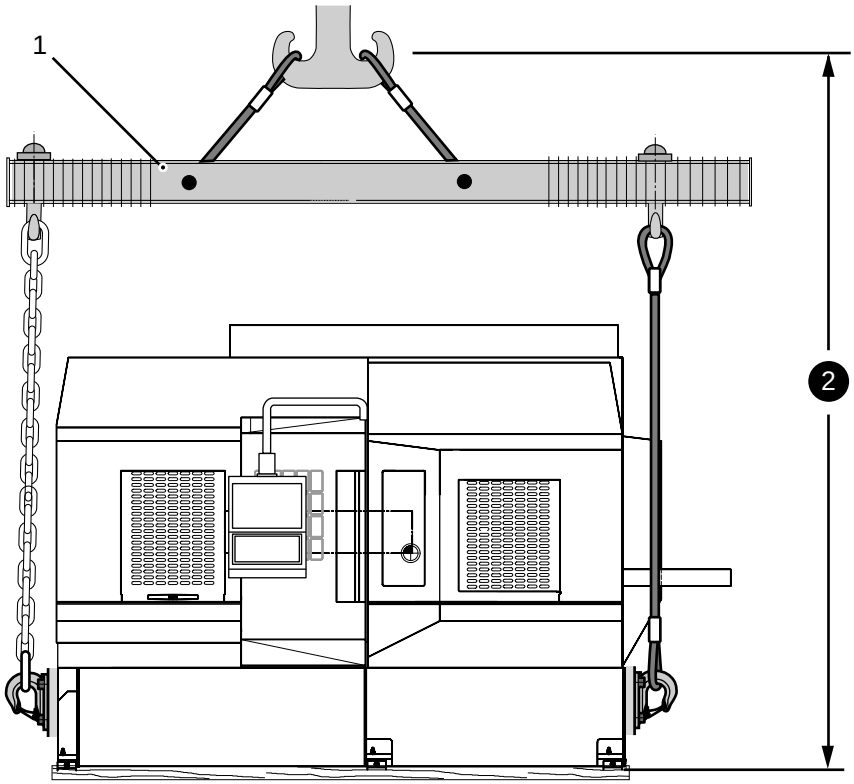

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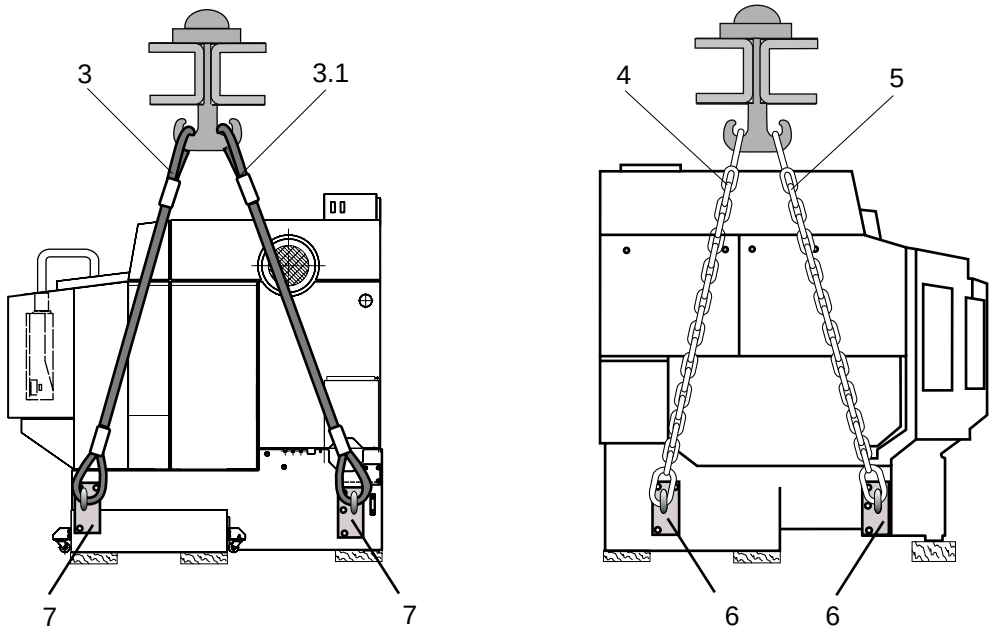

v160_transportgeschirr-seitenansichten-1.eps

Transport equipment for transport by crane

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Weight of the transport equipment: approx. 430 kg			
Wooden base			
Position	pieces	Designation	Order no.:
1	1	Load girder safe up to 12 t	208315.1411
2		Total height: approx. 4000 mm	
3	1	Transporting rope, Dia 20 x 2500	208113.2050
3.1	1	Transporting rope, Dia 20 x 2150	208113.2043
4	1	chain which can be made shorter Ø13 x 1200 - RUD 019423	
5	1	shortable chain, Dia 13 x 1200 (shortened by 2 links)	
6	2	Transport hook (safe up to 5t per hook) TAHK-10-8	208310.4603
7	2	Transport hook (safe up to 3.2t per hook) TAHK-13-8	208310.4602
concern-ing item 6 concern-ing item 7	8 8	Cheese head screws M16x40 DIN 912-12.9 Cheese head screws M20x40 DIN 912-12.9	410260.1640 410260.2040

Initial situation:

- The machine is disconnected from any supply and disposal equipment (e.g. electric network).
- Additional equipment is detached (e.g. swarf conveyor).
- Transport locking devices are attached/operable.

1. Mount four mounting hooks.

2. Hang the T-traverse in the crane hook.

3. Position the T-traverse above the machine and hang the carrying ropes respectively chains in the special mounting hook.

Lift the machine slowly and carefully.

The machine must be suspended horizontally from the crane. Put down the machine and correct the suspension if necessary. Carrying ropes respectively chains must not sit close anywhere.

Do not leave the machine suspended from the crane longer than absolutely necessary.

Warning!

Damages to the machine due to inappropriate supporting material or wrongly selected support points.

⇒ The supporting material must have sufficient carrying capacity and a nearly square cross section (e. g. wooden beam).

⇒ Select supporting points which have sufficient carrying capacity (e.g. machine base or base frame)

4. Position respectively fix supporting material at an appropriate spot.

5. Position the machine above the means of transport.

6. Put the machine down on the means of transport.

7. Secure the machine against unintentional shifting.

Installing the machine

V160

Pre-conditions

Initial situation:

- The machine is suspended at the crane.

1. Remove supporting material, if necessary.
2. Deposit machine on the means of transport or at the place of installation.
3. Remove transport equipment.

The machine must be aligned horizontally (+/-0.1mm/m).

4. Align the machine.
5. Draw up counternuts at setting screws.

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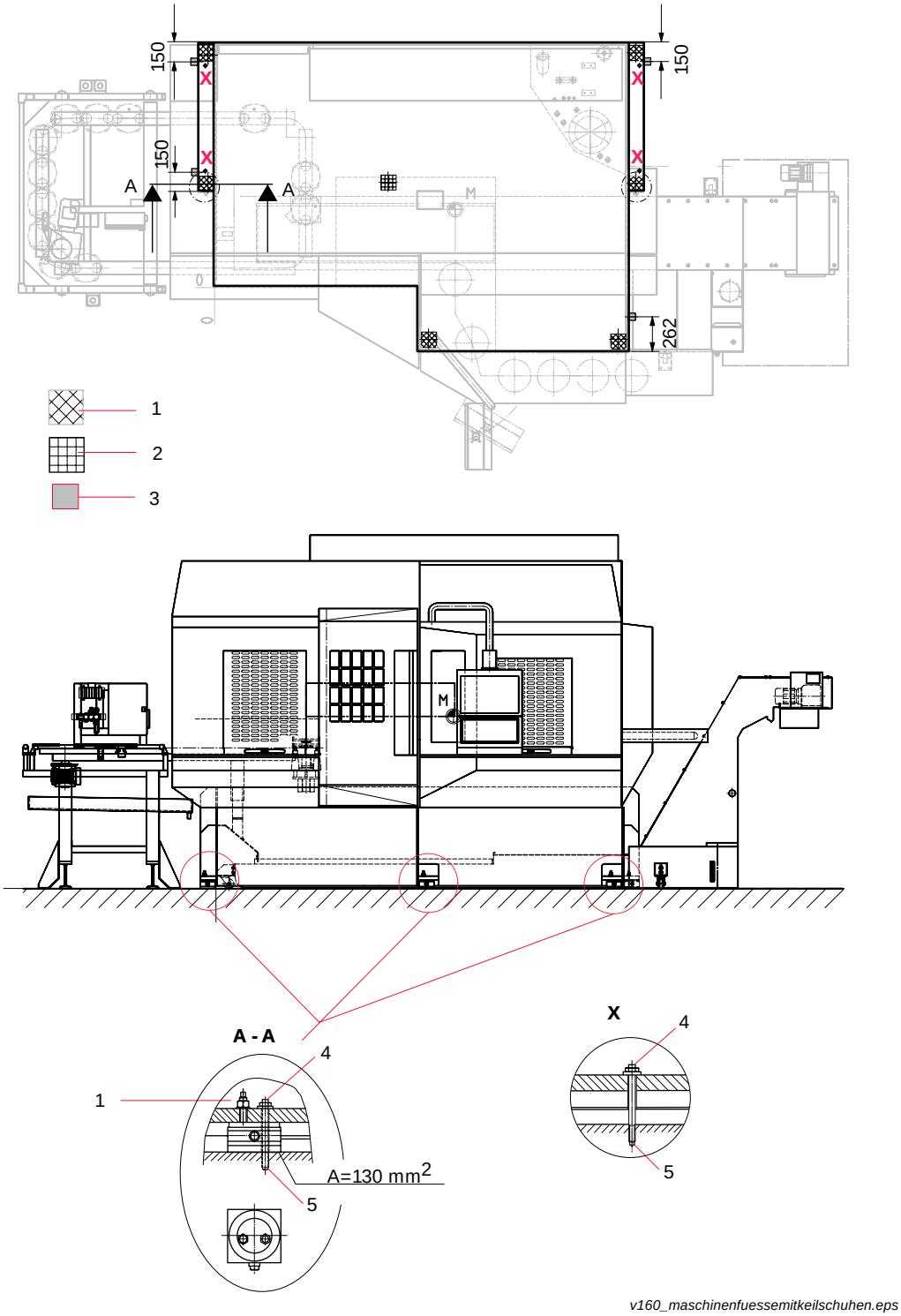

v160_maschinenfuessemitkeilschuhen.eps

1 Front machine base (pads)
2 Plate
3 Hard point at machine base
4 Threaded rod with nut (view X' and 'A-A')
5 Mortar cartridge

Machine with charging and discharging unit

A machine with charging and discharging unit must be additionally anchored in the floor.

Said anchoring can be carried out via the machine base (pads) and the neighbouring connecting drilling holes. See picture detail X" and "A-A".

Procedure:

Warning!

Damage to the machine or the charging and discharging unit caused by shifting of the machine.

⇒ Fasten the machine to the floor.

⇒ Please read the manufacturer’s instructions when using a mortar cartridge.

1. Drill a hole for the mortar cartridge.
2. Clean the drilled hole carefully.
3. Insert mortar cartridge (5).
4. Screw in the threaded rod with percussive and rotary movements.
5. Let the components harden.
6. Screw in the nut on the threaded rod and tighten with the predefined **torque**.

Chip conveyor with hinged belt

1. Push the chip conveyor under the machine.

2. Lift the chip conveyor by means of the adjustable foots. The chip conveyor must rest against the bottom box of the machine and the rollers must not contact the floor.

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INDEX-Werke GmbH &Co.KG Hahn &Tessky
Postfach 10 03 54
D-73726 Esslingen
Phone ++49 711 3191-0
Fax ++49 711 3191-587
Email: info@index-werke.de