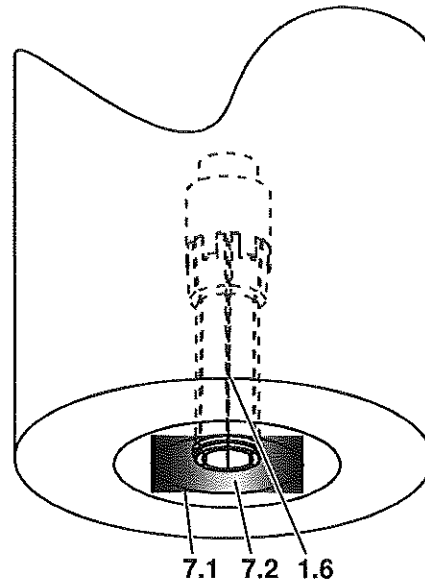


Use a clean and soft cloth

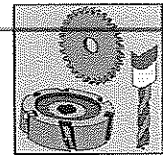
- to clean contact face 7.1 for tool holding fixture
- to clean cone face 7.2 and clamping element 1.6

**Note:**

- Do not use compressed air for cleaning the spindle

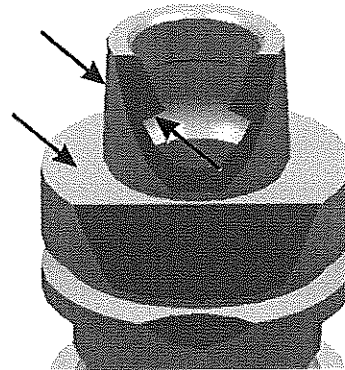


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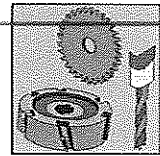


3.2 Cleaning the tool holding fixture

Clean the areas marked with an arrow with a clean and dry cloth or with appropriate cleaning agents!

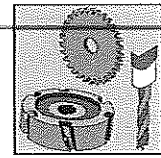


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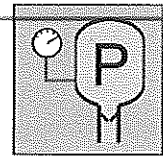


4 Troubleshooting

	Fault description / situation	Possible causes	Remedy
1.0	Tool or unit is not clamped		
1.1		<ul style="list-style-type: none"> • Air supply not OK 	<ul style="list-style-type: none"> ➤ Check pneumatic system / compressed air!
1.2		<ul style="list-style-type: none"> • Tool changer of the machine is not adjusted correctly 	<ul style="list-style-type: none"> ☎ SERVICE
2.0	Spindle does not start		
2.1		<ul style="list-style-type: none"> • Tool is not in the spindle 	<ul style="list-style-type: none"> ➤ Load tool or unit. Check NC program!
2.2		<ul style="list-style-type: none"> • Air supply not OK 	<ul style="list-style-type: none"> ➤ Check pneumatic system / compressed air!
3.0	Tool is not unclamped		
3.1		<ul style="list-style-type: none"> • HSK cone dimension is outside the tolerance 	<ul style="list-style-type: none"> ➤ Increase air pressure to maximum and try again
3.3		<ul style="list-style-type: none"> • Fretting corrosion on the cone 	<ul style="list-style-type: none"> ➤ Water in the cone cleaning air, purify cone cleaning air better!
4.0	Temperature sensor in the spindle has reacted		
4.1		<ul style="list-style-type: none"> • Cooling system is not switched on 	<ul style="list-style-type: none"> ➤ Switch on cooling system!
4.2		<ul style="list-style-type: none"> • Cooling system does not work 	<ul style="list-style-type: none"> ➤ Check cooling system!
4.3		<ul style="list-style-type: none"> • Spindle is overloaded 	<ul style="list-style-type: none"> ➤ Reduce load!
5.0	C-axis does not rotate		
5.1		<ul style="list-style-type: none"> • Feed regulator of the axes (override) to 0 	<ul style="list-style-type: none"> ➤ Turn up override at potentiometer (control panel)!



	Fault description / situation	Possible causes	Remedy
6.0	C-axis does not position precisely		
6.1		<ul style="list-style-type: none"> • Tool data in database not OK 	<ul style="list-style-type: none"> ➤ Correct the tool database!
7.0	Unit / tool cannot be clamped correctly		
7.1		<ul style="list-style-type: none"> • Wrongly used rated quantity of the clamp 	<ul style="list-style-type: none"> ➤ Use correct rated quantity!
7.2		<ul style="list-style-type: none"> • Wrong standard for the clamp 	<ul style="list-style-type: none"> ➤ Use correct clamp!
7.3		<ul style="list-style-type: none"> • Tool shank diameter of expanding chuck is not 25^{H7} 	<ul style="list-style-type: none"> ➤ Inform tool supplier!
8.0	Tool holding fixture is not pulled in properly.		
8.1		<ul style="list-style-type: none"> • Contact surface of the tool holding fixture is soiled 	<ul style="list-style-type: none"> ➤ Clean the contact surface with a clean cloth!
8.2		<ul style="list-style-type: none"> • The inside of the tool holding fixture is soiled 	<ul style="list-style-type: none"> ➤ Clean the inside of the tool holding fixture with a clean cloth!
9.0	Slight vibrations on the spindle		
9.1		<ul style="list-style-type: none"> • Contact surface of the tool holding fixture is soiled 	<ul style="list-style-type: none"> ➤ Clean the contact surface of the tool holding fixture with a clean cloth!
10.0	Strong vibrations on the spindle		
10.1		<ul style="list-style-type: none"> • Tool holding fixture is not balanced 	<ul style="list-style-type: none"> ➤ Have the tool holding fixture balanced!



The compact unit supplies bearing points with lubricant.

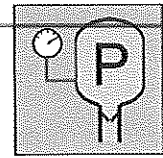
Features	Values
Flow rate	0,5 l/min
Container contents	3 l
Pressure relief valve	30 bar
System of protection	IP 54
Operating voltage	230 V
Power consumption	120 W
Permitted oil operating viscosity	20–1500 cST
Pumped medium	Oil on mineral oil or synthetic base



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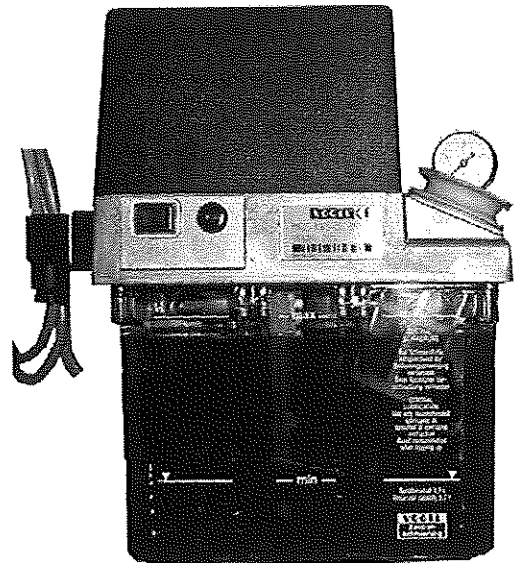
Contents:

1	Functions / Sequences	2
2	Operation	3
3	Routine maintenance / care	4
4	Troubleshooting	6



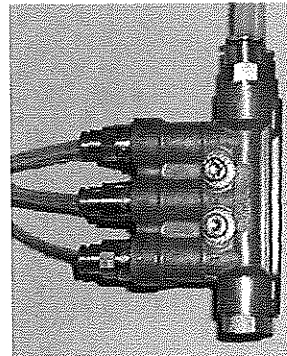
1 Functions / Sequences

The unit's gear pump pumps the lubricant out of the reservoir to the system piston distributors through an integrated pressure check and relief valve.



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In the distributors, the lubricant is metered separately for the lubrication points and the requisite quantity is pumped to each point under lubricant pressure.

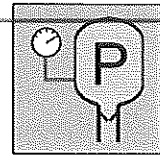


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**Caution:**

Unsuitable lubricants can cause the unit and thus also the lubrication to fail.

→ This may seriously damage the machine.



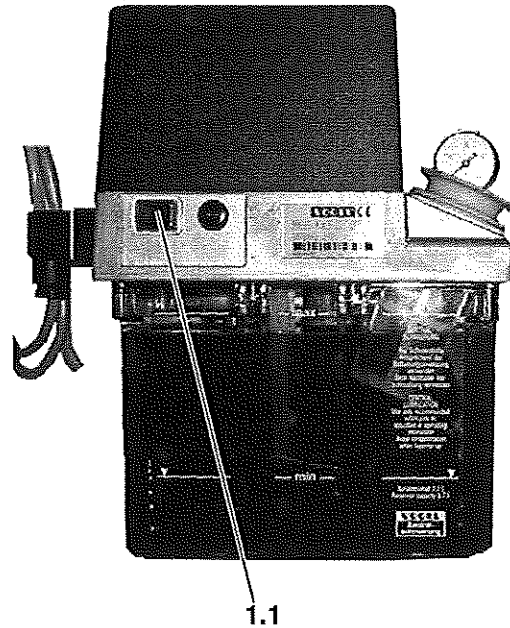
2 Operation

Automatic

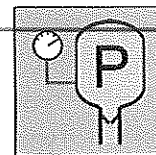
The machine is lubricated automatically while it is running.

Manual lubrication

Press pushbutton **1.1** directly on the unit (max. 10 sec)



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3 Routine maintenance / care

➔ No maintenance instructions necessary!

**Caution:**

The central lubrication system is pressurized. Therefore, it must be depressurized before any maintenance work, repairs etc. are begun.

**Note:**

Only use lubricants that are compliant with DIN 51502 CLP 150

- Check the oil level in the reservoir every day and refill in good time
- Add oil through the integral sieving filter

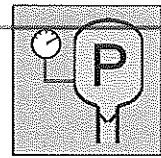
**Note:**

Check all lines, hoses and screw fixtures regularly for leaks and signs of external damage.

⇒ Repair all damage immediately.

**Note:**

Use only mild cleaning agents to clean the unit. Do not use harsh solvents such as acetone, benzene or chlorinated hydrocarbons.

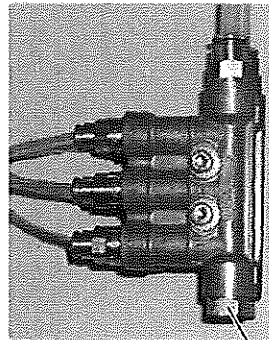


Note:

Air must be bled out of the system every time after individual parts have been repaired or replaced

To bleed:

- Remove dummy plug 1.2 on the last distributor of the corresponding pipe
- Press pushbutton 1.1 until oil escapes from the distributor without bubbles
- Screw dummy plug 1.2 back into place



1.2

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Caution:

Do not allow lubricating oil to remain in prolonged contact with skin. If any does come into contact with the skin, wash off thoroughly.

➔ **Danger to your health!**



Note:

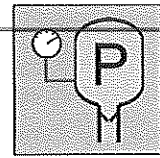
Avoid spilling lubricating oil!

- Take steps to ensure that spilled oil is caught.

Disposal

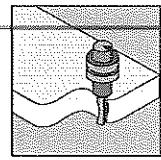
Lubricating oils are subject to local statutory regulations.





4 Troubleshooting

	Error description / situation	Possible causes	Remedy
1.0	No lubricant in oil reservoir		
1.1		<ul style="list-style-type: none"> • Oil level low 	<ul style="list-style-type: none"> ➤ Add lubricant
2.0	Max. pumping runtime for lubrication		
2.1		<ul style="list-style-type: none"> • Line rupture 	<ul style="list-style-type: none"> ➤ Repair the line
2.2		<ul style="list-style-type: none"> • Air in main line 	<ul style="list-style-type: none"> ➤ Bleed the line
2.3		<ul style="list-style-type: none"> • Ambient temperature too low 	<ul style="list-style-type: none"> ➤ Raise temperature
2.4		<ul style="list-style-type: none"> • No operating voltage at the motor 	<ul style="list-style-type: none"> ➤ Check mains supply ➤ Check mains plug and power cord and connect correctly if necessary ➤ Check operating voltage at motor ➤ Inspect fuse ➤ Check pushbutton, replace defective pushbutton
2.5		<ul style="list-style-type: none"> • Pump or motor seized 	<ul style="list-style-type: none"> ➤ Clean pump and/or send unit for repair

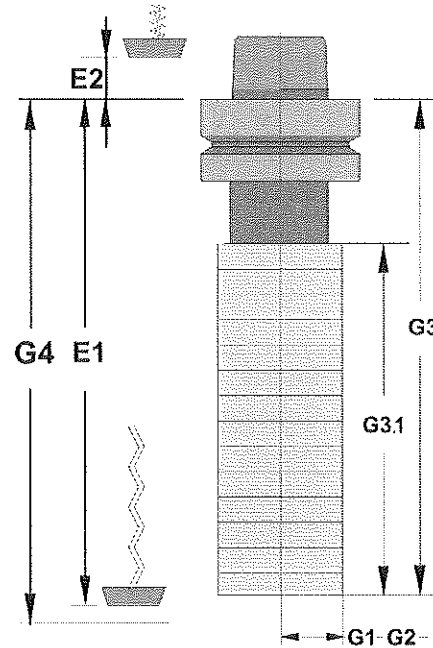


Tool data for use as trimmer



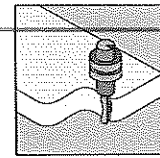
Example Customer parameter Permissible entries

Tool
Comment



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() = values in brackets are not evaluated.
 ! = value must not be changed after one-time setting!!
 Before changing the tool data, remove the dimensions on the tool!
 After changing the tool data, carefully carry out a test run by hand!!



In General

		Example	Customer parameter	Permissible entries
P1	Tool code no.	1	1	Trimmer, girth and spur hole cutting
P2	Main tool	01		
P3	Tool changer		1/11	1 changing tool 11 fix tool
P4	Slot	12	1,...	
P5	Spindle return traverse lift is possible			Chosen when drill doesn't need to be set back in tool changer before change to fixed unit

Data

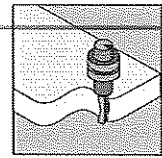
			Example	Customer parameter	Permissible entries
G1	Radius	[mm]	10		
G2	Collision radius	[mm]	15		
G3	Length	[mm]	15		
G3.1	Working length	[mm]	50		
G4	Collision length	[mm]	310		length to bottom edge of dust-collector hood
G5	Swiveling angle	[°]			
T1	Max. feed	[m/min]	5		Depending on tool
T2	Min. tool speed	[1/min]	1500		Depending on tool
T2.1	Max. Rotation per Minute	[1/min]	2000		Depending on tool
T3	Max. tool speed	[1/min]	2000		Depending on tool
T4	Max. acceleration	[1/s ²]	10000		Depending on tool
T5	Direction of rotation				 Depending on tool

() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!!

Before changing the tool data, remove the dimensions on the tool!

After changing the tool data, carefully carry out a test run by hand!!



Unit

		Example	Customer parameter	Permissible entries
X	Offset axis 1	[mm]	0	
Y	Offset axis 2	[mm]	0	
Z	Offset axis 3	[mm]	0	
C	Offset axis 4	[°]		
A	Offset axis 5	[°]		
G6	Max. hor. offset	[mm]		
G7	Max. swivel range C-axis	[°]		
G8	Min. swivel range C-axis	[°]		
T6	Max. unit revolutions	[1/min]	18000	
T7	Gear ratio		1:1	

Link

		Example	Customer parameter	Permissible entries
V1	T			
V2	M			
V3	Offset X	[mm]		
V4	Offset Y	[mm]		
V5	T			
V6	M			
V7	Offset X	[mm]		
V8	Offset Y	[mm]		
V9	Directional angle	[°]		
V10	Number of spindles			
V11	Grid spacing hole series	[mm]		

Simulation

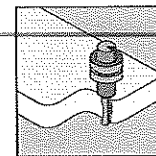
		Example	Customer parameter	Permissible entries
S1	Tool illustration			
S2	Color simulation			

() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!!

Before changing the tool data, remove the dimensions on the tool!

After changing the tool data, carefully carry out a test run by hand!!



Tool data sheet

Vertical trimmer

LANARK HOMES LT

PROFI WBZ150/12

0-390-01-0049

5.5.1

Extras

	Example	Customer parameter	Permissible entries
E1	Value 1		
E2	Value 2		
E3	Value 3		
E4	Value 4		
E5	Value 5		
E6	Value 6		
E7	Value 7		
E8	Value 8		
E9	Value 9		
E10	Value 10		
E11	Value 11		
E12	Value 12		
E13	Value 13		
E14	Value 14		
E15	Value 15		
E16	Value 16		

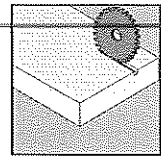
() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!!

Before changing the tool data, remove the dimensions on the tool!

After changing the tool data, carefully carry out a test run by hand!!



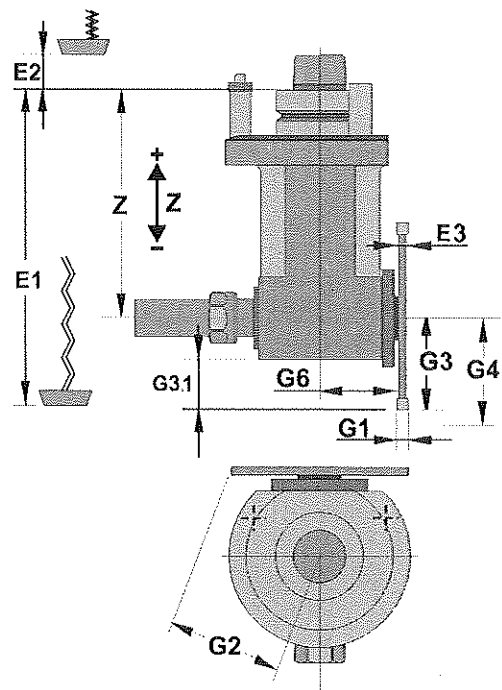


Tool data sheet for use as saw unit.
Oil bath or air lubrication.



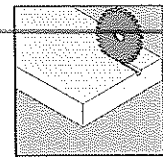
Example Customer Allowed
Parameter Entries
s

Tool
Comment



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() = Bracketed values are not evaluated.
! = Once set value must not be changed!
Before changing the tool data, the tool dimensions must be determined!
After changing tool data, first carry out a manual test run with utmost care!



General

	Example	Customer Parameters	Allowed Entries
P1 Tool code	42/ 43	42/ 43	Grooving / cutting with C axis
P2 Main tool	0!		
P3 Tool changer	1	1/11	1 interchangeable tool 11 fixed tool
P4 Pocket	3	1,...	
P5 Spindle return stroke possible			Is selected when the saw has to be put away before changing to a fixed unit.

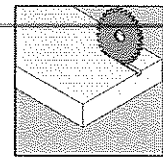
Data

	Example	Customer Parameters	Allowed Entries
G1 Radius	[mm] 3.2		
G2 Collision radius	[mm] 135		
G3 Length	[mm] 100		
G3.1 Useful length	[mm]		
G4 Collision length	[mm] 305		Lower edge of the extended protective hood
G5 Swiveling angle	[°]		
T1 Max. feed	[m/min] 20		Depending on tool
T2 Min. tool speed	6000		Depending on tool
	[1/min]		
T2.1 Max. machining speed	6500		Depending on tool
	[1/min]		
T3 Max. tool speed	6500		Depending on tool
	[1/min]		
T4 Max. acceleration	[1/s ²] 10000		Depending on tool
T5 Direction of rotation			Depending on tool

() = Bracketed values are not evaluated.
! = Once set value must not be changed!
Before changing the tool data, the tool dimensions must be determined!
After changing tool data, first carry out a manual test run with utmost care!

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Unit

		Example	Customer Parameter s	Allowed Entries
X	Offset dimension axis 1 [mm]		0	
Y	Offset dimension axis 2 [mm]		0	
Z	Offset dimension axis 3 [mm]		-155.038!	
C	Offset dimension axis 4 [°]		-120.014!	
A	Offset dimension axis 5 [°]			
G6	Max. hor. offset dimension [mm]		46.176!	
G7	Max. swivel range C axis [°]		361	See C axis
G8	Min. swivel range C axis [°]		-361	See C axis
T6	Max. unit speed [1/min]		13500	
T7	Transformation ratio		4.502:1	Multiplication / demultiplication of the saw unit

Linkage

		Example	Customer Parameter s	Allowed Entries
V1	T			
V2	M			
V3	X offset [mm]			
V4	Y offset [mm]			
V5	T			
V6	M			
V7	X offset [mm]			
V8	Y offset [mm]			
V9	Direction angles [°]			
V10	Number of spindles			
V11	Screening row of holes [mm]			

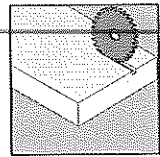
Simulation

		Example	Customer Parameter s	Allowed Entries
S1	Representation of tool			
S2	Simulation color			

() = Bracketed values are not evaluated.
! = Once set value must not be changed!
Before changing the tool data, the tool dimensions must be determined!
After changing tool data, first carry out a manual test run with utmost care!

()
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Extras

	Example	Customer Parameters	Allowed Entries
E1	Probe totally extended [mm]	309.2	Lower edge of the extended protective hood
E2	Probe totally retracted [mm]	-42.5	Lower edge of the retracted protective hood
E3	Saw blade		
E4	Value 4		
E5	Value 5		
E6	Value 6		
E7	Value 7		
E8	Value 8		
E9	Value 9		
E10	Value 10		
E11	Value 11		
E12	Value 12		
E13	Value 13		
E14	Value 14		
E15	Value 15		
E16	Value 16		

() = Bracketed values are not evaluated.
 ! = Once set value must not be changed!
 Before changing the tool data, the tool dimensions must be determined!
 After changing tool data, first carry out a manual test run with utmost care!

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Tool data sheet

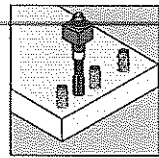
Vertical drill

LANARK HOMES LT

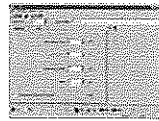
PROFI WBZ150/12

0-390-01-0049

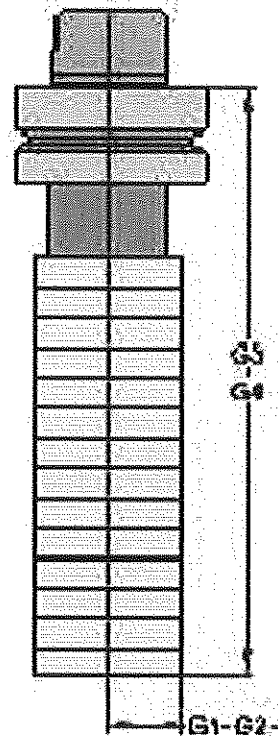
5.5.1



Tool data for use as drill.

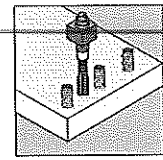


	Example	Customer parameter	Permissible entries
Tool			
Comment			



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() = values in brackets are not evaluated.
 ! = value must **not** be changed after one-time setting!!
 Before changing the tool data, remove the dimensions on the tool!
 After changing the tool data, carefully carry out a test run by hand!!



In General

		Example	Customer parameter	Permissible entries
P1	Tool code no.	62	62	Vertical drill for blind holes and through drilling
P2	Main tool	0!		
P3	Tool changer		1/11	1 changing tool 11 fix tool
P4	Slot	12	1,...	
P5	Spindle return traverse lift is possible			Chosen when drill doesn't need to be set back in tool changer before change to fixed unit

Data

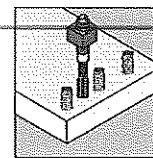
			Example	Customer parameter	Permissible entries
G1	Radius	[mm]	10		
G2	Collision radius	[mm]	15		
G3	Length	[mm]	100		
G3.1	Working length	[mm]	50		
G4	Collision length	[mm]	310		length to bottom edge of dust-collector hood
G5	Swiveling angle	[°]			
T1	Max. feed	[m/min]	5		Depending on tool
T2	Min. tool speed	[1/min]	1500		Depending on tool
T2.1	Max. Rotation per Minute	[1/min]	2000		Depending on tool
T3	Max. tool speed	[1/min]	2000		Depending on tool
T4	Max. acceleration	[1/s ²]	10000		Depending on tool
T5	Direction of rotation				Depending on tool

() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!

Before changing the tool data, remove the dimensions on the tool!

After changing the tool data, carefully carry out a test run by hand!!


Unit

		Example	Customer parameter	Permissible entries
X	Offset axis 1	[mm]	0	
Y	Offset axis 2	[mm]	0	
Z	Offset axis 3	[mm]	0	
C	Offset axis 4	[°]		
A	Offset axis 5	[°]		
G6	Max. hor. offset	[mm]		
G7	Max. swivel range C-axis	[°]		Look at C-axis
G8	Min. swivel range C-axis	[°]		Look at C-axis
T6	Max. unit revolutions	[1/min]	2000	
T7	Gear ratio		1:1	transmission/ reduction of saw plant

Link

		Example	Customer parameter	Permissible entries
V1	T			
V2	M			
V3	Offset X	[mm]		
V4	Offset Y	[mm]		
V5	T			
V6	M			
V7	Offset X	[mm]		
V8	Offset Y	[mm]		
V9	Directional angle	[°]		
V10	Number of spindles			
V11	Grid spacing hole series	[mm]		

Simulation

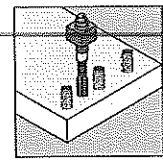
		Example	Customer parameter	Permissible entries
S1	Tool illustration			
S2	Color simulation			

() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!!

Before changing the tool data, remove the dimensions on the tool!

After changing the tool data, carefully carry out a test run by hand!!



Tool data sheet

Vertical drill

5.5.1

LANARK HOMES LT

PROFI WBZ150/12

0-390-01-0049

Extras

	Example	Customer parameter	Permissible entries
E1	Tracer fully extended [mm]		protection hood
E2	Tracer retraced [mm]		protection hood
E3	Value 3		
E4	Value 4		
E5	Value 5		
E6	Value 6		
E7	Value 7		
E8	Value 8		
E9	Value 9		
E10	Value 10		
E11	Value 11		
E12	Value 12		
E13	Value 13		
E14	Value 14		
E15	Value 15		
E16	Value 16		

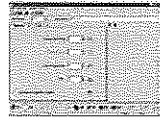
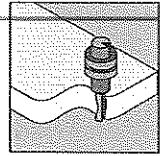
() = values in brackets are not evaluated.

! = value must not be changed after one-time setting!!

Before changing the tool data, remove the dimensions on the tool!

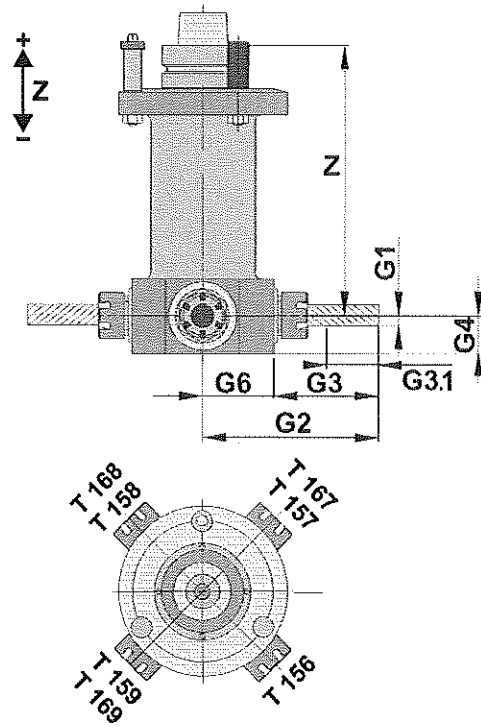
After changing the tool data, carefully carry out a test run by hand!!





Example Customer specifications Permissible entries

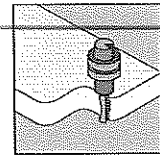
Tool	Customer specifications	Permissible entries
Comment		



T:\8482\551140\lx00002ld.wmf

() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.







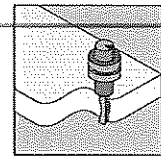
General

		Example	Customer specifications	Permissible entries
P1	Tool code no.	4	4	Horizontal trimmer
P2	Main tool	01		
P3	Tool changer	1	1/11	1 Changing tool 11 Fixed tool
P4	Slot	24		
P5	Spindle return traverse lift is possible			

Output data

			Example	Customer specifications	Permissible entries
G1	Radius	[mm]	10		
G2	Collision radius	[mm]	122		...140
G3	Length	[mm]	52		..70
G3.1	Working length	[mm]			
G4	Collision length	[mm]	122		...140
G5	Swiveling angle	[°]			
T1	Max. feed	[m/min]	15		...20 Depends on tool
T2	Min. tool speed	[1/min]	10000		...12000 Depends on tool
T3	Max. tool speed	[1/min]			Depends on tool
T4	Max. acceleration	[1/s ²]			Depends on tool
T5	Direction of rotation				 Depends on tool

() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.



Unit

		Example	Customer specifications	Permissible entries
X	Offset of axis 1	[mm]	0!	
Y	Offset of axis 2	[mm]	0!	
Z	Offset of axis 3	[mm]	-160!	
C	Offset of axis 4	[°]	0!	
A	Offset of axis 5	[°]	0!	
G6	Max. hor. offset	[mm]	70	
G7	Max. swivel range of C-axis	[°]	361!	See C-axis
G8	Min. swivel range of C-axis	[°]	-361!	See C-axis
T6	Max. unit revolutions	[1/min]		
T7	Gear ratio			Transmission / reduction of the saw unit

Link

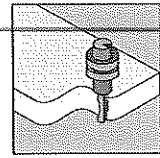
		Example	Customer specifications	Permissible entries
V1	T			
V2	C			
V3	Offset X	[mm]		
V4	Offset Y	[mm]		
V5	T			
V6	C			
V7	Offset X	[mm]		
V8	Offset Y	[mm]		
V9	Directional angle	[°]		
V10	Number of spindles			
V11	Grid spacing hole series	[mm]		

Simulation

		Example	Customer specifications	Permissible entries
S1	Tool illustration			
S2	Color simulation			

() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.

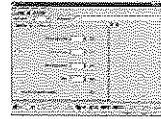
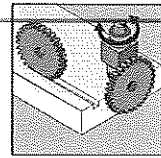




Extras

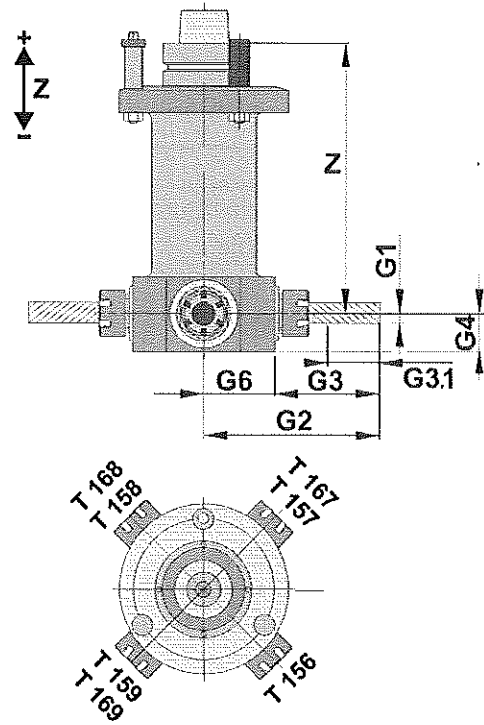
	Example	Customer specifications	Permissible entries
E1	Value 1		
E2	Value 2		
E3	Value 3		
E4	Value 4		
E5	Value 5		
E6	Value 6		
E7	Value 7		
E8	Value 8		
E9	Value 9		
E10	Value 10		
E11	Value 11		
E12	Value 12		
E13	Value 13		
E14	Value 14		
E15	Value 15		
E16	Value 16		

() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.



Example Customer specifications Permissible entries

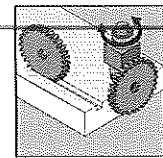
Tool
Comment



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() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.







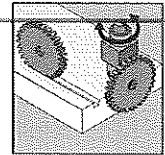
General

	Example	Customer specifications	Permissible entries
P1 Tool code no.	56	56	Drilling horizontal for blind holes and through-drilling with C axis, without length compensation
P2 Main tool	156l		
P3 Tool changer	1	1/11	1 Changing tool 11 Fixed tool
		2	
P4 Slot	9	1,...	= Main tool
P5 Spindle return traverse lift is possible			

Output data

	Example	Customer specifications	Permissible entries
G1 Radius	[mm] 4.0		...12,5
G2 Collision radius	[mm] 132.0		
G3 Length	[mm] 65.7		...70
G3.1 Working length	[mm]		
G4 Collision length	[mm] 30		
G5 Swiveling angle	[°]		
T1 Max. feed	[m/min] 4		
T2 Min. tool speed	[1/min] 1500		>0
T3 Max. tool speed	[1/min] 10000		...13500
T4 Max. acceleration	[1/s ²] 120		...120
T5 Direction of rotation			

() = values in brackets are not evaluated.
l = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.



Unit

		Example	Customer specifications	Permissible entries
X	Offset of axis 1 [mm]		0!	
Y	Offset of axis 2 [mm]		0!	
Z	Offset of axis 3 [mm]		-205.5!	
C	Offset of axis 4 [°]		-135!	
A	Offset of axis 5 [°]			
G6	Max. hor. offset [mm]		55!	
G7	Max. swivel range of C-axis [°]		361!	See C-axis
G8	Min. swivel range of C-axis [°]		-361!	See C-axis
T6	Max. unit revolutions [1/min]		13500!	
T7	Gear ratio		1:1.48!	

Link

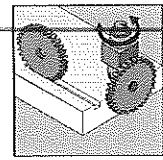
		Example	Customer specifications	Permissible entries
V1	T			
V2	C			
V3	Offset X [mm]			
V4	Offset Y [mm]			
V5	T			
V6	C			
V7	Offset X [mm]			
V8	Offset Y [mm]			
V9	Directional angle [°]			
V10	Number of spindles			
V11	Grid spacing hole series [mm]			

Simulation

		Example	Customer specifications	Permissible entries
S1	Tool illustration			
S2	Color simulation			

() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.



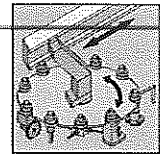


Extras

	Example	Customer specifications	Permissible entries
E1	Value 1		
E2	Value 2		
E3	Value 3		
E4	Value 4		
E5	Value 5		
E6	Value 6		
E7	Value 7		
E8	Value 8		
E9	Value 9		
E10	Value 10		
E11	Value 11		
E12	Value 12		
E13	Value 13		
E14	Value 14		
E15	Value 15		
E16	Value 16		

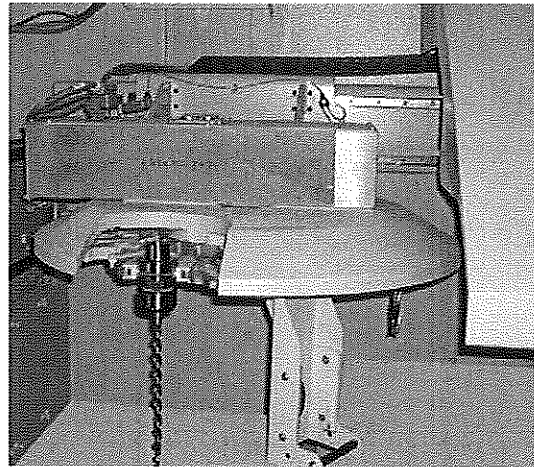
() = values in brackets are not evaluated.
! = value must not be changed once it has been set.
Before changing the tool data, remove the dimensions on the tool.
After changing the tool data, carefully carry out a test run by hand.





In the 12-part tool holder, tools and units are made available for automatic changing in the main spindle.

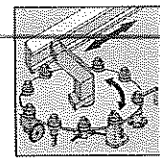
Features	Values
Tool chuck	HSK-F63
Unit chuck	HOMAG interface 9-002-04-3360
Number of slots	12
Pitch circle Ø	540 mm
Total weight of tool load	
max.	60 kg
Weight per tool / Unit	
max.	10 kg
Tool / unit Ø	
max.	300 mm
Tool/unit height (from HSK)	
max.	320 mm



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Contents:

1	Functions / Sequences	2
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1.2	Automatic tool change	3
2	Operation	4
2.1	Loading the tool holder	4
2.2	Manual removal of the tool from main spindle.....	6
3	Routine maintenance / care	6
4	Troubleshooting	7



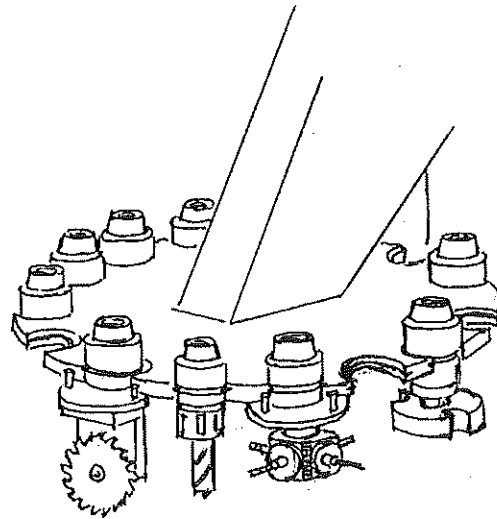
1 Functions / Sequences

The tool holder is mounted on the machine frame.

1.1 Variants

Variant A:
Rigid tool holder

A:

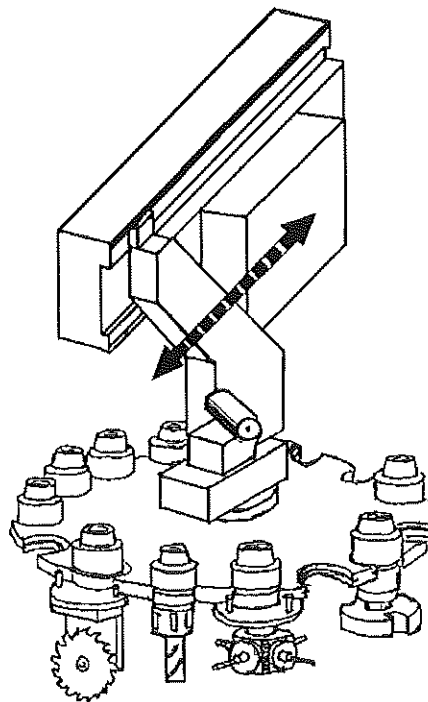


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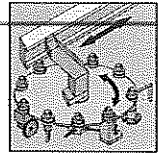
Variant B:
Traveling tool holder

B:

The tool holder moves into the changing position in order to change tools.

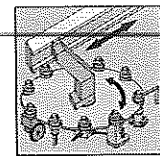


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1.2 Automatic tool change

- The main spindle moves to the changing position
- The main spindle moves the tool/unit to the registered position
- Main spindle travels upwards in Z direction
- The tool holder turns the next tool / unit into position
- Main spindle travels downwards in Z direction and tensions the tool/unit
- The main spindle continues processing



2 Operation

2.1 Loading the tool holder



Danger:

Wear protective gloves when handling the tools and units

→ Risk of injury!



Caution:

The tools and units must be placed in the slot stored in the tool database.

→ Risk of tool breakage!



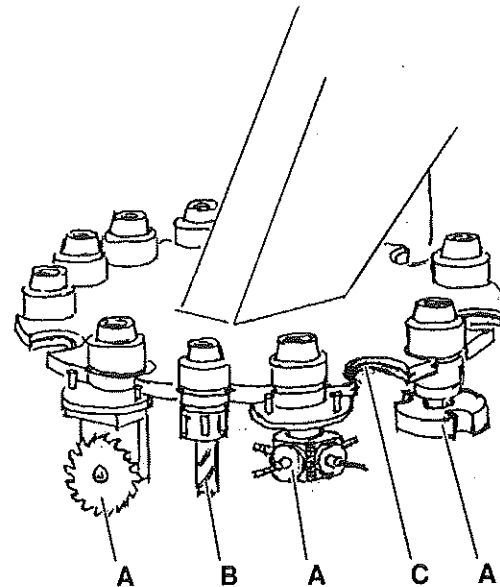
Caution:

All 12 slots on the tool holder can be fitted with tools or units.

Between two units **A** there must be either

- one tool **B**
- or an empty slot **C** configured.

Insert tools so that they cannot collide with adjacent tools and units during the changing process.



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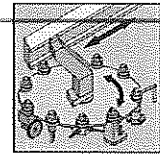
A	Unit
B	Tool
C	Empty slot



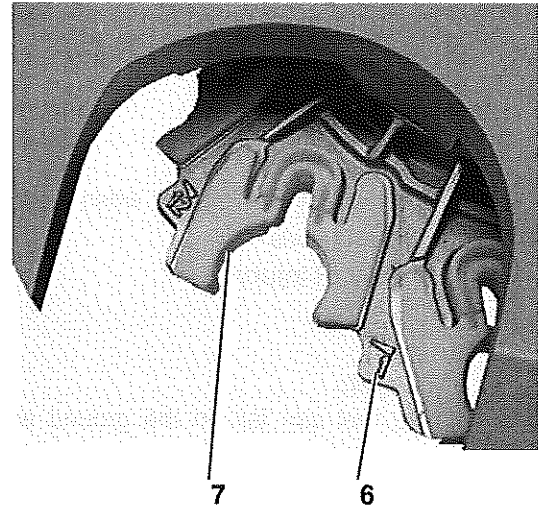
Note:

Tool chucks must not be damaged.

Worn mounting crosspieces can cause errors during the changing process.

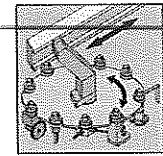


- Put the tool or unit into the tool holder by holding the recessed grip. The slot number 6 is engraved next to the magazine slot 7 (see arrow).



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6	Slot number
7	Magazine slot



2.2 Manual removal of the tool from main spindle

If a tool cannot be put up using the machine control unit, it must be removed from the main spindle by hand.

**Danger:**

Wear protective gloves when handling the tools and units

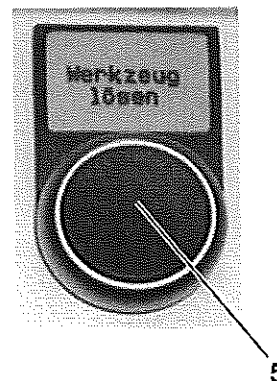
→ Risk of injury!

**Danger:**

The tool can fall on the ground when it is loosened. A second person should hold the tool.

→ Risk of tool breakage and injury!

- Press pushbutton 5
- ⇨ Spring chuck opened
- Insert / remove tool
- Release pushbutton 5
- ⇨ Spring chuck is closed



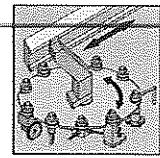
T:\8482\554020\X00200TD.jpg

3 Routine maintenance / care

→ See maintenance instructions

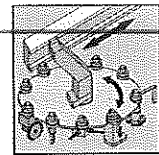
Wheel nozzle guides are lubricated via central lubrication



→ see operating instructions for central lubrication

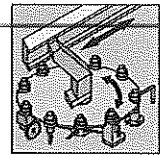


4 Troubleshooting

	Error description / situation	Possible causes	Remedy
1.0	Automatic tool changing does not function		
1.1		<ul style="list-style-type: none"> • Installation mode switched on 	<ul style="list-style-type: none"> ➤ Turn key-operated switch to automatic mode!
1.2		<ul style="list-style-type: none"> • Control voltage off 	<ul style="list-style-type: none"> ➤ Switch on control voltage!
1.3		<ul style="list-style-type: none"> • Tool holder does not revolve 	<ul style="list-style-type: none"> ➤ ☎ SERVICE
1.4		<ul style="list-style-type: none"> • Reference switch not actuated 	<ul style="list-style-type: none"> ➤ Reference tool holder!
1.5		<ul style="list-style-type: none"> • Programming error 	<ul style="list-style-type: none"> ➤ Carry out reference run! ➤ Restart the program!
1.6		<ul style="list-style-type: none"> • Initiators and valves faulty 	<ul style="list-style-type: none"> ➤ ☎ SERVICE
1.7		<ul style="list-style-type: none"> • Y-, Z- or C axis not in the changing position 	<ul style="list-style-type: none"> ➤ ☎ SERVICE
2.0	Tool is not properly inserted in or removed from the tool holder		
2.1		<ul style="list-style-type: none"> • Chuck jaw excessively worn 	<ul style="list-style-type: none"> ➤ Replace tool chuck!
2.2		<ul style="list-style-type: none"> • Changer position incorrect 	<ul style="list-style-type: none"> ➤ ☎ Service
2.3		<ul style="list-style-type: none"> • Clamping system or spindle dirty 	<ul style="list-style-type: none"> ➤ Clean clamping set!
3.0	Motor protection for tool changer		
3.1		<ul style="list-style-type: none"> • Motor protection switch for the voltage supply triggered by the tool changer 	<ul style="list-style-type: none"> ➤ Possible blockage in the tool changer ➤ Remove blockage ➤ Switch motor safety switch on again

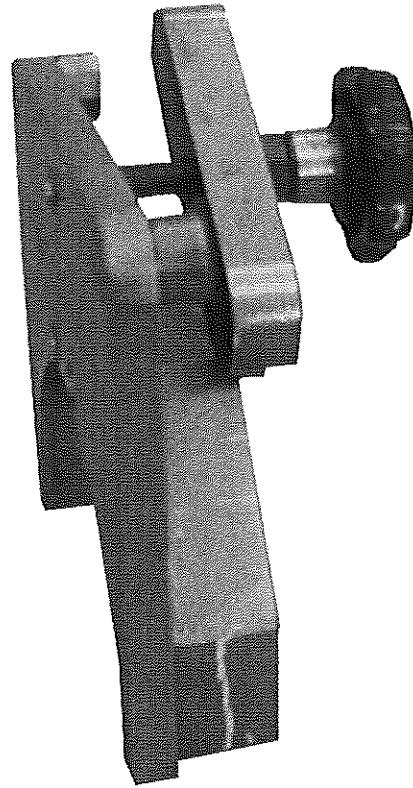


	Error description / situation	Possible causes	Remedy
4.0	Binary code initiators tool slot		
4.1		<ul style="list-style-type: none"> The slot coding switches are not switching properly. One or more initiators may be faulty or misaligned 	<ul style="list-style-type: none"> ➤ Check cable ➤  SERVICE
5.0	Counter pulse initiator		
5.1		<ul style="list-style-type: none"> When the tool changer is rotated, no more pulses are received from the "Count" initiator 	<ul style="list-style-type: none"> ➤ Readjust ➤ or replace ➤ Check cable ➤  SERVICE
6.0	Motor safety mechanism tool changer tripped		
6.1		<ul style="list-style-type: none"> The turning motor safety mechanism was tripped. Motor may be faulty or blocked 	<ul style="list-style-type: none"> ➤ Inspect motor ➤ Unscrew the cover on the tool changer, reset the safety mechanism
7.0	Programmed slot number greater than 12		
7.1		<ul style="list-style-type: none"> Programmed position is greater than 12 	<ul style="list-style-type: none"> ➤ Enter a different slot number (from 1-12)
8.0	Programmed slot number less than 1		
8.1		<ul style="list-style-type: none"> Programmed position is less than 1 	<ul style="list-style-type: none"> ➤ Enter a different slot number (from 1-12)



The testing device is used to measure position deviations from the main spindle to the tool changer.

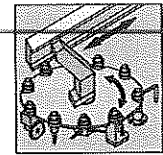
Features	Values
Can be used for	12-part and 18-part tool holder
Interface dimensions	According to plastic chuck 3-011-01-9270
Required tools	<ul style="list-style-type: none"> • Slide gauge • Standard HSK Tool chuck • NC program "wzw_mes.ho" • Testing device 4-204-00-0346



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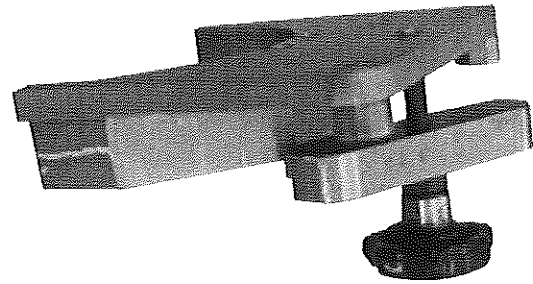
Contents:

1	Functions / Sequences	2
2	Operation	3
2.1	Measurement.....	3

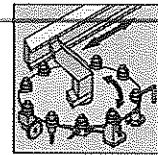


1 Functions / Sequences

The testing device is installed in the tool changer in place of the plastic chuck. The deviation in position of the tool changer to the spindle can be determined with a common sliding gauge and a HSK tool chuck in the main spindle.



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2 Operation

2.1 Measurement



Caution:

Measurements may be carried out by trained HOMAG service technicians only. This measurement is used only for checking the changing position. The NC program described below may not be used for the first alignment of the tool changer.

Preparation

- Use screwdriver to remove plastic clamp
- Install testing device in place of the plastic clamp and tighten

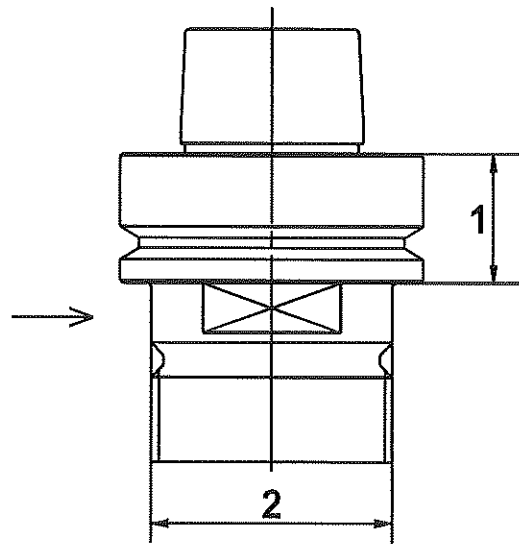
- Check dimensions of HSK tool chuck:
 - Collar height 1: 26 mm ± 0.1 mm
 - Collar diameter 2: 50 mm ± 0.1 mm



Note:

If the tolerances are not observed, the HSK tool chuck may not be used for the measurement!

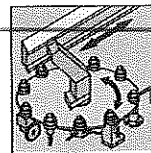
- Take the tool out of the HSK tool chuck and remove cap nut



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1	Collar height
2	Collar diameter





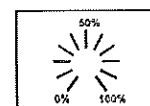
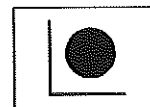
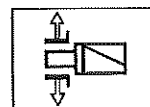
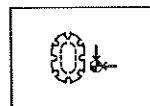
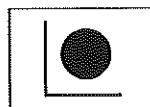
Start measurement program


Note:

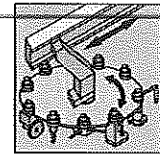
If there is no measuring program installed, the spindle can also be driven to the changing position via manual mode. Look up changing position from fixed data.

In the case of 2-channel machines, switch to left or right individual operation depending on the changer.

- Turn tool changer to jump in/out mode
- Reference tool changer
- Insert HSK tool chuck into the spindle
- Switch tool changer to automatic mode
- Start NC program "WZW_Mes.ho"
- The spindle will travel to the changing position and stop
- Then set override (potentiometer to manual control unit) to "0" and acknowledge the programmed stop (M0) on the manual control unit


Caution:

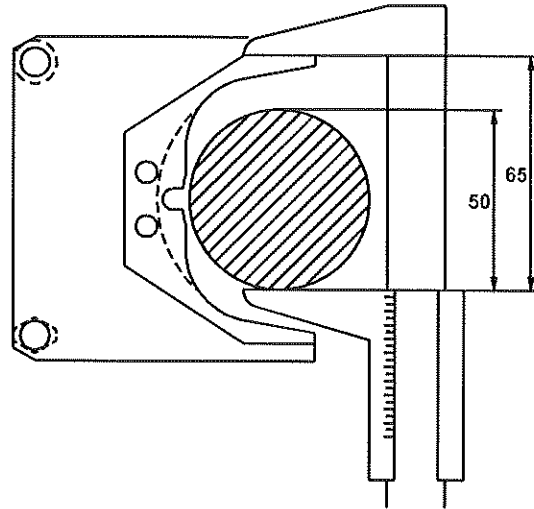
If the override is turned on, the spindle will return to the prechanging position. The manual control unit may not be accessible to unauthorized persons.



Measurement in X-direction

For the X-direction, measure the distance between the collar of the HSK tool chuck (Ø 50 mm) and the outer edge of the testing device (with sliding gauge).

At a distance of 65 mm the spindle is exactly in position in the X-direction in relation to the changer.

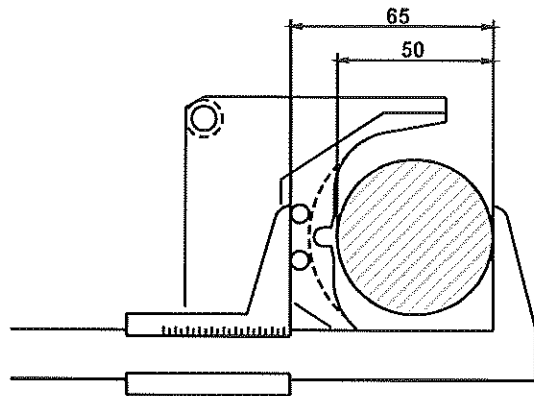


T:9082:554110:X00103TD.WMF

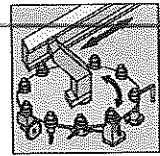
Measurement in Y-direction

For the Y-direction, measure the distance between the collar of the HSK tool chuck (Ø 50 mm) and the two pins on the testing device (use sliding gauge).

At a distance of 65 mm the spindle is exactly in position in the Y-direction in relation to the changer.



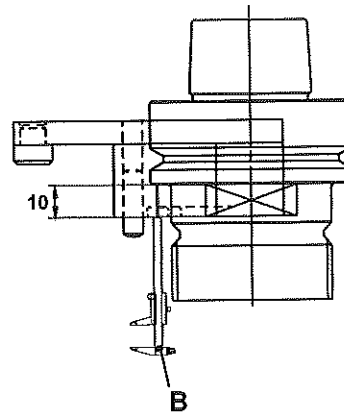
T:9082:554110:Y00104TD.WMF



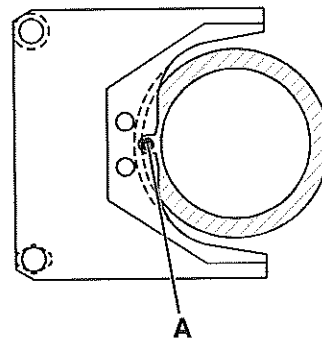
Measurement in Z-direction

For the Z-direction, measure the collar of the HSK tool chuck and the bottom edge of the testing device (with depth of the sliding gauge, guide through the indentation to the collar of the tool chuck).

At a distance of 10 mm the spindle is exactly in position in the Z-direction in relation to the changer.



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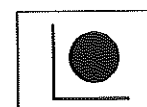
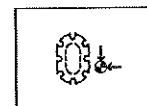
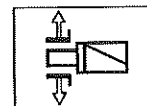
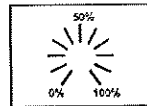
T:9082:554110\X00105TD.WMF

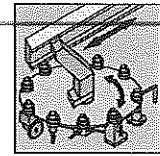
A Measurement point

B Sliding gauge

End measurement program

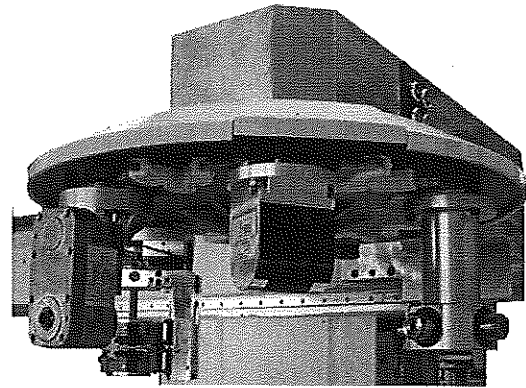
- Turn on override (potentiometer on manual control unit), spindle will travel to pre-changing position
- Switch tool changer to jump in/out mode
- Remove HSK tool chuck from the spindle
- Reference tool changer
- Switch tool changer to automatic mode





In the 12-part tool holder, tools and units are made available for automatic changing in the main spindle.

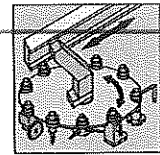
Features		Values
Tool chuck		HSK-F63
Unit chuck		HOMAG interface 9-002-04-3360
Number of slots		12
Pitch circle Ø		540 mm
Total weight of tool load		
	max.	60 kg
Weight per tool / unit		
	max.	10 kg
Tool / unit Ø		
	max.	300 mm
Tool/unit height (from HSK)		
	max.	320 mm



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Contents:

1	Functions / Sequences	2
1.1	Designs	2
1.2	Automatic tool change	3
2	Operation	4
2.1	Fitting the tool holder	4
2.2	Removing the tool manually from the main spindle.....	7
3	Routine maintenance / Care	7
4	Troubleshooting	8



1 Functions / Sequences

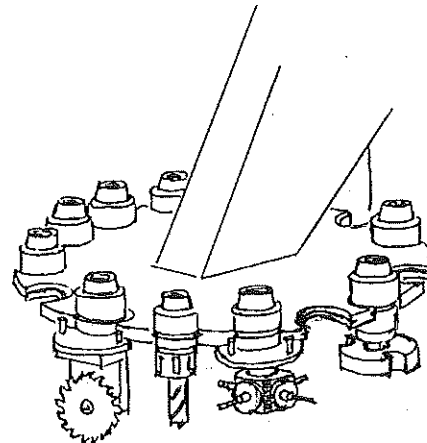
The tool holder is located on the stands.

1.1 Designs

Model A:

Rigid tool holder

A:



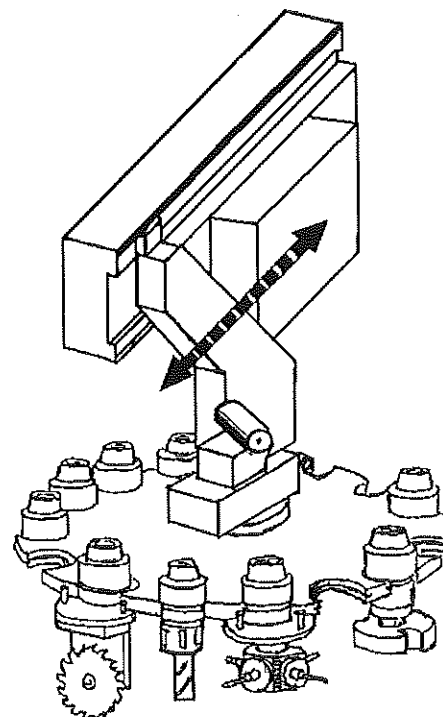
T:\9082\554060\X00002TD.PCX

Model B:

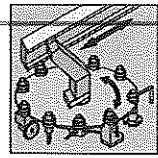
Drive up tool holder

Use in connection with automatically interchangeable gluing section. When changing the tool the tool holder travels diagonally to the changing position.

B:

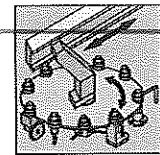


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1.2 Automatic tool change

- The main spindle moves to the changing position
- The main spindle moves the tool/unit to the registered position
- Main spindle travels upwards in Z-direction
- The tool holder turns the next tool / unit into position
- Main spindle travels downwards in Z-direction and tensions the tool/unit
- The main spindle continues processing



2 Operation

2.1 Fitting the tool holder



Danger:

Wear protective gloves when handling the tools and units

→ Risk of injury!



Caution:

The tools and units must be used in the slot stored in the tooling database.

→ Risk of tool breakage!



Caution:

All 12 slots on the tool holder can be filled with tools or units.

Between two units **A** there must be either

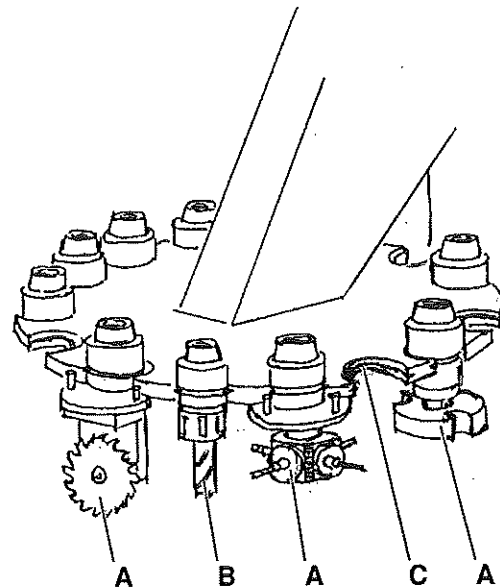
- one tool **B**
 - or an empty slot **C**.
- configured.

Insert tools so that they cannot collide with adjacent tools and units during changing process.



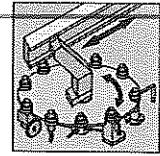
Note:

Drive up tool holders are lowered when switching to Jump in/out to make it easier to fill the tool holder.



T:\9082\554060\X00002TD.PCX

A	Unit
B	Tool
C	Empty slot

**Note:**

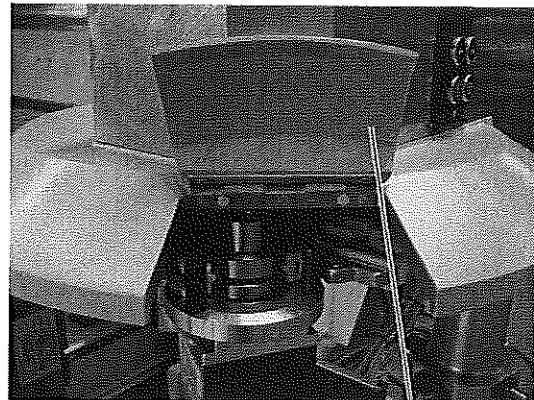
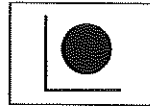
Tool chucks must not be damaged.
Worn mounting crosspieces can cause errors during the changing process.

**Note:**

Referencing must take place after every activation of the key-operated switch (switch to jump in/out mode).

Fitting the tool holder

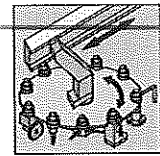
- Turn on control voltage on control panel
 - Turn key-operated switch on control panel to jump in/out mode
 - Unlock the protective grating door
 - Secure the protective grating door to prevent relocking.
-
- Open flap 1 on the protective hood



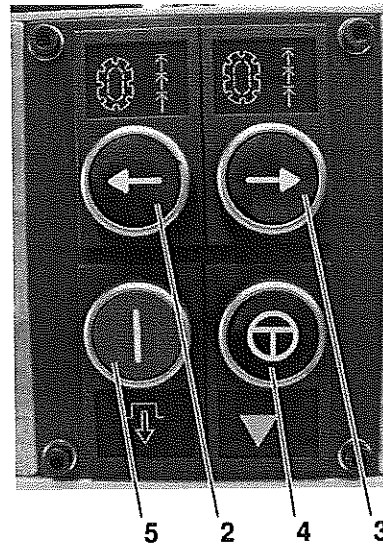
1

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1 Flap



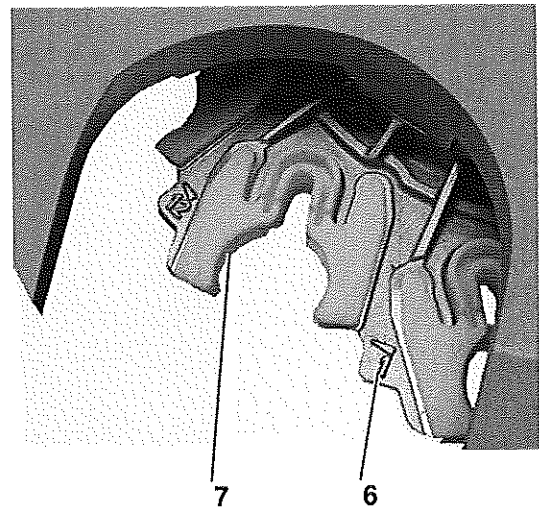
- Using button **2** or **3** rotate the desired magazine slot on the opening
- Press once = magazine turns one slot
- Press twice = magazine turns two slots



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2	Turn magazine button
3	Turn magazine button
4	Reference magazine button
5	Tension/release spindle button

- Put the tool or unit into the tool holder by holding the recessed grip. The slot number **6** is engraved next to the magazine slot **7** (see arrow).

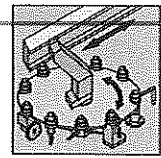


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6	Location number
7	Magazine slot

- Continue until all tools/units have been coordinated correctly
- Press button **4** until the tool holder stops at the reference point
- Set key-operated switch on control panel to automatic





2.2 Removing the tool manually from the main spindle

If a tool cannot be put up using the machine control unit, it must be removed from the main spindle by hand.



Danger:

Wear protective gloves when handling the tools and units

→ Risk of injury!



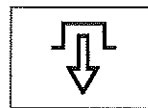
Danger:

The tool can fall on the ground when it is loosened. A second person should hold the tool.

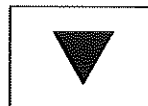
→ Risk of tool breakage and injury!

➤ Switch tool holder to jump in/out → see chapter Equipping Magazine.

- Press button 5
- ⇒ Spring chuck opened
- Installing / removing the tool
- Press button 5
- ⇒ Spring chuck is closed



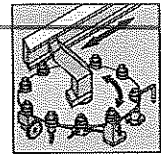
➤ Press button 4 until the tool holder stops at the reference point







➤ Set key-operated switch on control panel to automatic

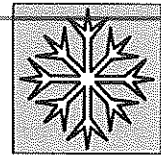
3 Routine maintenance / Care

→ See maintenance instructions!



4 Troubleshooting

	Error description / Situation	Possible causes	Remedy
1.0	Automatic tool change does not function		
1.1		Jump in/out in operation	Switch key-operated switch to automatic mode !
1.2		Control voltage off	Turn on control voltage!
1.3		Tool holder does not rotate	 SERVICE
1.4		Reference switch is not activated	Referencing the tool holder!
1.5		Programming error	<ul style="list-style-type: none"> • Carry out reference run! • Restart the program!
1.6		Proximity switches and valves defective	 SERVICE
1.7		Y, Z or C axis not in changing position	 SERVICE
2.0	Tool was not removed or stored properly in tool holder		
2.1		Mounting crosspiece shows too much wear	Replace the tool chuck!
2.2		Changer position not acceptable	 SERVICE
2.3		Clamping system or spindle is dirty	Cleaning the clamping set!



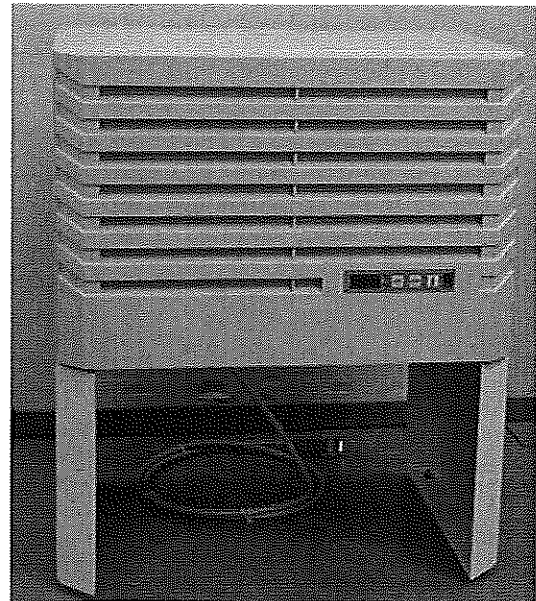
Cooling Unit
For Tool Changing Spindle

LANARK HOMES LT PROFI WBZ150/12 0-390-01-0049

5.5.5

The cooling unit is an air-cooled water cooler.

Features	Values
Nominal voltage	230 Volt
Line frequency	50 / 60 Hz
Coolant volume	2 l
Pump capacity	14 liters / min
Cooling liquid	75 % Water 25% Ethylene glycol
Ambient temperature	min. 10 °C max. 40 °C
Weight	46 kg
Constitution of water	
pH value	7-8.5
Carbonate hardness	>8<8 °dH

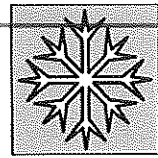


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Contents:

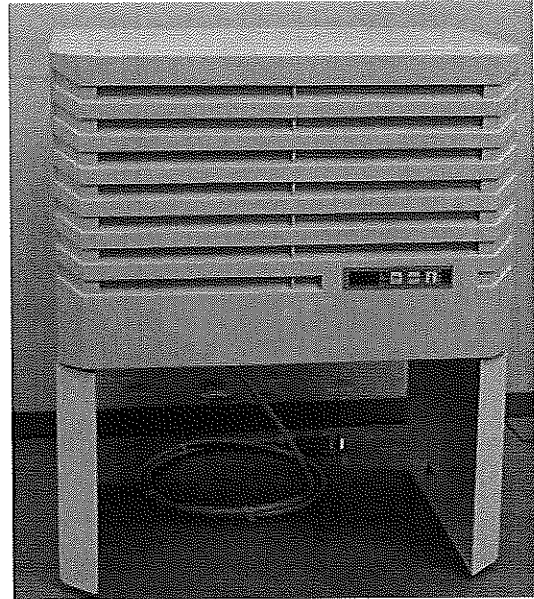
1	Functions / Sequences	2
1.1	Functional description.....	3
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2.1	Display and control unit.....	4
3	Routine maintenance / Care	4
4	Trouble shooting	5



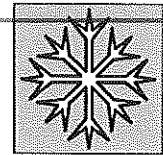


1 Functions / Sequences

The cooling unit is an air-cooled water cooler. The cooling water is cooled in a sealed circuit using a compressor and heat exchanger. Temperature control is performed using a digital controller that switches the compressor. The nominal temperature, the hysteresis and the alarm levels are stored in the digital controller.



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1.1 Functional description

The cooling unit is used to cool the main spindle and the routing spindle. The sealed cooling circuit comprises the reservoir, coolant pump, compressor with heat exchanger and connecting pipes between the main spindle, routing spindle and the cooling unit. The cooling circuit is activated automatically by switching on the control voltage for the machine.

Temperature regulation is performed using a temperature controller. This measures the coolant temperature and switches on the compressor as required.

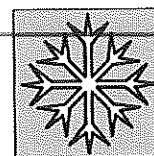
A flow switch is integrated into the water system to protect the system; if the flow rate drops below the minimum, the cooling unit is switched off.



Note:

- To ensure correct function, the temperature of the cooling medium must not exceed 40 °C.
- The cooling media temperature and the flow rate are continuously monitored during operation.
- If the limits are exceeded, programs that include machining with the cooled main spindle are not commenced. A corresponding error message appears on the monitor.
- Machining with air-cooled drive motors can continue to be performed.

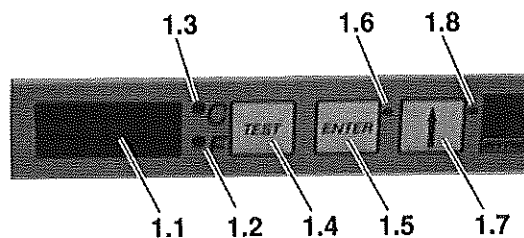




2 Operation

2.1 Display and control unit

1.1	Numerical display
1.2	LED - display in Fahrenheit
1.3	LED - display in Celsius
1.4	"TEST" key = starts the test function
1.5	"ENTER" key = programming
1.6	LED – indication for ENTER key
1.7	"↑" key = programming
1.8	LED – indication for "↑" key



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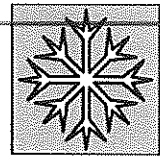


Note:

- The unit is pre-set and the values are not allowed to be changed!
- If the pre-set values are changed, the warranty is void!

3 Routine maintenance / Care

→ See maintenance instructions!



4 Trouble shooting



Note:

A cooling unit **Malfunction** error message appears on the screen. Other error messages appear on the cooling unit.

	Error description / Situation	Possible causes	Remedy
1.0	Cooling performance is inadequate		
1.1		<ul style="list-style-type: none"> • Ambient temperature too high 	<ul style="list-style-type: none"> ➤ Take measures to lower ambient temperature
1.2		<ul style="list-style-type: none"> • Too much heat produced 	<ul style="list-style-type: none"> ➤ Interrupt machining or reduce load on routing spindle.
1.3		<ul style="list-style-type: none"> • Cooling fins dirty 	<ul style="list-style-type: none"> ➤ Clean cooling fins (see routine maintenance)
1.4		<ul style="list-style-type: none"> • Compressor faulty 	<ul style="list-style-type: none"> ➤ Check and replace if necessary
2.0	Unit faulty		
2.1		<ul style="list-style-type: none"> • Compressor faulty 	<ul style="list-style-type: none"> ➤ Check and replace if necessary
3.0	Pump is overloaded		
3.1		<ul style="list-style-type: none"> • Internal winding protection or thermal overload 	<ul style="list-style-type: none"> ➤ Wait. Unit will switch on again automatically
3.2		<ul style="list-style-type: none"> • Wear or bearing damage 	<ul style="list-style-type: none"> ➤ Repair or replace
3.3		<ul style="list-style-type: none"> • Incorrect operating voltage or frequency 	<ul style="list-style-type: none"> ➤ Use different operating voltage or frequency
4.0	Pump jammed		
4.1		<ul style="list-style-type: none"> • Due to foreign object 	<ul style="list-style-type: none"> ➤ Carefully remove object
4.2		<ul style="list-style-type: none"> • Bearing damage 	<ul style="list-style-type: none"> ➤ Replace bearing
5.0	Flow to the pump interrupted		
5.1		<ul style="list-style-type: none"> • Connections or feed pipe faulty 	<ul style="list-style-type: none"> ➤ Check connections or feed pipe, replace if necessary
6.0	"Flow rate too low"		
6.1		<ul style="list-style-type: none"> • Filter element soiled 	<ul style="list-style-type: none"> ➤ Clean filter element or replace
6.2		<ul style="list-style-type: none"> • Too little coolant 	<ul style="list-style-type: none"> ➤ Top-up coolant (see commissioning)
6.3		<ul style="list-style-type: none"> • Cooling system pipes kinked 	<ul style="list-style-type: none"> ➤ Ensure optimal flow
6.4		<ul style="list-style-type: none"> • Cooling system pipes blocked 	<ul style="list-style-type: none"> ➤ Clean pipes



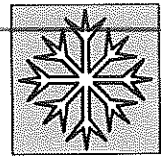
Cooling Unit
For Tool Changing Spindle

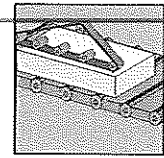
LANARK HOMES LT

PROFI WBZ150/12

0-390-01-0049

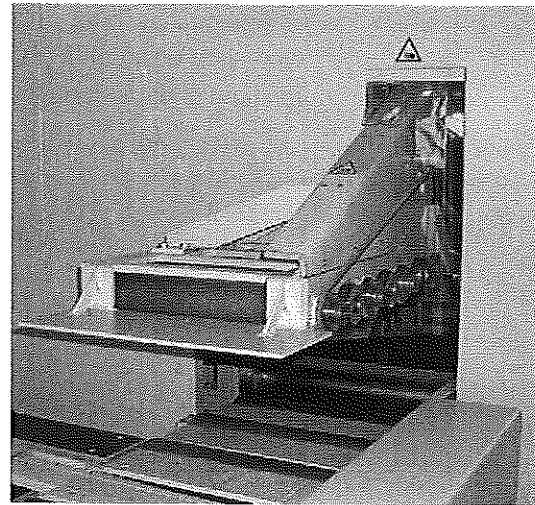
5.5.5





The conveyor belt transports the workpiece out of the unit

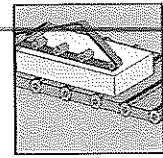
Features	Values
Power	0.37 kW
Stroke	230 mm
Pressing force max.	1800 N
Transport speed	30 m/min
Pressure set at factory	2 bar



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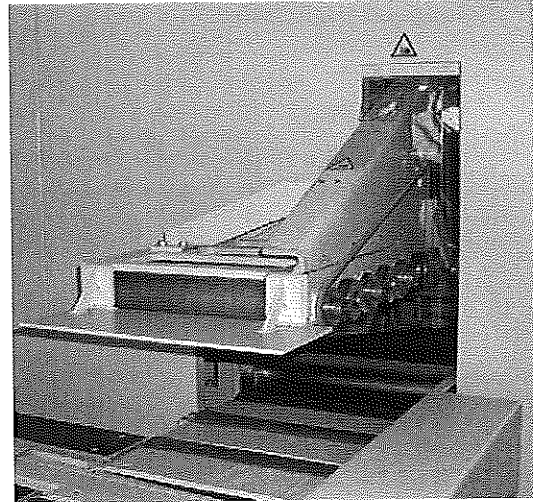
Contents:

1	Functions / Sequences	2
2	Operation	3
3	Routine maintenance / care	3

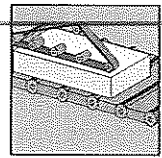


1 Functions / Sequences

When the workpiece has been processed, the conveyor presses down on it from above and transports it out of the unit on the belt.



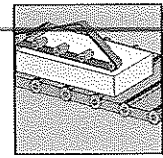
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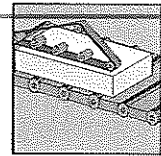
**2 Operation**

The work steps to be performed are carried out by the machine program

3 Routine maintenance / care

→ See maintenance instructions





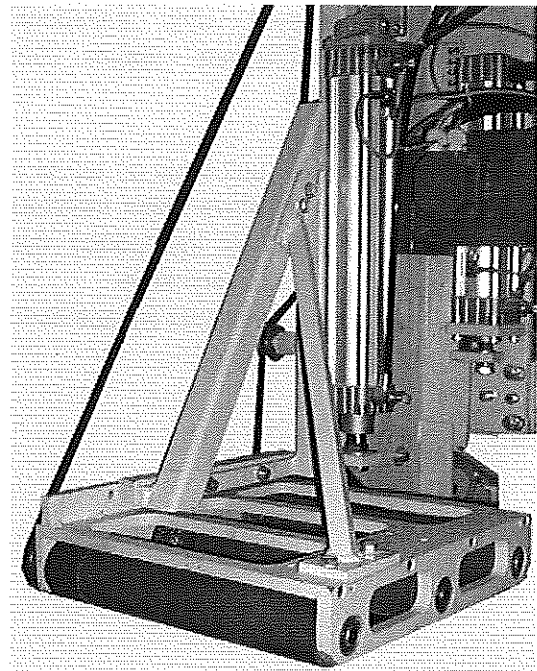
Transport roller
for short workpieces

LANARK HOMES LT PROFI WBZ150/12 0-390-01-0049

6.1.3

The conveyor unit transports short workpieces out of the system.

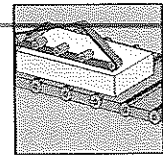
Features	Values
Stroke	300 mm



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Contents:

1	Functions / Sequences	2
2	Operation	3
	2.1 Changing the friction lining	3
3	Routine maintenance / Care	3

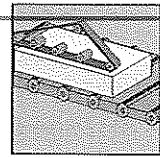


1 **Functions / Sequences**

The conveyor unit transports short workpieces (350mm – approx. 700mm) out of the system.

The conveyor unit rests on top of the sawn workpiece, the drive motor switches on and the workpiece is transported out of the system by the driven rollers.

It is moved by frictional engagement.



2 Operation

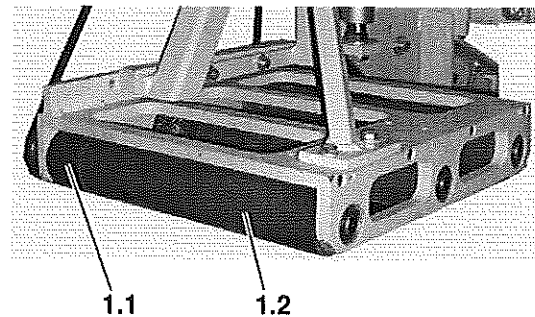
The work steps to be performed are carried out by the machine program

2.1 Changing the friction lining

**Note:**

If the friction lining 1.1 on the rubberized rollers 1.2 is worn, it must be replaced.

- Remove the old friction lining 1.1
- Sand off any residual adhesive from the rollers 1.2 (abrasive paper with a grain of 60)
- Stick on new friction lining 1.1 using standard commercial contact adhesive (e. g. Uhu Contact) in accordance with the manufacturer's instructions

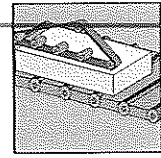


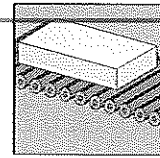
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Friction lining	Sandpaper Grain 60
-----------------	-----------------------

3 Routine maintenance / Care

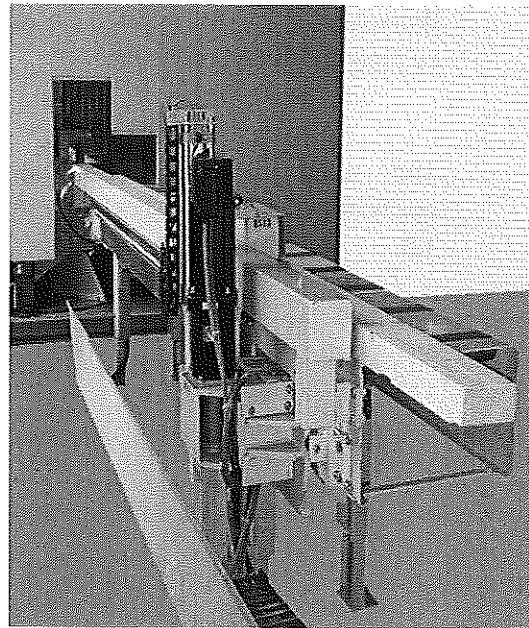
- ➔ No maintenance instructions necessary!





The infeed roller table feeds the workpiece into the processing center automatically.

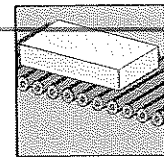
Features	Values
Feed speed	120 m/min
Clamping force approx.	3000 N



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Contents:

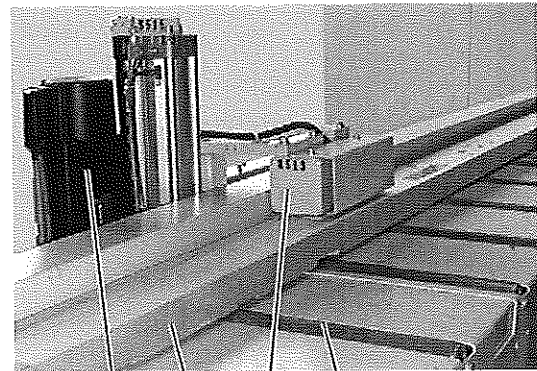
1	Functions / Sequences	2
2	Operation	3
3	Routine maintenance / care	3
4	Troubleshooting	4



1 Functions / Sequences

Workpiece 1.2 is transported on rollers 1.4 by means of an NC drive unit 1.1.

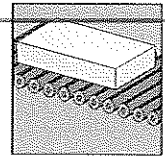
The workpiece 1.2 is clamped and positioned fully automatically by a gripper 1.3.



1.1 1.2 1.3 1.4

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1.1	NC drive unit
1.2	Workpiece
1.3	Gripper
1.4	Rollers

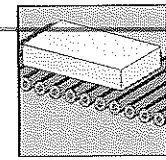


2 Operation


The work steps to be performed are carried out by the machine program

3 Routine maintenance / care

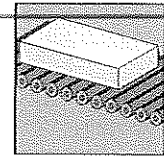
➔ See maintenance instructions



4 **Troubleshooting**

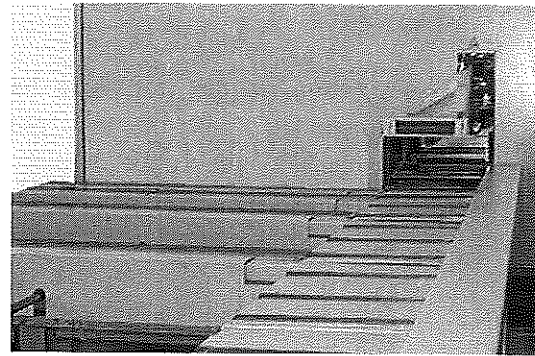
	Error description / situation	Possible causes	Remedy
1.0	Malfunction Close infeed		
1.1		<ul style="list-style-type: none"> • Gripper has not seized a beam 	<ul style="list-style-type: none"> ➤ Light sensor in the gripper may be dirty
1.2		<ul style="list-style-type: none"> • Limit switch at the bottom of the cylinder misaligned 	<ul style="list-style-type: none"> ➤ Adjust cylinder limit switch
2.0	Malfunction Open infeed		
2.1		<ul style="list-style-type: none"> • Limit switch at the top of the cylinder misaligned 	<ul style="list-style-type: none"> ➤ Adjust top end position
2.2		<ul style="list-style-type: none"> • End of block on cylinder 	<ul style="list-style-type: none"> ➤ Check
3.0	Malfunction Infeed limit switch combination malfunction		
3.1		<ul style="list-style-type: none"> • Upper and lower limit switches switch at the same time 	<ul style="list-style-type: none"> ➤ Check for tightness ➤ Adjust
4.0	A beam was not found during the search pass		
4.1		<ul style="list-style-type: none"> • Light sensor in the gripper did not see a beam during the search pass 	<ul style="list-style-type: none"> ➤ Light sensor misaligned ➤ Faulty, or no beam present
5.0	The start of the beam was not found during the search pass		
5.1		<ul style="list-style-type: none"> • Light sensor for the leading edge of the infeed beam does not see a beam 	<ul style="list-style-type: none"> ➤ Light sensor faulty, beam does not register with the light sensor
6.0	The beam does not meet specifications		
6.1		<ul style="list-style-type: none"> • Check the beam dimensions (too high/ too low) 	<ul style="list-style-type: none"> ➤ Insert another beam
6.2		<ul style="list-style-type: none"> • Measurement potentiometer misaligned 	<ul style="list-style-type: none"> ➤ Adjust  SERVICE





The beam is automatically transported out and to one side with the outfeed roller table.

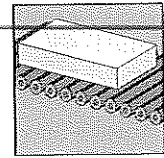
Features	Values
P=	0.75 kW
Stroke	600 mm
Lateral ejection speed	0 ≈ 3.0 m/min



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Contents:

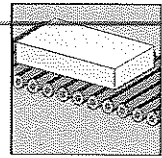
1	Functions / Sequences	2
1.1	Function.....	2
2	Operation	3
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4	Troubleshooting	4



1 Functions / Sequences

1.1 Function

- As soon as the workpiece has been transported out of the processing machine by the conveyor belt and the spring-loaded roller is released, the workpiece is pushed sideways
 - If angles are very flat, the workpiece does not vacate the spring-loaded roller and the error message "Outfeed band running too long" appears on the screen.
- ⇒ The workpiece must be removed by hand!

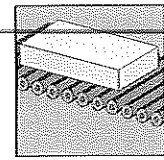


2 Operation

The work steps to be performed are carried out by the machine program

3 Routine maintenance / care

➔ See maintenance instructions

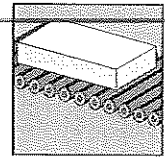


4

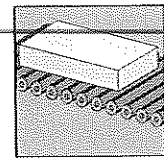
Troubleshooting

	Error description / situation	Possible causes	Remedy
1.0	Sideways transport will not activate		
1.1		<ul style="list-style-type: none"> • Spring-loaded roller is occupied 	<ul style="list-style-type: none"> ➤ Remove the workpiece by hand
2.0	Outfeed voltage supply		
2.1		<ul style="list-style-type: none"> • Terminal box • = 710 with no voltage 	<ul style="list-style-type: none"> ➤ Check circuit and motor safety switch
3.0	Outfeed bus coupler		
3.1		<ul style="list-style-type: none"> • Contact problems 	<ul style="list-style-type: none"> ➤ Inspect the connection cable to the data bus system ➤ Check the voltage supply to the unit
4.0	Outfeed ejector motor protection		
4.1		<ul style="list-style-type: none"> • The motor is overloaded or jammed 	<ul style="list-style-type: none"> ➤ Check air cooling unit/ Remove blockage ➤ Switch on the motor safety switch
5.0	Outfeed ejector thermal contact		
5.1		<ul style="list-style-type: none"> • The temperature of the motor is too high 	<ul style="list-style-type: none"> ➤ Check air cooling unit and correct any reason for faulty running ➤ Wait until the motor has cooled down
6.0	Outfeed ejector backward travel		
6.1		<ul style="list-style-type: none"> • The unit does not return to its rear position within a specified time 	<ul style="list-style-type: none"> ➤ Inspect the unit for blockage/ Check that the limit switch setting is correct ➤ Inspect the pneumatic system
7.0	Outfeed ejector forward travel		
7.1		<ul style="list-style-type: none"> • The unit does not return to its rear position within a specified time 	<ul style="list-style-type: none"> ➤ Inspect the unit for blockage/ Check that the limit switch setting is correct ➤ Inspect the pneumatic system

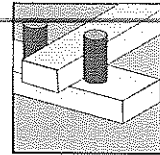




	Error description / situation	Possible causes	Remedy
8.0	Outfeed ejector forward and backward travel combination malfunction		
8.1		<ul style="list-style-type: none"> • The movement signals both end positions at the same time 	<ul style="list-style-type: none"> ➤ Check the limit switch settings
9.0	Thermal contact outfeed conveyor		
9.1		<ul style="list-style-type: none"> • The temperature of the motor is too high 	<ul style="list-style-type: none"> ➤ Check air cooling unit and correct any reason for faulty running ➤ Wait until the motor has cooled down
10.0	Motor protection outfeed conveyor		
10.1		<ul style="list-style-type: none"> • The motor is overloaded or jammed 	<ul style="list-style-type: none"> ➤ Check air cooling unit/ Remove blockage ➤ Switch on the motor safety switch
11.0	Outfeed conveyor up		
11.1		<ul style="list-style-type: none"> • The unit does not return to its rear position within a specified time 	<ul style="list-style-type: none"> ➤ Inspect the unit for blockage/ Check that the limit switch setting is correct ➤ Inspect the pneumatic system
12.0	Outfeed conveyor down (faulty tension)		
12.1		<ul style="list-style-type: none"> • The unit does not return to its rear position within a specified time 	<ul style="list-style-type: none"> ➤ Inspect the unit for blockage/ Check that the limit switch setting is correct ➤ Inspect the pneumatic system
13.0	Outfeed conveyor limit switch combination malfunction (up/ down)		
13.1		<ul style="list-style-type: none"> • The wood runs out for too long, the roller senses with the light that the outfeed is not vacated 	<ul style="list-style-type: none"> ➤ Check the limit switch on the roller (dirt) (roller remains down)

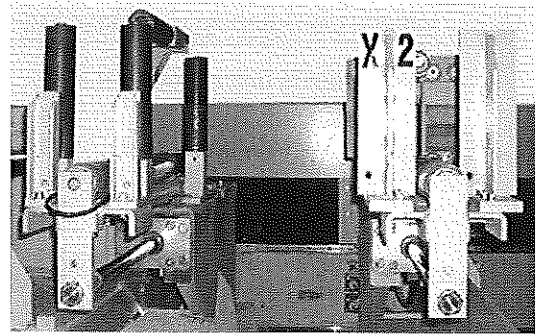


	Error description / situation	Possible causes	Remedy
14.0	Outfeed runs for too long		
14.1		<ul style="list-style-type: none"> The wood runs out for too long, the roller senses with the light that the outfeed is not vacated 	<ul style="list-style-type: none"> Check the limit switch on the roller (dirt) (roller remains down)



The clamp is used to position and secure the workpiece precisely.

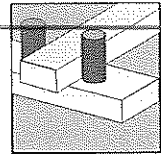
Features	Values
Vertical clamping range	200 mm
Horizontal clamping range	420 mm
Vertical clamping force	1700 N
Horizontal clamping force	2700 N
Travel route X ₂ approx.	1360 mm



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3	Routine maintenance / Care	3
4	Troubleshooting	4

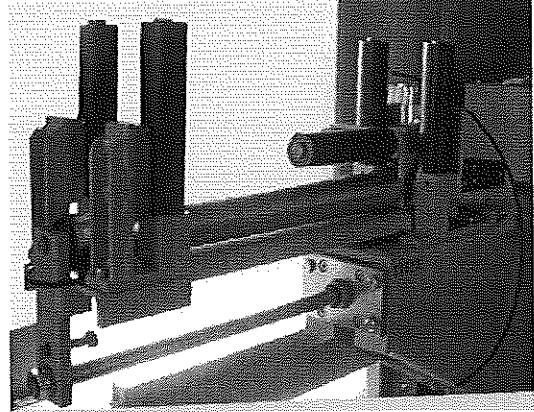


1 Functions / Sequences

Infeed side clamping unit, stationary

The clamping unit consists of a

- vertical clamping unit
- horizontal clamping unit

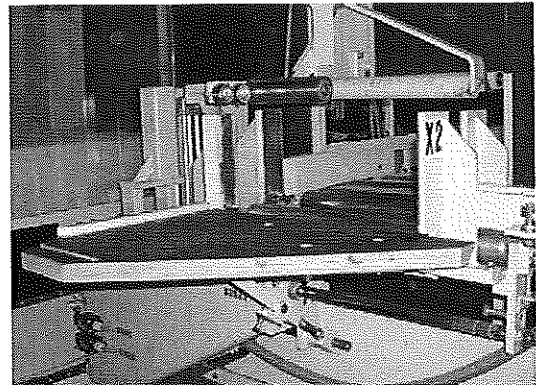


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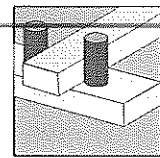
Outfeed side clamping unit, movable

The clamping unit consists of a

- vertical clamping unit
- horizontal clamping unit
- Support surface for short sections



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2 Operation

The work steps to be performed are carried out by the machine program

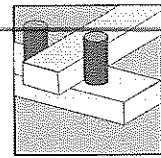
3 Routine maintenance / Care

→ See maintenance instructions!

**Note:**

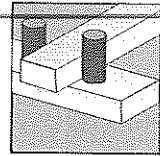
Wheel nozzle guides are lubricated via a central lubrication point

→ See operating instructions for central lubrication

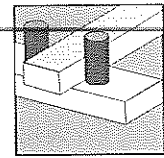


4 Troubleshooting

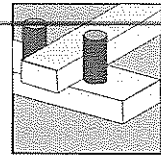
	Error description/ situation	Possible causes	Remedy
1.0	Bus coupler machine (clamp)		
1.1		<ul style="list-style-type: none"> • Contact problems 	<ul style="list-style-type: none"> ➤ Inspect the connection cable to the data bus system ➤ Check the voltage supply to the unit
2.0	Horizontal clamping, clamping unit 1	The clamp has reached its closed end position, but it should be clamping a beam	
2.1		<ul style="list-style-type: none"> • The width of the beam in position is less than the minimum required dimension 	<ul style="list-style-type: none"> ➤ Cancel the program ➤ Remove the beam
2.2		<ul style="list-style-type: none"> • The light sensor on the beam infeed may be dirty, causing the beam to be detected and clamped too soon 	<ul style="list-style-type: none"> ➤ Clean light sensor
2.3		<ul style="list-style-type: none"> • The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch
3.0	Horizontal clamping unit 1 opening	The clamp does not reach its open end position after a preset time	
3.1		<ul style="list-style-type: none"> • The clamp's opening movement is blocked 	<ul style="list-style-type: none"> ➤ Remove the blockage
3.2		<ul style="list-style-type: none"> • There is something wrong with the supply of compressed air to the function 	<ul style="list-style-type: none"> ➤ Check compressed air supply
3.3		<ul style="list-style-type: none"> • The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch ➤ Inspect cable connection



	Error description/ situation	Possible causes	Remedy
4.0	Horizontal clamping unit 1 combination malfunction	The cylinder limit switches for the tensioning cylinder are signalling open and closed at the same time	
4.1		<ul style="list-style-type: none"> • The cylinder limit switches have been moved 	<ul style="list-style-type: none"> ➤ Check and adjust the cylinder limit switches ➤ Check the cable connection to the cylinder limit switches
5.0	Vertical clamping unit 2 closing	The clamp does not move from its open position, but the clamp valve has been actuated	
5.1		<ul style="list-style-type: none"> • The clamp's closing movement is blocked 	➤ Remove the blockage
5.2		<ul style="list-style-type: none"> • There is something wrong with the supply of compressed air to the function 	➤ Check compressed air supply
6.0	Vertical clamping unit 1 opening	The clamp does not reach its open end position after a preset time	
6.1		<ul style="list-style-type: none"> • The clamp's opening movement is blocked 	➤ Remove the blockage
6.2		<ul style="list-style-type: none"> • There is something wrong with the supply of compressed air to the function 	➤ Check compressed air supply
6.3		<ul style="list-style-type: none"> • The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch ➤ Inspect cable connection



	Error description/ situation	Possible causes	Remedy
7.0	Horizontal clamping, clamping unit 2	The clamp has reached its closed end position, but it should be clamping a beam	
7.1		<ul style="list-style-type: none"> • The width of the beam in position is less than the minimum required dimension 	<ul style="list-style-type: none"> ➤ Cancel the program ➤ Remove the beam
7.2		<ul style="list-style-type: none"> • The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch
8.0	Horizontal clamping unit 2 opening	The clamp does not reach its open end position after a preset time	
8.1		<ul style="list-style-type: none"> • The clamp's opening movement is blocked 	<ul style="list-style-type: none"> ➤ Remove the blockage
8.2		<ul style="list-style-type: none"> • There is something wrong with the supply of compressed air to the function 	<ul style="list-style-type: none"> ➤ Check compressed air supply
8.3		<ul style="list-style-type: none"> • The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch ➤ Inspect cable connection
9.0	Horizontal clamping unit 2 combination malfunction	The cylinder limit switches for the tensioning cylinder are signaling open and closed at the same time	
9.1		<ul style="list-style-type: none"> • The cylinder limit switches have been moved 	<ul style="list-style-type: none"> ➤ Check and adjust the cylinder limit switches ➤ Check the cable connection to the cylinder limit switches



	Error description/ situation	Possible causes	Remedy
10.0	Vertical clamping, clamping unit 2	The clamp has reached its closed end position, but it should be clamping a beam	
10.1		<ul style="list-style-type: none"> The height of the beam in position is less than the minimum required dimension 	<ul style="list-style-type: none"> ➤ Cancel the program ➤ Remove the beam
10.2		<ul style="list-style-type: none"> The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch
10.3			
11.0	Vertical clamping unit 2 opening	The clamp does not reach its open end position after a preset time	
11.1		<ul style="list-style-type: none"> The clamp's opening movement is blocked 	<ul style="list-style-type: none"> ➤ Remove the blockage
11.2		<ul style="list-style-type: none"> There is something wrong with the supply of compressed air to the function 	<ul style="list-style-type: none"> ➤ Check compressed air supply
11.3		<ul style="list-style-type: none"> The cylinder limit switch on the clamping unit has been moved 	<ul style="list-style-type: none"> ➤ Adjust the cylinder limit switch ➤ Inspect cable connection
12.0	Vertical clamping unit 2 combination malfunction	The cylinder switches for the tensioning cylinder are signaling open and closed at the same time	
12.1		<ul style="list-style-type: none"> The cylinder limit switches have been moved 	<ul style="list-style-type: none"> ➤ Check and adjust the cylinder limit switches ➤ Check the cable connection to the cylinder limit switches



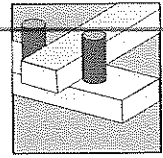
Clamp
WBZ

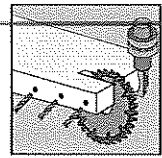
LANARK HOMES LT

PROFI WBZ150/12

0-390-01-0049

6.2.3

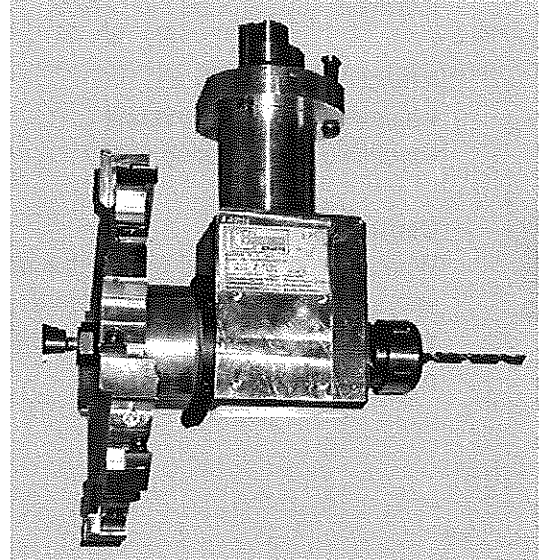




The combination unit is equipped with one tool chuck each for

- sawing or grooving and
- for drilling or trimming

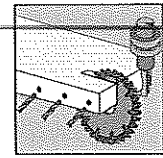
Features		Values
Input speed	max.	12000 rpm
Gear ratio		1 : 3.5
Output speed	max.	3400 rpm
Direction of rotation		CW / CCW rotation
C-axis swivel range		± 360 °
Tool data		
Center drill hole		55 mm ^{H7}
Shaft tool 1		
Collet chuck		DIN 6499
Shaft dimensions		ER32 Ø 20x40 mm
Shaft tool 2		
Collet chuck		C25DIN6388
Shaft dimensions		Ortlieb system Ø 20x40 mm
Oil grade		SAE 80W90



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	2.1 Work sequence.....	3
	2.2 Changing the shaft tool.....	4
3	Routine maintenance / care	5
	3.1 Cleaning the tool chuck	5
	3.2 Checking the oil level.....	5
4	Troubleshooting	6



1 Functions / Sequences

Sequence

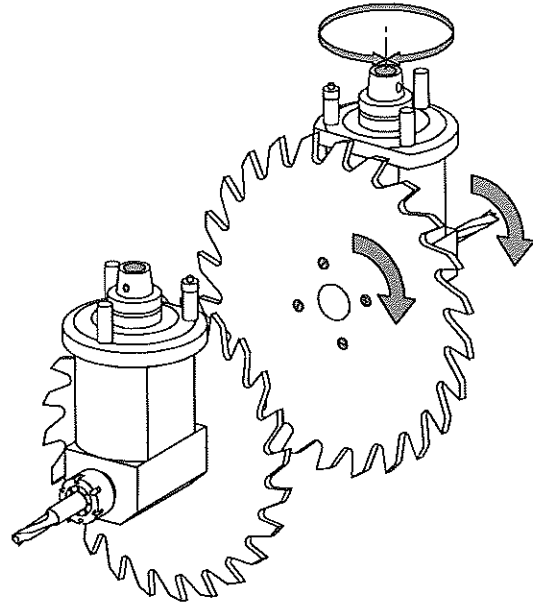
The unit is driven by the main spindle.
It swivels 360° around the C-axis.

It functions optionally as

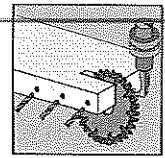
- a sawing and grooving unit
- a drilling and trimming unit

Caution:

When the unit is fitted with both a saw blade and a drill, care must be taken to ensure that the table and workpiece do not collide during processing.



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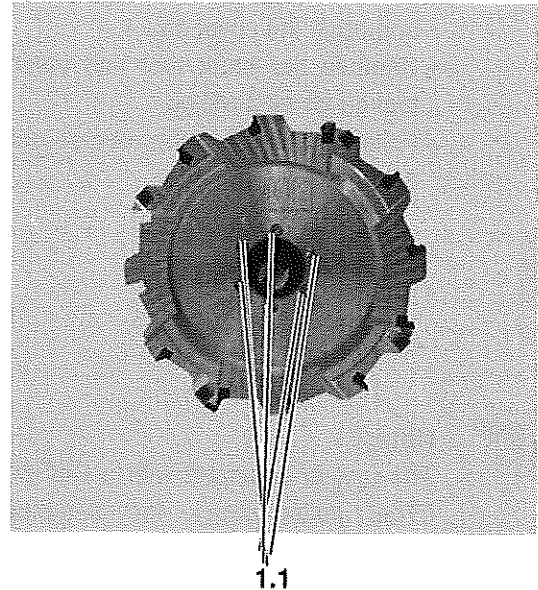


2 Operation

2.1 Work sequence

The work steps to be performed are controlled by the machine program.
No manual steps are required except for feeding the tool changer.

- Remove the unit from the tool changer
- Clamp tightly and securely in an appropriate clamping device (vise)
- Remove 6 screws 1.1 with an Allen wrench
- Remove saw blade/disk milling cutter
- Measure the replacement saw blade (diameter, cutting width and regular blade thickness)
 - ➔ see tool data sheet
- Enter data into the tool database
- Clean the mounting flanges on the unit and the tool
- Screw the saw blade/disk milling cutter tight and insert the unit back in the tool changer



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Note:

Note the direction of rotation!



Caution:

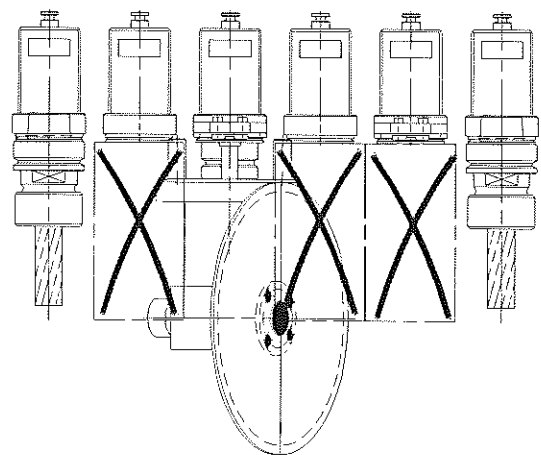
When using in the tool/unit chain changer

- Leave 2 slots on the right
- and 1 slot on the left free

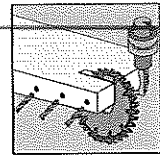


Danger:

Wear protective gloves while changing tools



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2.2 Changing the shaft tool

- Remove the unit from the pick-up magazine
- Clamp tightly and securely in an appropriate clamping device (vise)
- Hold in place with the gooseneck wrench
- Place ring wrench 2.3 over collet chuck 2.4
- Hold in place with gooseneck wrench 2.2 and open the collet chuck
- Remove the shaft tool and insert a new tool as far as it will go
- Follow the steps in the reverse order to re-assemble



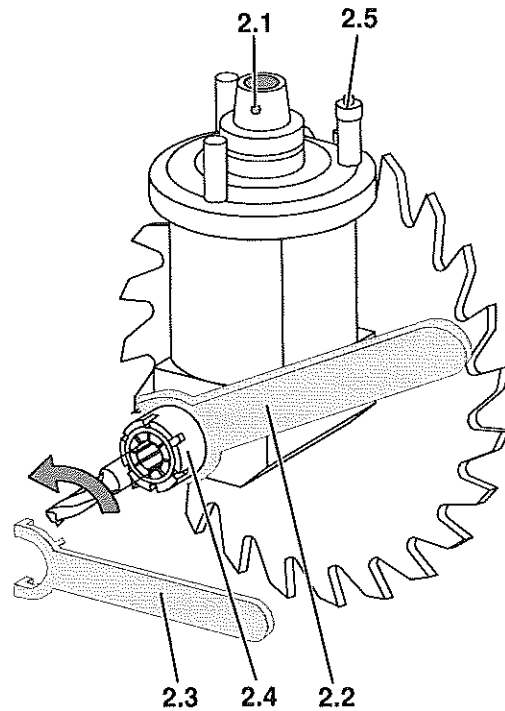
Caution:

- Trimmer max. Ø 20 mm



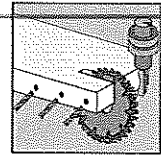
Note:

The unit is equipped with a DIN 6499, size ER32 collet chuck for clamping range 3 - 20 mm on the flange side, and with a DIN 38 C25 collet chuck for clamping range 4-25 mm on the opposite side.



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2.1	Bore hole
2.2	Goose neck wrench
2.3	Ring wrench
2.4	Collet chuck
2.5	Bolt

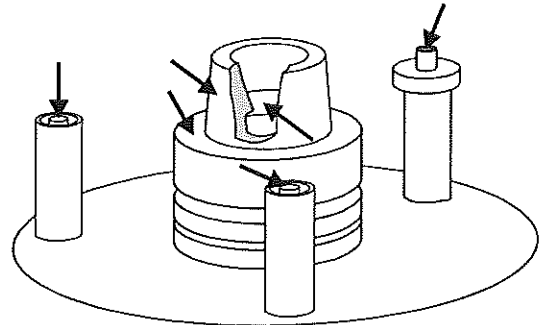


3 Routine maintenance / care

→ Maintenance instructions are essential!

3.1 Cleaning the tool chuck

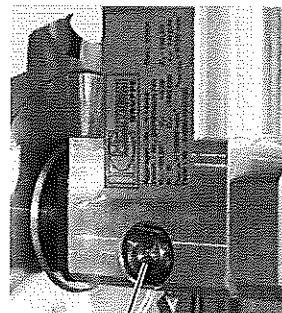
- Clean unit daily, and especially before using the unit following an idle period of 2 days
- Clean the surfaces indicated by an arrow using a dry cloth



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3.2 Checking the oil level

The oil fill level must be checked every day. If the level is too low, add more oil.

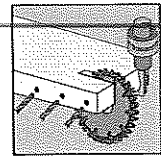


1.1

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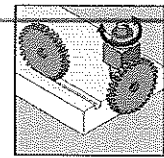
The oil level in the gearbox chamber is ideal when the oil sight glass 1.1 is half covered while the spindle is vertical.

See maintenance instructions for oil changing



4 Troubleshooting

	Error description / situation	Possible causes	Remedy
1.0	The trimming contour is incorrect	• CNC program is incorrect	➤ Check and correct the CNC program!
1.1			
2.0	The trimming/drilling quality is uneven	• Tool is blunt	➤ Sharpen tool, or replace with a sharp tool!
2.1			



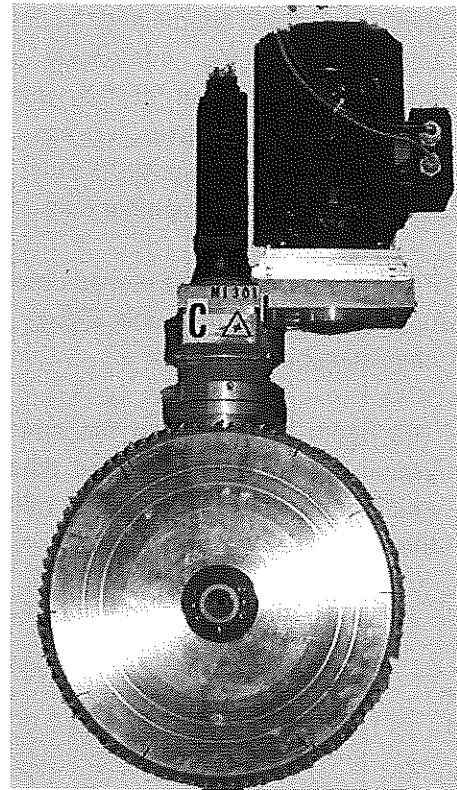
Fixed sawing unit
with automatically adjustable A-axis

6.4.2

LANARK HOMES LT PROFI WBZ150/12 0-390-01-0049

With this sawing unit, saw cuts can be made in various beam dimensions. They are used for processing construction parts and cutting construction parts to size.

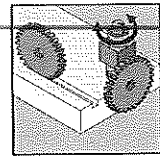
Features	Values
Cutting depth max.	210 mm
Transferable power	7.5 KW
Torque max.	20 Nm
Saw blade diameter	550 mm
Swivel range	90 °
C-axis	
Max. swivel range	+ 90 to 0 °
A axis	
Oil grade	SAE 80W90



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Contents:

1	Functions / Sequences	2
1.1	Layout of the sawing unit.....	3
2	Operation	4
2.1	Automatic mode.....	5
2.2	Manual mode.....	5
2.3	M functions	5
2.4	Settings.....	6
2.5	Changing the saw blade.....	7
3	Routine maintenance / care	8
3.1	Checking the oil level.....	8
4	Troubleshooting	9

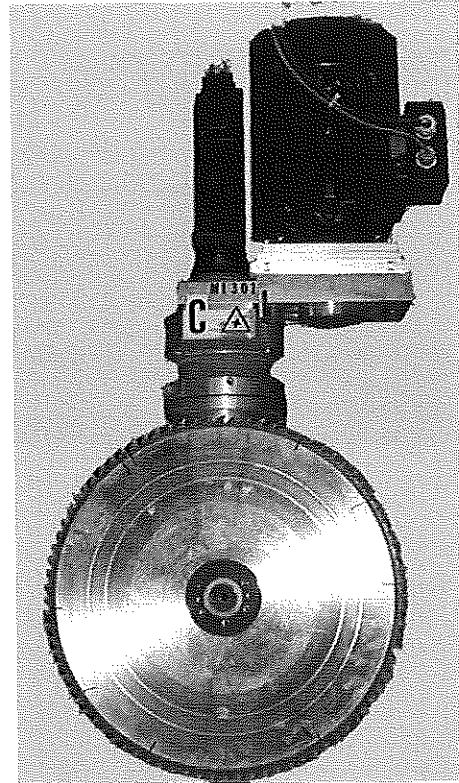


1 Functions / Sequences

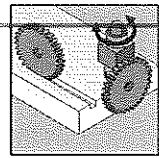
With the sawing unit, various saw cuts are made for beams, boards and top and bottom booms. With the immensely versatile automatic adjustment of the sawing unit about the C- and A- axes, it is easy to make longitudinal and transverse cuts, mitered and rafter assembly member cuts.

The sawing unit can be moved downward or upwards in line with the Z-axis using a circulating ball spindle.

The depth and angle of the saw cut are preset by the CAD-generated data record, and are reached absolutely with reference to the material zero point.

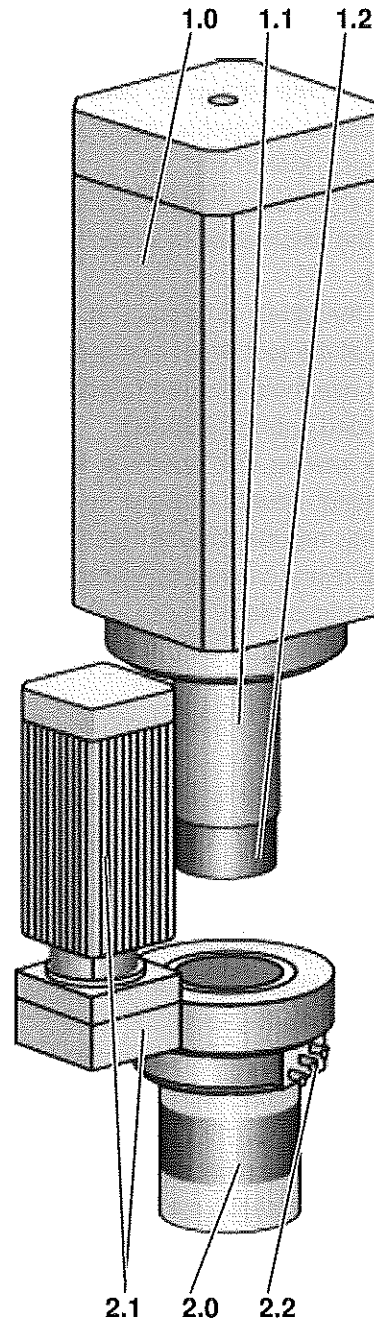


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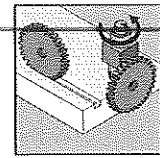


1.1 Layout of the sawing unit

1.0	Main spindle with the drive motor
1.1	Contact surface for accommodating the C-axis
1.2	Automatic tool clamp for holding tools or processing units
2.0	C axis with 3 ring mains for feed of compressed air or fluids in the working area of the main spindle
2.1	Servo motor with gear: moves the rotor in both directions infinitely by 360°
2.2	Connections for compressed air or fluids



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2 Operation



Danger:

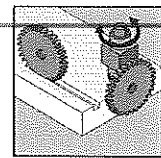
- Always wear protective gloves when working with the unit, because the tools can cause dangerous puncture and cutting injuries. Moreover, the high processing temperatures generated present a risk of burning even after the machine has been used
- It is forbidden to remain in the operating area of the tool when it is rotating
- Only use tools that are rated for use at the intended operating speed
- The sawing unit operates at a very high rotating speed. Failure to observe the safety regulations can lead to danger of fatal injury caused by flying parts of tools or workpieces.



Note:

The following rules must be strictly observed:

- Do not use the sawing unit without a tool
- Never attempt to change a saw blade before the drive unit has stopped
- Only use tools that comply with standard DIN 8085 and are balanced according to VDI standard 2060 or ISO 1940 (see tool data for quality level)
- Secure saw blades correctly to the flange
- Observe the prescribed maintenance intervals
- Use the machine only for working with wood and plastic materials
- Do not attempt to manipulate the sawing unit
- Take the sawing unit out of operation immediately if
 - damage is visible
 - if vibrations or striking noises are noticed



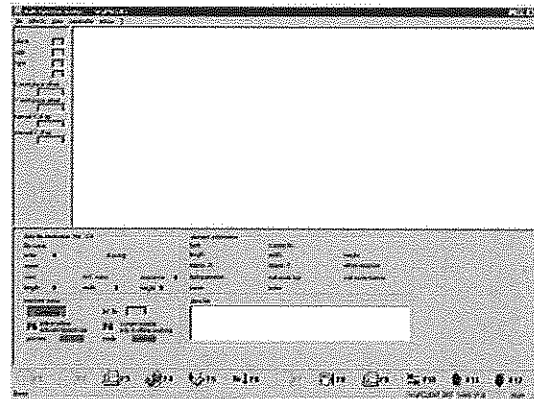
Danger:

Before switching on the production equipment and starting production, ensure that nobody can be endangered.

→ Risk of fatal injury!

2.1 Automatic mode

- Creating a data record in CAD
- ⇒ The element is processed automatically in accordance with the data record



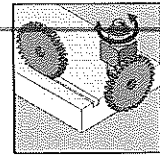
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2.2 Manual mode

All movements made by the machine controls are governed by the M - functions.

2.3 M functions

Number of the M function	Function
M268	Interlocking bolts activated without confirmation (shake fixed tool)
M269	Interlocking bolts deactivated without confirmation (shake fixed tool)
M270	Interlocking bolts active (and loosen brake)
M271	Interlocking bolts deactivated (and tighten brake)
M272	
M273	
M274	Interlocking bolts active (fixed tool)
M275	Interlocking bolts deactivated (fixed tool)
M352	Saw motor on first
M353	Saw motor on
M354	
M355	Saw motor off



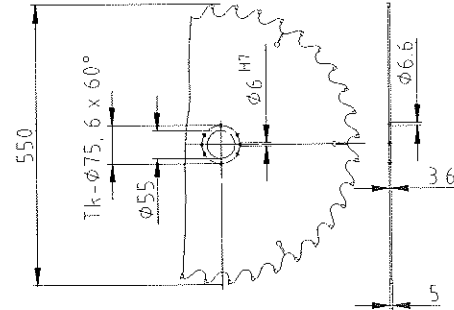
2.4 Settings

Tightening the saw blade



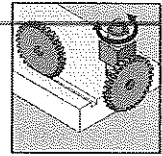
Note:

The saw blade to be tightened must have a geometry similar to the one illustrated



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2.5 Changing the saw blade

Tools required

- SW5 Allen wrench

Dismount the saw blade



Danger:

Wear protective gloves while changing tools

➔ Risk of injury!

➤ Loosen Allen screw 3.1

➤ Remove saw blade 3.0 with clamping flange 3.2

Mount saw blade

➤ Clean chuck

➤ Push saw blade 3.0 onto the chuck together with clamping flange 3.2

➤ Tighten Allen screws in diametrically opposed order 3.1



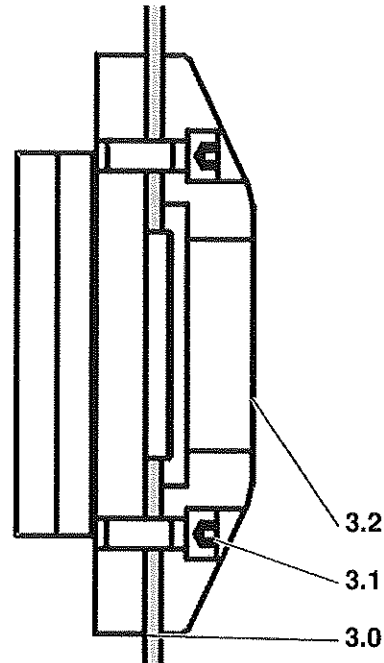
Note:

The tightening torque for Allen screws 3.1 on clamping flange 3.2 is 15 Nm.



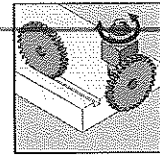
Caution:

Only use saw blades authorized for the maximum rated speeds of the sawing unit!



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- 3.0 Saw blade
- 3.1 Allen screw
- 3.2 Clamping flange



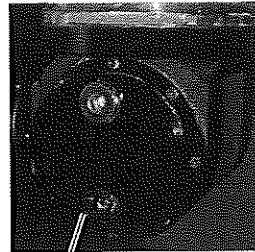
3 Routine maintenance / care

➔ See Maintenance instructions!

➤ Clean the sawing unit every day

3.1 Checking the oil level

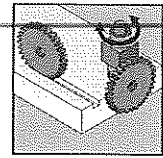
The oil fill level must be checked every day.
If the level is too low, add more oil.

**1.1**

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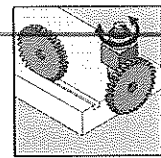
The oil level in the gearbox chamber is ideal when the oil sight glass 1.1 is half covered while the spindle is vertical.

See maintenance instructions for oil changing



4 Troubleshooting

	Error description / situation	Possible causes	Remedy
1.0	Fault CAN bus coupler Sawing unit		
1.1		<ul style="list-style-type: none"> • Contact problems 	<ul style="list-style-type: none"> ➢ Inspect the connection cable to the data bus system ➢ Check the voltage supply to the unit
1.2		<ul style="list-style-type: none"> • Cable breakage 	<ul style="list-style-type: none"> ➢ Check the cabling
1.3		<ul style="list-style-type: none"> • Electronics faulty 	<ul style="list-style-type: none"> ➢ Replace the electronics
2.0	Fault Thermal contact Saw		
2.1		<ul style="list-style-type: none"> • The saw motor is overloaded or jammed 	<ul style="list-style-type: none"> ➢ Check motor air cooling ➢ Inspect sawing unit ➢ Remove blockage
2.2		<ul style="list-style-type: none"> • Cable breakage 	<ul style="list-style-type: none"> ➢ Check the cabling
3.0	Fault Motor protection Saw		
		<ul style="list-style-type: none"> • The saw motor is overloaded or jammed 	<ul style="list-style-type: none"> ➢ Check motor air cooling ➢ Inspect sawing unit ➢ Remove blockage ➢ Switch on the motor safety switch
4.0	Fault Motor safety switch Braking mechanism Saw motor		
4.1		<ul style="list-style-type: none"> • Braking mechanism overloaded 	<ul style="list-style-type: none"> ➢ Inspect the braking mechanism air cooling system ➢ Inspect sawing unit ➢ Switch on the motor safety switch
4.2		<ul style="list-style-type: none"> • Braking mechanism faulty 	<ul style="list-style-type: none"> ➢ Replace the braking mechanism
5.0	Fault Saw not functioning		
5.1		<ul style="list-style-type: none"> • Check startup • Power is switched on without switching saw to on 	<ul style="list-style-type: none"> ➢ Move to starting position



	Error description / situation	Possible causes	Remedy
6.0	Fault Saw takes too long to brake		
6.1		<ul style="list-style-type: none"> • Braking mechanism overloaded 	<ul style="list-style-type: none"> ➤ Inspect the braking mechanism air cooling system ➤ Inspect sawing unit ➤ Switch on the motor safety switch
6.2		<ul style="list-style-type: none"> • Braking mechanism faulty 	<ul style="list-style-type: none"> ➤ Replace the braking mechanism
7.0	Fault 11 Interlocking bolt activated		
7.1		<ul style="list-style-type: none"> • The interlocking bolt should move to the locking position and does not travel all the way to the end position (no confirmation via initiator) 	<ul style="list-style-type: none"> ➤ Inspect the pneumatic supply system ➤ Check the valve control ➤ Inspect the initiator ➤ Check whether the C-axis is in the interlocking position
8.0	Fault 12 Interlocking bolt starting position		
8.1		<ul style="list-style-type: none"> • The interlocking bolt should move to the starting position but remains stuck in the locking position (acknowledgment via the initiator received and not released) 	<ul style="list-style-type: none"> ➤ Inspect the pneumatic supply system ➤ Check the valve control ➤ Inspect the initiator ➤ Check whether the C-axis is in the interlocking position