

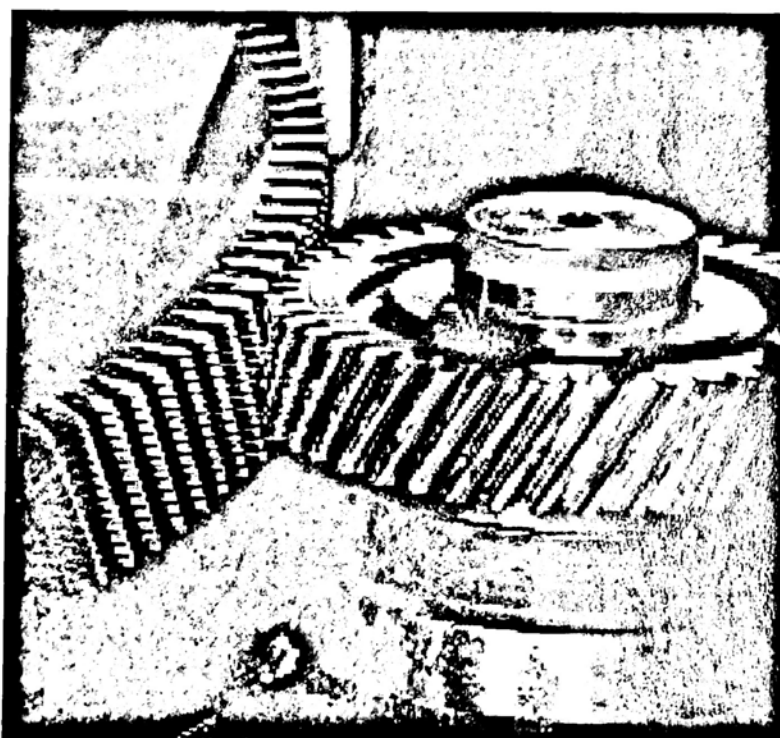
Gleason

genesis™

Gear shaving machine

130SVC

Operating instructions



Customer:

Hyundai

Hurth No.:

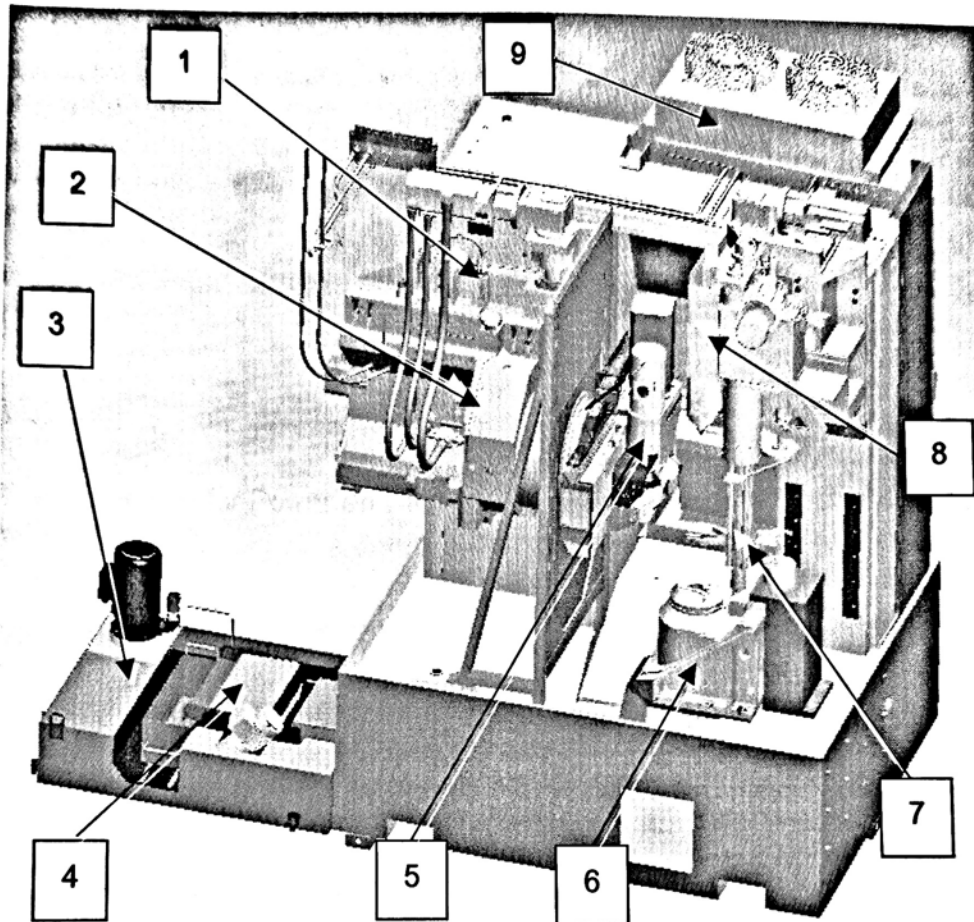
45122508

Machine No.:

A0378

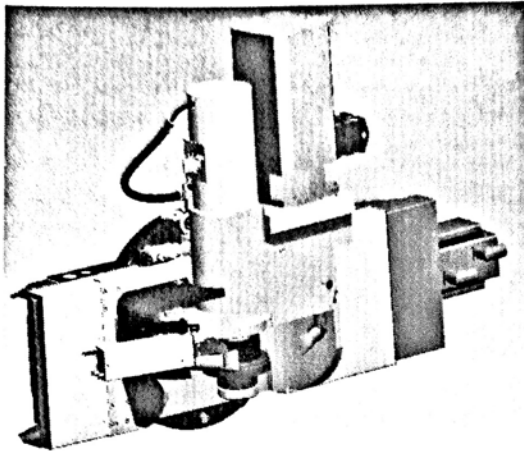
1 General view

1.1 Main elements of the machine

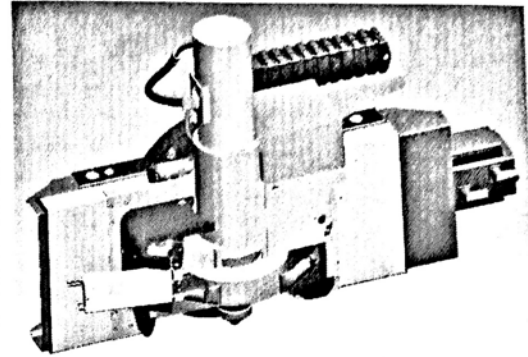


- 1 Axial slide
- 2 Radial slide
- 3 Coolant system
- 4 Magnetic filter assembly
- 5 Shaving head
- 6 C- axis (work head)
- 7 Automation with transfer grips
- 8 Tailstock
- 9 Fluid rack

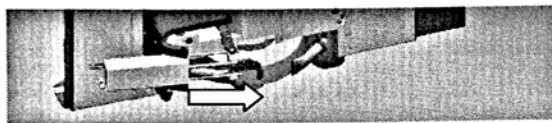
1.1.1 Sectional drawings of main components



Shaving head + for Power Shaving
(with extra drive)



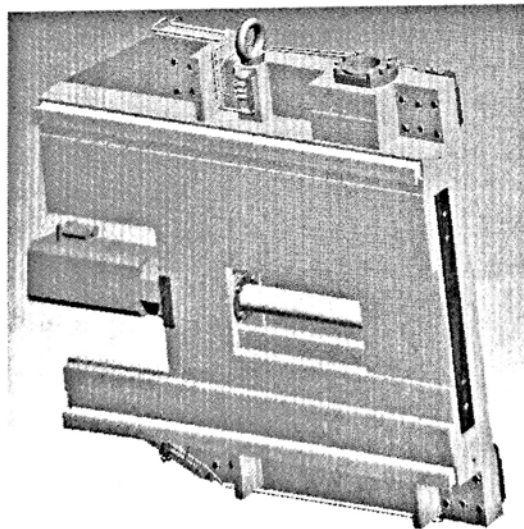
Shaving head+ with shaft encoder
(standard version)



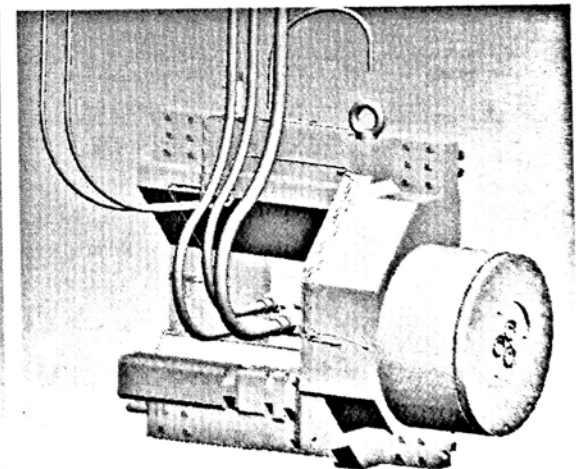
stock dividing unit during operation



stock dividing unit after operation

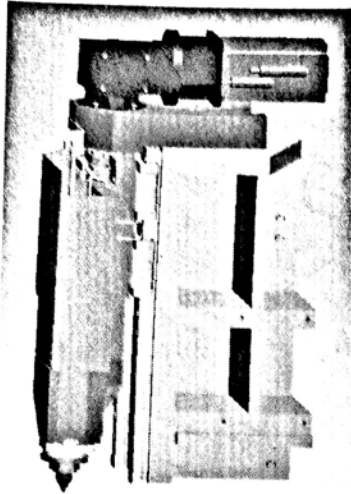


Axial side

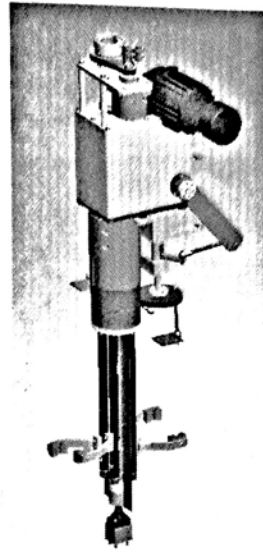


Radial side

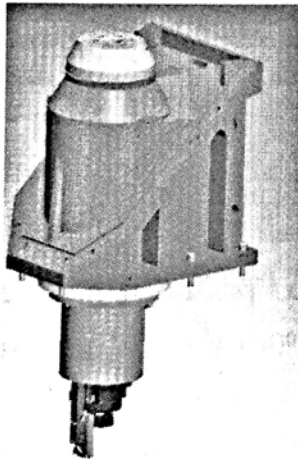
1.1.1 Sectional drawings of main components



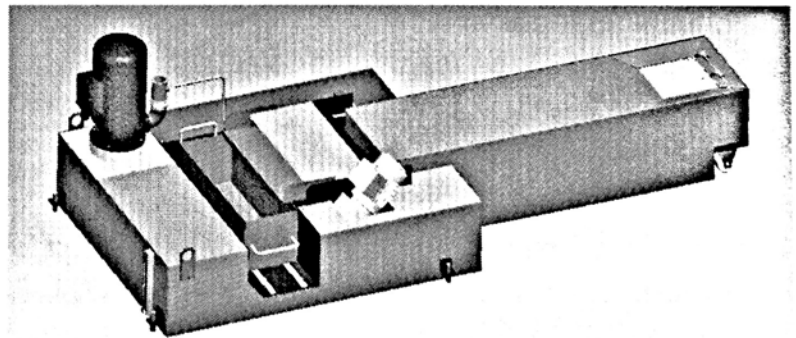
Tailstock



double gripper with transfer grips

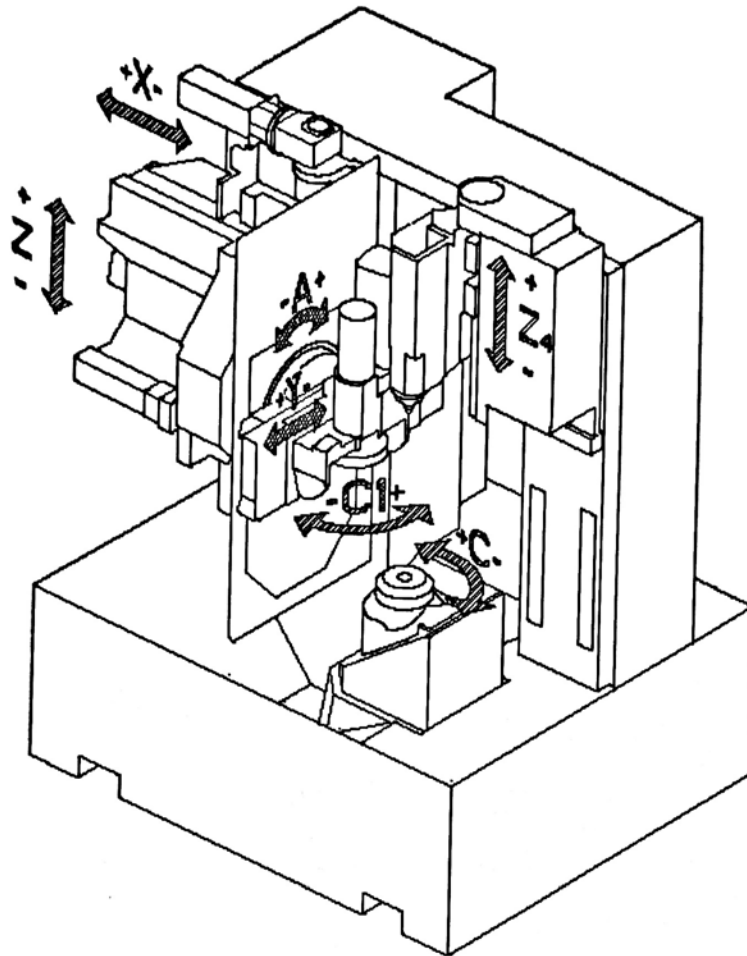


C-axis (work head)



Magnetic filter assembly

1.1.2 Designation of axes



Setting/adjusting axis

A-axis $-45^\circ / +90^\circ$

Working axes

X-axis 95mm

Y-axis ± 35 mm

Z-axis 350mm

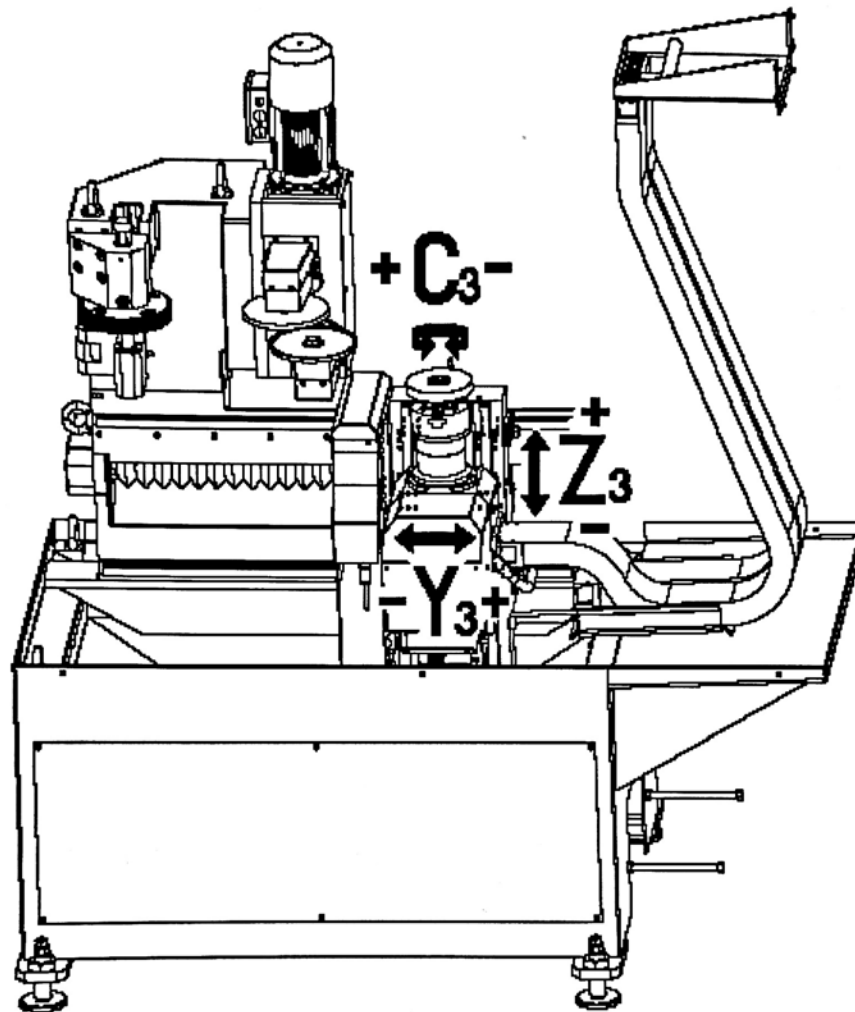
C1-axis 600rpm

C-axis 100 – 2800rpm

Tailstock

Z4-axis 350mm

1.1.2 Designation of axes (deburring station)



C3 - axis
Max. 3000 min⁻¹

Y3 - axis
Stroke 640 mm

Z3 - axis
Stroke 300 mm

1.2 Technical Data

Cutting zone

Swivelling range/tool carrier (A-axis)	degrees	-45/+90
Horizontal travel (stroke of X-axis)	mm	105
Tangential axis travel (stroke of Y-axis)	mm	±35
Axial travel (stroke of Z-axis)	mm	350
Precision of input (all NC axes)	degrees	0,001

Tailstock (optional)

Vertical stroke	mm	350
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Tool

Outside diameter	min./max. mm	200/250
Bore diameter	mm	63,5/100
Width	mm	50,8-0,2

Workpiece

Outside diameter	min./max. mm	10-130
Module	min./max. mm	1,0-3,0
Tooth width at plunge shaving	max. mm	40
* Shaft length	mm	350
** Workpiece weight	max. Kg.	3

Weight

Weight of machine	approx. kg	9000
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Fluids

Hydraulic fluid HLP D 32	ca. ltr	40
Grease GOG30 00-class	ca. ltr	1
Non water soluble cutting oil	ca. ltr	160

* Depending on height of workholding.

** With automation

Speeds

Tool spindle speed	max. 1/min	600
Work spindle speed	max. 1/min	2800

Feed rates

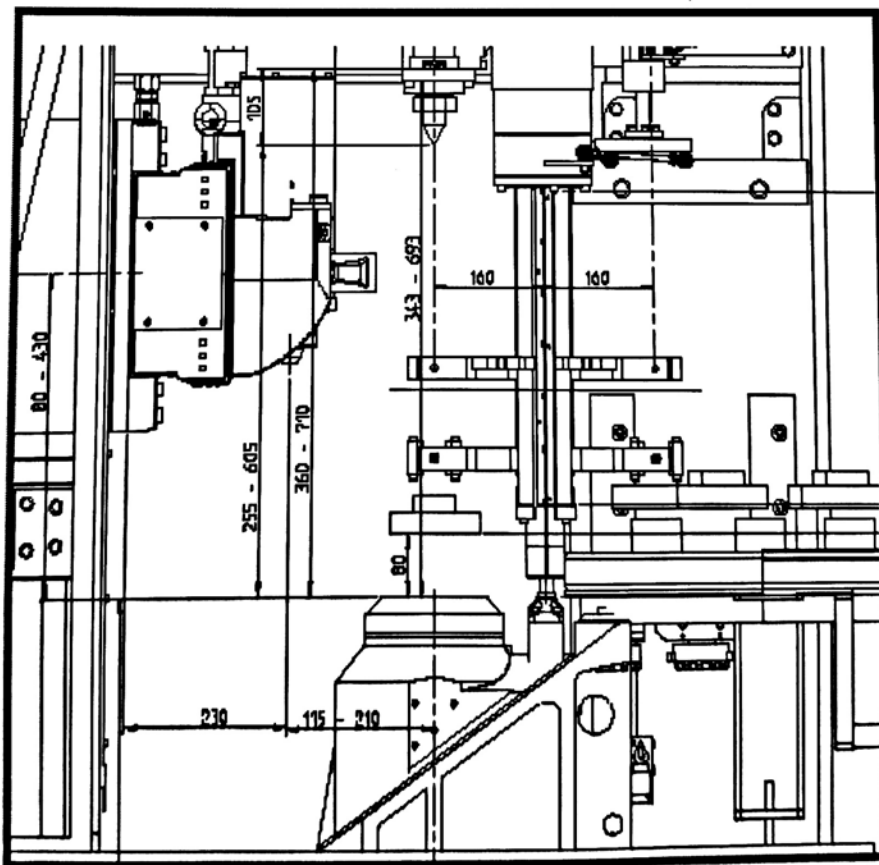
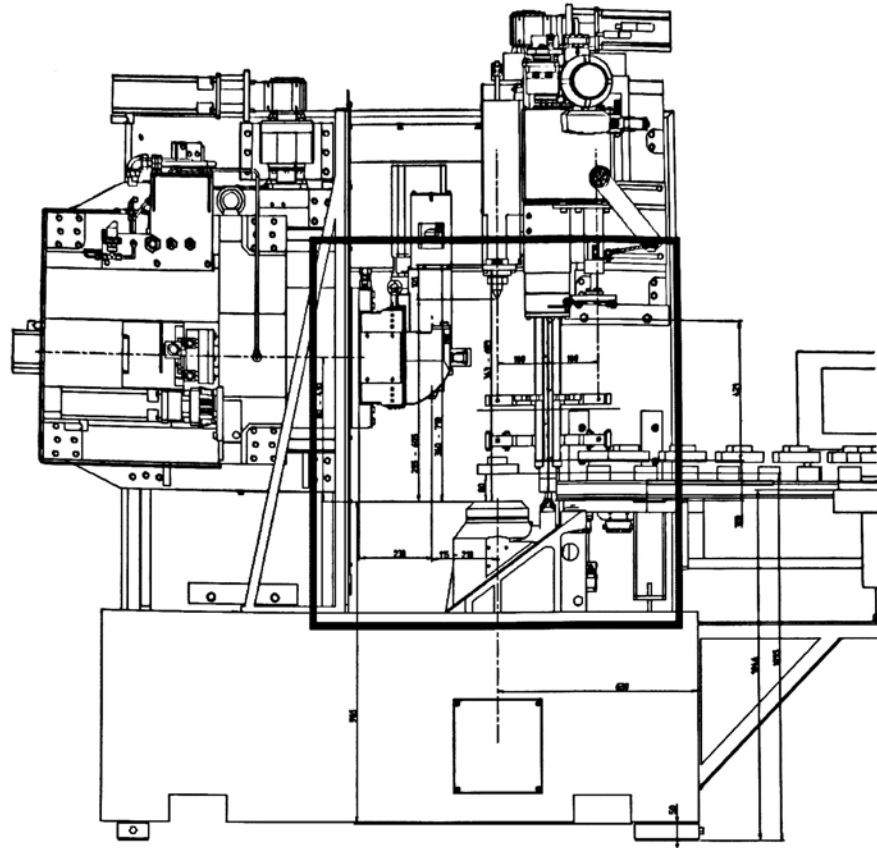
A-axis	max. degrees /sec	60
X- axis	max. mm/min	20,000
Y- axis	max. mm/min	10,000
Z- axis	max. mm/min	7,000
Z4- axis	max. mm/min	15,000

Power Supply

Supply voltage	V	400
Control voltage	VDC24/AC230	
Power frequency	Hz	50
Connected load shaving head	approx. kVA	15
Connected load power shaving head	approx. kVA	20

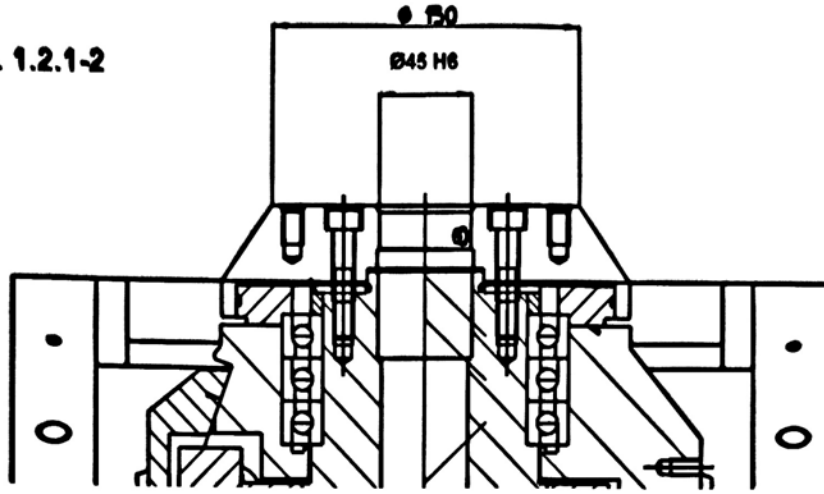
If electro-installation has to be carried out acc. to customer's specification then the data from the electro documentation is valid.

1.2.1 Dimensions in working zone



1.2.1 Dimensions in working zone (work head)

Fig. 1.2.1-2

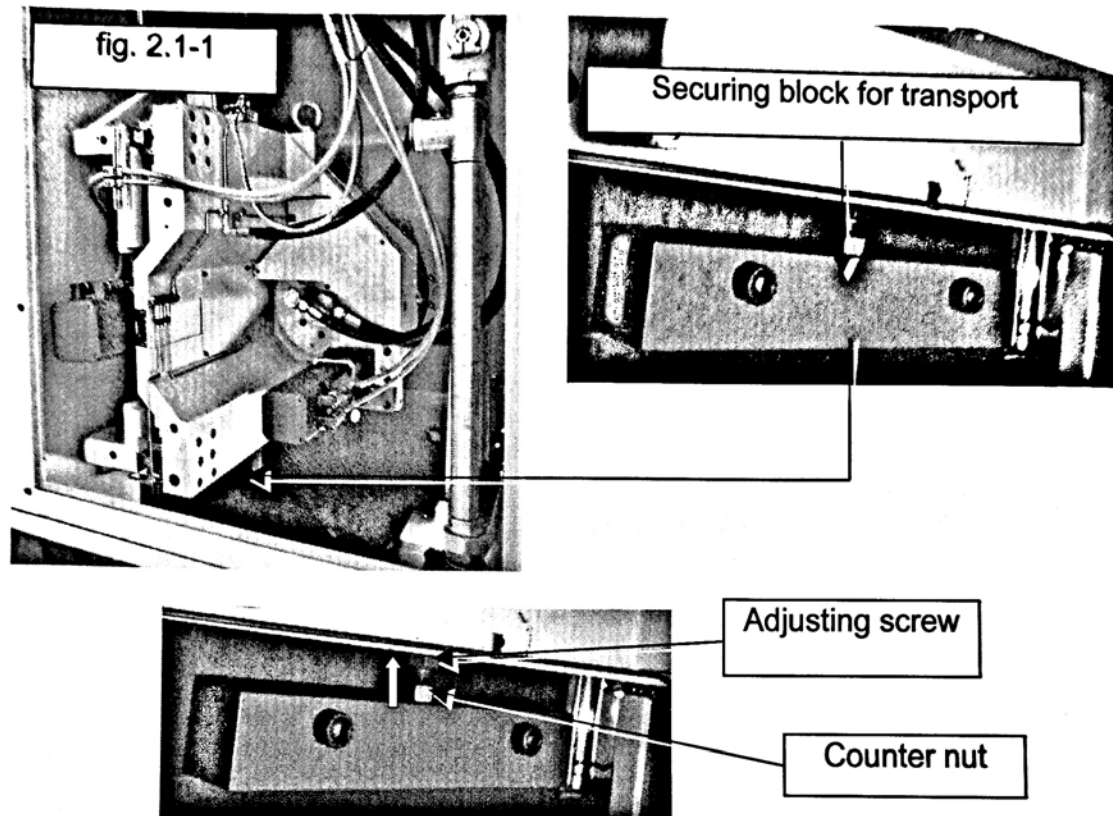


2 Putting into operation

2.1 Transport and Installation

Securing Z-axis

Previous to transportation of machine the securing block for transport for the Z-axis has to be fixed (refer to fig. 2.1-1)



- Fix securing block for transport.
- Move Z-axis to 156.00 mm
- Turn adjusting screw to the hilt at the vertical slide
- Secure with counter nut.



Ident. No. of securing block for transport:
117 86 19



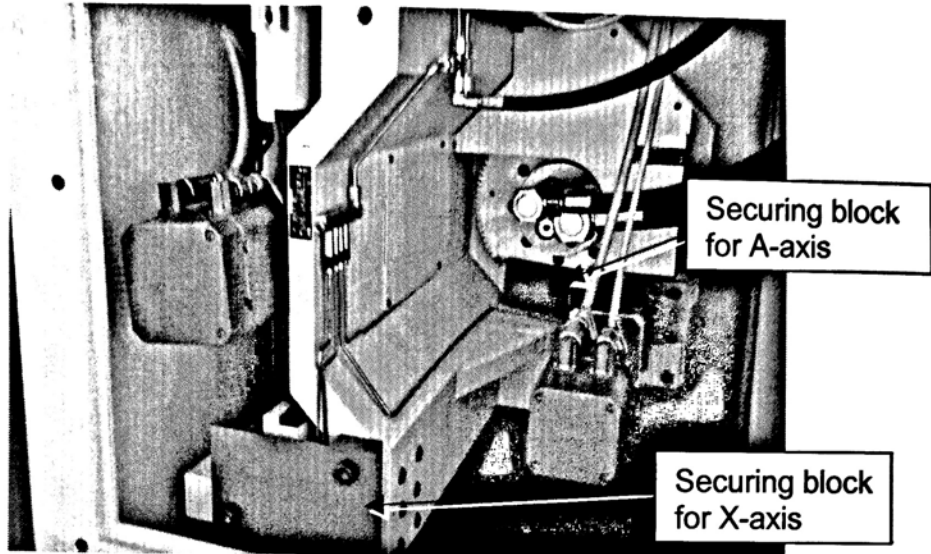
Previous to putting machine into operation the securing block has to be removed again.
Danger of collision!

2.1 Transport and Installation

Securing A / X-axis

Previous to transportation of machine the securing blocks for transport for the A / X-axis has to be fixed (refer to fig. 2.1-2)

Fig. 2.1-2



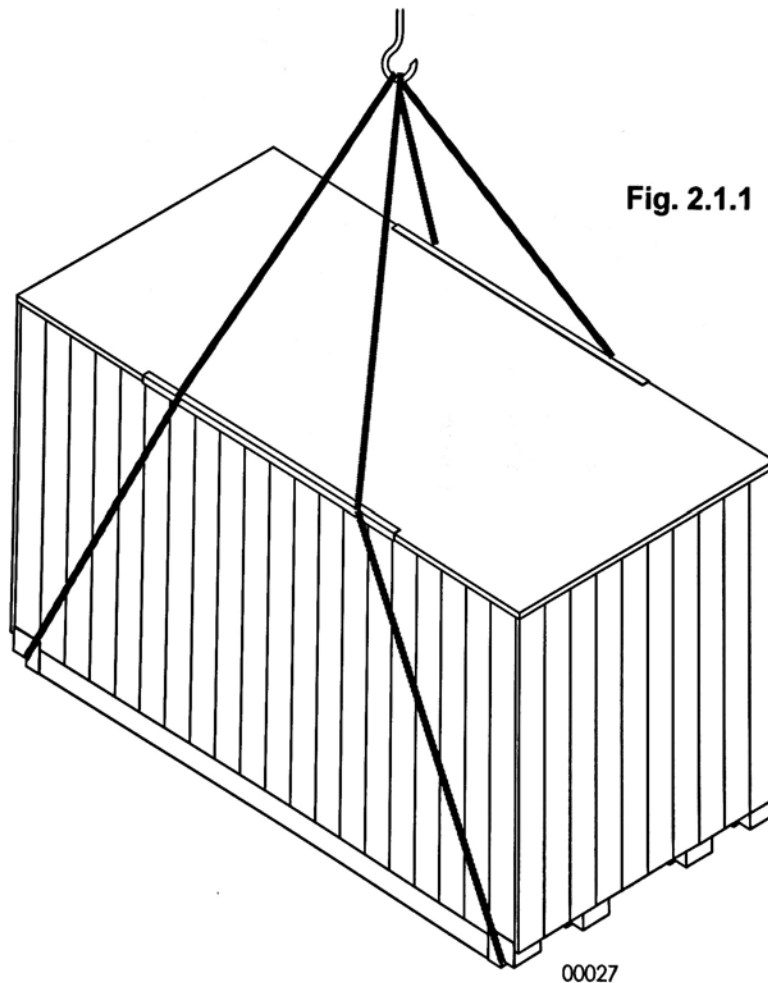
Previous to putting machine into operation the securing block has to be removed again.
Danger of collision!

2.1.1 Long-distance transport

Depending on the location of the customer, HURTH machine tools are dispatched:

- a) in a seaworthy transport crate (approx. 650 kg) bolted to the bottom panel;
- b) in a standard crate (approx. 650 kg), bolted to the bottom panel;
- c) without case, bolted to a pallet (approx. 150 kg).

In cases **a** and **b** sling transport crate as shown in Fig. 2.1.1.



In case **c** apply transport rope or cable as shown in Fig. 2.1.2.
It is then not necessary to transport the crate in the usual manner.

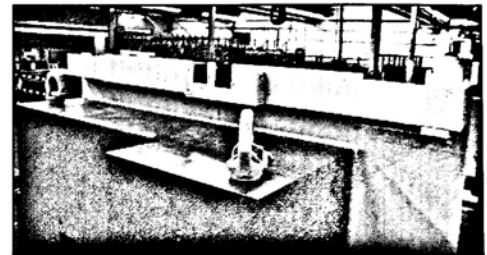
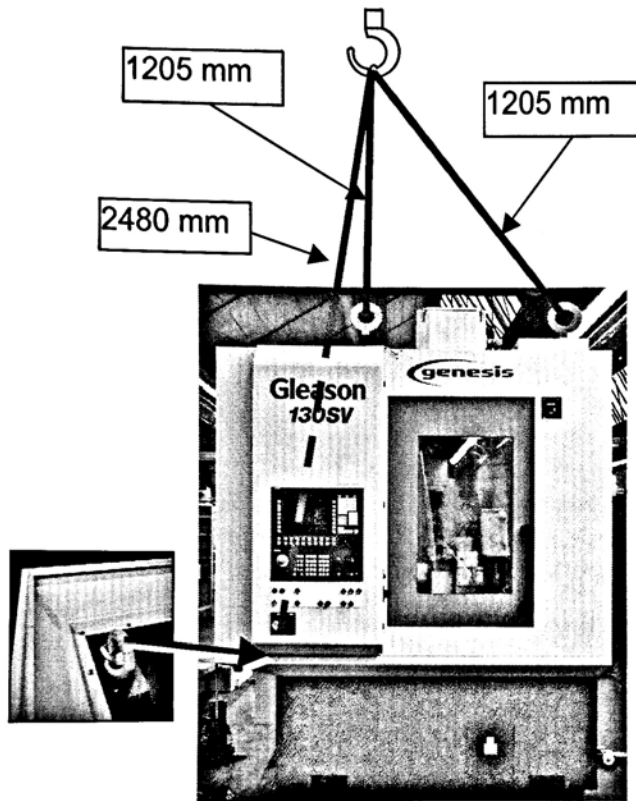
2.1.2 Local transport

The machine axes must be moved to the following positions prior to transport:

X 117
 Z 156
 Y 0
 A 0
 Z4 705

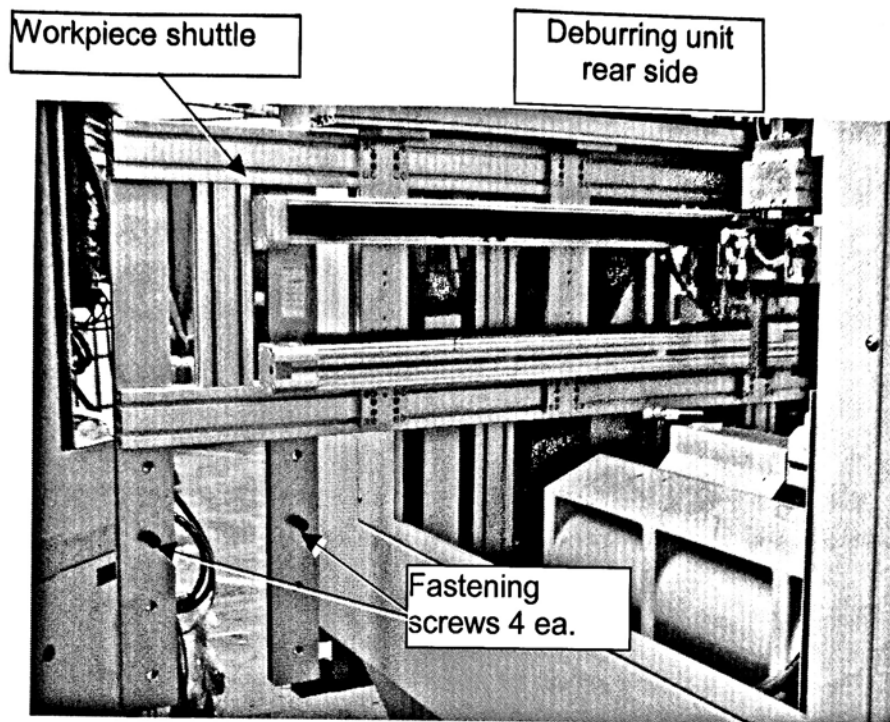
Weight of the machine: approx.. 9000 kg.

The machine must be suspended as shown in the figure for local transport.

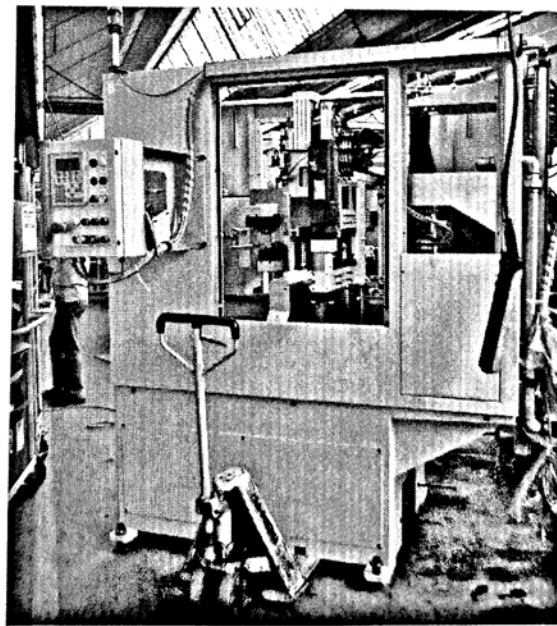


2.1.2 Local transport of Deburring unit

Weight of the machine: approx.. 1000 kg.



- Loosen the 8 fastening screws at the workpiece shuttle.



- Pull out and transport the deburring unit with an manual fork lift.

2.1.3 Installation of the machine

- Remove transport fixtures and check machine for transport damages.
- Clean all machine elements protected against corrosion with a rag soaked with turpentine or petroleum.



For cleaning the machine use suitable cleaning agents only. No aggressive solvents may be used, such as trichloroethylene and similar chemicals. We accept no warranty for damage which is due to inadequate cleaning..

- Connect hydraulic lines and unions as per hydraulic diagram.
- Check fluid level in the hydraulic unit.



Have the connection to mains carried out by an electrician. When introducing the mains connection line into the control cabinet, protection class IP 54 (protection from dust and splash water) must be maintained by using a suitable cable thread connection.

Check the correct connection to phases with a phase sequence tester.

When installing machine using levelling shoes proceed as follows:

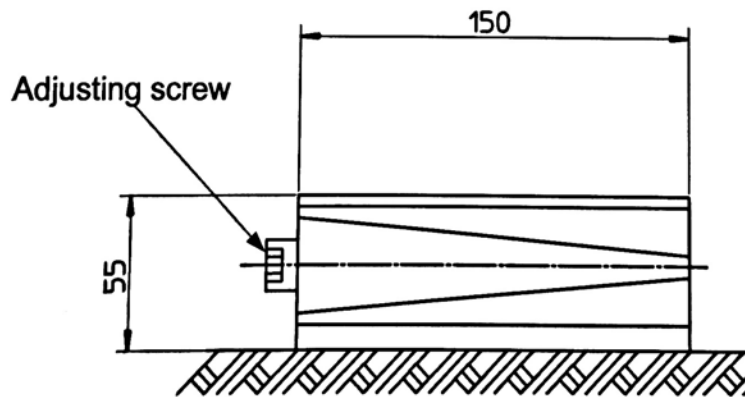


Fig. 2.1.3

- Place levelling shoes at the support points of the machine as shown in the foundation and layout diagram.
- Use adjusting screws to level the machine (refer to Fig. 2.1.3).



Recheck level position of machine 12 hours after the initial levelling operation by means of levelling shoes because the floor may have slightly yielded in places due to the weight of the machine.

2.2 Starting conditions

General prerequisites and remarks

Correct operation of the machine requires that the following basic conditions have been met:

- Voltage and frequency according to the electrical documentation.
- Electric controls are connected to the correct phases (direction of rotation of motors and pumps according to arrows).
- Intact fuses and cutouts; protective switches are ON.
- Monitoring instruments of the PLC and CNC control systems as well as regulators of servomotors do not present a fault message.
- Buffer battery of the CNC system is in order (refer to SIEMENS operating instructions).



Important functions and safety measures are monitored by the control systems. If any faults occur in this respect, they will be displayed automatically in plain text on the screen. Depending on the importance of the fault type or the severity of the hazard, certain areas will be rendered inoperative or EMERGENCY STOP circuits will be triggered by the respective control(s).