



DIMENSION SAW

PF 400 S

Service instructions

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ROJEK

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Contents

Introduction

1.0 Machine using

- 1.1 Worker's qualification
- 1.2 Working surroundings

2.0 Machine signification

3.0 Technical data

- 3.1 Possible machine variants
- 3.2 Working noise acoustic data
- 3.3 List of used documents

4.0 Safety instructions

- 4.1 General
- 4.2 Basic safety requirements
- 4.3 Dress and personal safety
- 4.4 Safety regulations for operator
- 4.5 Safety regulations for maintenance
- 4.6 Safety rules for working place

5.0 Transport and storage

- 5.1 Transport and storage
- 5.2 Machine uplift

6.0 Machine positioning

- 6.1 Working room
- 6.2 Levelling and attachment of the machine
- 6.3 Instalment of demountable parts

7.0 Connecting of exhaustion

8.0 Connecting to the mains

- 8.1 Connecting to the mains
- 8.2 Safety of machine run
- 8.3 Saw blade rotating direction
- 8.4 Rotating direction change
- 8.5 Protection of electric parts
- 8.6 Machine control

9.0 Operation and adjusting of machine

- 9.1 Riving knife adjustment
- 9.2 Setting of main saw blade height
- 9.3 Tilting of saw blades
- 9.4 Setting of scoring saw blade
- 9.5 Adjusting of lengthwise rule
- 9.6 Adjusting of cross-rule
- 9.7 Fixtures and feeders
- 9.8 Working places
- 9.9 Safety aids
- 9.10 Forbidden manipulations

10.0 Tools

- 10.1 Recommended tools
- 10.2 Exchange of saw blades

11.0 Maintenance and repairs

- 11.1 Tightening and exchange of V-belts or change of transmitting ratio of saw blade drive
 - 11.1.1 Unit description
 - 11.1.2 Change of chain tightening force
 - 11.1.3 Change of belts or change of transmitting ratio
- 11.2 Tightening of scoring blade V - belt
- 11.3 Reading of geared saw blade revolutions - maintenance
- 11.4 Cleaning and lubricating
- 11.5 Remedy of faults

12.0 Delivery extent

- 12.1 Accessories

13.0 Special accessories

14.0 Spare parts

15.0 Guarantee

16.0 Machine packing and service life expiry

- 16.1 Dealing with machine packing
- 16.2 Dealing with machine

Enclosures :

A) Electric connection diagram

B) List of electrotechnical parts

List of spare parts

Introduction

This manual was conceived at the manufacturer and is an indivisible part of the delivery enclosed with the machine. It contains basic information for qualified operating staff and describes the surroundings and using ways of the machine for those it is intended. It contains also all necessary information for a correct and safe operating.

The machine is equipped with various safety equipment protecting operator and machine as well at usual technological using. These regulations, however, cannot sheet all other safety aspects. That is why operator must peruse and make sense of this manual before starting of machine use. Installation and operation mistakes will be foreclosed herewith.

Do not try to start the machine before having read all instructions manual delivered with the machine and understood every function and technique.

Some information or drawings need not be intended especially for by yours bought type, for this manual contains all information of other this type variants we produce. By comparing of competent manual part with your machine – you will learn whether they correspond.

The producer reserves himself the right for particular variants in frames of a fluent technical development of the machine.

To better stress the importance of some basic passages, they are printed in heavy letters and marked by some preceding symbols - Appeal recommending to follow entirely following regulation:



Appeal recommending to act entirely according to following safety regulation. Disobservance of this regulation can be very **dangerous** and cause a killing or grave health exposure of operating personnel.



Warning from improper techniques or way of machine use that can endanger human health, machine functions, environment or cause economic loss. Breach of these regulation may cause a killing or a grave health exposure of the operator



Caution is an appeal to a due care for practising following operations. Non-performing of this caution may cause a human injury or damage at the machine.

Regard the instructions explicit on shields herewith the machine is equipped. In case of its damage contact the producer and renew the shield in any way.

Caution

The text and pictures of the manual is a know how of the ROJEK Co. No part of it can be copied and third persons are not allowed to learn it or its part without company's approval.

1.0 Machine use

This machine is designed as a dimension circular saw with hand shifting of workpiece. The sliding table fays to the saw blade with a scorer. The saw blade is adjustable in height and with tilting. The machine is intended above all to larger cabinet making workshops for accurate sawing of wood and laminboards from wood and those on wood based ones with a maximal sawing width of 1050 mm (800; 1 500 mm).

The machine is intended to be operated only by one single person.

Any manipulating with the machine by children or youth is forbidden !


1.1 Qualification of workers

Only a man or woman trained in woodworking branche or instructed and schooled by such a specialist can operate the machine. Machine operator is obliged to learn this manual and abide with all safety regulations, rules and appointments, valid in a country in question.

1.2 Working surroundings




The machine must operate in workshop surroundings of temperature range + 5°C - + 40°C, relative air humidity 30% - 95% non condensing and altitude 1000 m above the sea in surrounding classified : fire danger of combustive dusts (BE2N2).

2.0 Machine signification

 ROJEK DŘEVOBRÁBĚČÍ STROJE 517 50 ČASTOLOVICE ČESKÁ REPUBLIKA		
TYP STROJE PRODUCT TYPE MASCHINENTYP	VÝROBNÍ ČÍSLO SERIAL NUMBER ERZEUGNISNUMMER	ROK VÝROBY YEAR OF MANUFACTURE BAUJAHR
DOVOZCE IMPORTER EINFÜHRER		
NAPĚTÍ POWER SUPPLY SPANNUNG		VÝKON POWER OUTPUT MOTORLEISTUNG
KMITOČET FREQUENCY FREQUENZ		PROUD CURRENT STROM

Machine type can be identified at the production shield on machine frame..

Type of machine : **PF 300 L** – dimension saw of sawing width 800 (1320) mm

GRAFICAL SYMBOLS	
	Attention, warning Achtung
	Attention, electric part Achtung, elektrisch Teil
	Main switch Hauptschalter

Informative shields and shields warning against dangers are placed at the machine frame.

3.0 Technical data

Saw		
Motor power	kW	5,5 (7,5)
Motor revolutions	/min	2 900 (3 480 at 60 Hz)
Saw blade – max. diameter	mm	400
Saw blade with scorer – max.diameter	mm	400
Spindle diameter	mm	30
	inch	
Saw spindle revolutions	/min	3200; 4000; 6000 (50Hz)
Sawing height – max. (blade ø 400 mm)	mm	130 (90 at 45°)
Sawing width	mm	1 050 (800;1 500)
Tilting of blades	°	0 - 45
Scorer		
Motor power	kW	0,5
Saw blade diameter	mm	125
Spindle diameter	mm	20
	inch	
Scorer spindle revolutions	/min	8530 (10236 at 60Hz)
Machine dimensions		
Length	mm	3370 CV (L=3200 mm)
Width	mm	for CV 385 K, F 3200*(800) 3450*(1050) 3900*(1500) * with cross ruler in basic position
Height max.with the upper controlling	mm	1460
Table height	mm	892
Table dimensions	mm	1185 x 500
Exhausting nozzle diameter	mm	lower 120
		upper 80 – Fried 100 – CPS CX 400
Dimensions in packing - in folio	mm	3370 x 1210 x 1150
- in a box	mm	for CV (L = 3200 mm)
Net weight	kg	
Gross weight	kg	

sliding table CV		
Table dimensions	mm	
CV 330		3 200 x 330
CV 385 K		3 200 x 385
CV 385 F		3 200 x 385
Supporting frame dimensions	mm	1 400 x 630
Length of sawing cut of the saw	mm	3 200
other parametres		
Voltage / frequency	V / Hz	3f + PE + N ; 400(230) V/ 50(60) Hz
Safeguarding	A	25

3.1 possible machine variants

electric motor power	- 5,5 or 7,5 kW
spindle diameter fo saw blade	- 30 mm or 1"
scorer spindle diameter	- 20 mm or 3/4"
max. width of cut	- 800; 1 050 or 1500 mm
sliding table	- length = 3 200 mm - CV 330 - CV 385 K - CV 385 F
operation voltage	- 3 x 400V; 3 x 230V; UL
mains frequency	- 50 or 60 Hz
scorer	- with or without
lengthwise ruler position indicating	- with scale; electronically with a display
saw blade tilting	- hand wheel; electric motor
indication of tilting	- wheel with scale; indicator in hand wheel; - electronically with a display
lifting of saw blade	- hand wheel; electric motor
saw blades covering	- Fried; CPS CX 400
location of controlling	- lower; upper.

3.2 Data of machine operation noise (EN 1870-1; ISO 7960 - 1995)

Acoustic pressure	L _{pf}	idle run	L _{pf} = 81,8 dB(A)
		working	L _{pf} = 85,3 dB(A)
Acoustic power (ISO 3744 K _{2A} = 0 dB)	L _{WA}	idle run	L _{WA} = 98,6 dB(A)
		working	L _{WA} = 102,1 dB(A)

Above stated values are those of emissions and need not represent the safe working values. Although there exists a correlation between emissions values and levels of exposition, these values cannot be used for a reliable statement whether other precautions are necessary or not. Agents, influencing a real exposure of workers, include other working space attributes, other sources of noise, etc., e.g. the number of machines and other from neighbourhood influencing processes. The most permissible exposition levels can differ according to country in question, too. This information will serve for machine user to a better estimation of risks.

3.3 list of used documents

directive of the E. C. nr. 98/37 stating technical demand on machinery equipment :

Machine part

EN 292-1 : 1994 (EN 292-1 : 1991)

Machinery safety. Basic terms, general fundamentals for projecting, part 1 : basic terminology, methodology.

EN 292-2/A1 : 1995

Machinery safety. Basic terms, general fundamentals for projecting, part 2 : Technical fundamentals and specifications.

EN 1870-1 : 2000 (EN 1870-1 : 1999)

Safety of woodworking machines. Saw benches (with and without sliding table) and dimension saws

EN 294 : 1992

Machinery safety. Safe distances to avoid a hand touching of dangerous places.

EN 953 : 1997

Machinery safety. Protective coverings. General demand on constructing and production of unmoved and movable protecting coverings.

EN 1088 : 1995

Machinery safety. Blocking devices connected with protecting coverings.

Fundamentals for designing and choice.

EN 954-1 : 1996

Machinery safety. Safety parts of controlling systems.

Part 1: General fundamentals for construction.

EN 1050 : 1996

Machinery safety. Fundamentals for determination of risks.

EN 563 : 1994

Machinery safety. Temperatures of touching - accessible surfaces. Ergonomic data for stating of limiting temperature values of hot surfaces.

EN 349

Machinery safety. Least spaces for avoiding compression of human body parts.

EN ISO 7000 : 1994 (ISO 7000 : 1989)

Graphical signs substituting letterings on appliances.

Electrotechnical equipment

Government directive nr. 169/1997 Coll., (Directive 89/336 EWG) stating technical demand on products concerning its electromagnetic compatibility.

Government directive nr. 168/1997 Coll., (Directive 73/23 EWG) stating technical demand on electric appliances of low voltage.

EN 60204-1 : 1998

Machinery safety. Electrical equipment of machines. Part 1 : General demand.

EN 418 : 1992

Machinery safety. Emergency stop-unit. Aspects of functioning. Construction fundamentals.

IEC 38 : 1983

Electrotechnical regulations. Normalized voltages IEC.

EN 60073 : 1996

Electrotechnical regulations. Encoding of conveyers and controllers by help of collors and supplementary means.

EN 55011 : 1998

Limit and measurement methods of characteristics of electromagnetic interference from industrial, scientific and medical (PLV) appliances.

4.0 Safety instructions

4.1 in general

This machine is provided with various safety equipment protecting the operator and the machine as well. This, however, cannot involve all safety aspects. Therefore the operator must read through and understand this chapter. He must moreover respect also other aspects

of danger, referring to surroundings conditions and processed materials.

This manual takes in 3 categories of instructive safety symbols :



Appeal recommending to proceed entirely according to following instruction(s). A dispatch or operator's heavy injury impends in case of non-performing this regulation.



Warning against improper techniques or machine using ways, those can endanger human health, machine functioning, environment or cause economic worses.



Caution is an appeal to appropriate care during practising of following activities. Non-performance of this caution can cause a small sized injury or machine damage.

Follow instructions stated on shields, fixed on the machine. Do not remove nor damage the shields. In any case of a shield damaging – always contact the producer !

4.2 Basic safety requirements



Never touch the low voltage system on the electric control panel, transformers, motors and terminal boards. Every of mentioned unit is indicated with a shield.

- Before connecting machine to mains: Make sure that all safety parts are in active position and check up their functioning. In case of necessary removing doors or protecting coverings - switch off main switch and lock it or disconnect by towing plug from mains socket.
- Catchers of eventual back throw must be freely movable and its functioning controled regularly several times a day.
- When door or protecting covering are apart - do not connect the machine to the mains.



To avoid incorrect operating – learn positions of switches before machine starting.

Remember position (location) of emergency switch to be able to use it at once any time.

- Avoid touching some switch(es) by chance on running machine.
- Never touch rotating tool by hands or somewhat else.
- When you will not work on at the machine – switch it off by control pannel switch and disconnect it from the mains.
- Before cleaning : Switch off the machine and lock the main switch or tow plug off socket.
- Before doing maintenance inside machine : Always switch it off and lock main switch or disconnect plug from mains socket.
- When more workers operate the machine – do not begin another work not having informed other worker about your intention how you will run on.
- Do not do up the machine in any way able to endanger its safe operating.
- In doubts about correctness of technique – contact a responsible person.



Do not neglect practising of regular inspections in tune with service manual instructions.

Check up and make sure that nothing troublesome occurs on the machine.

- After finishing of work adjust the machine so as to be ready for following operations.
- In case of mains outage – switch off immediately main switch or tow plug out from socket.
- Do not overpaint, wear, damage, do up nor get off safety shields. If they get unreadable or lost – contact production plant and renew them.

4.3 Working dress and personal safety



Experience shows that various personally worn objects e.g. finger rings, watches, wristbands and the like used to cause injuries. Hence put them away before beginning of work, fasten sleeves, remove tie – those could be caught by various parts of working machines. Brace your hair so as not

to fly free and wear suitable shoes recommended or rated by working safety rules of a country in question.

- Wear safety outfit (glasses, apron, safety footwear and the like).
- In case of obstacles above your head in working space – wear a helmet.
- Wear always a protecting mask during planing material – source of dust (when planed).
- Never wear free working dress.
- Never work on the machine under influence of drugs or spirit drinks.
- If you suffer from stuggers, fade or swoon – do not work on the machine.

4.4 Safety regulations for machine operator



Do not start up the machine before having got up the content of this manual.

- Check up whether electric cables are not damaged so as an electric current fading would not cause an injury (electric shock).
- Check up regularly whether safety coverings are properly mounted and if they are undamaged. Damaged coverings repair immediately or replace with other ones.
- Do not start the machine with removed protecting covering.
- Never use deformed or cracked tools.
- Replace blunt tools as soon as possible, for blunt tools often cause injuries or damages .
- Never use tools at higher speed than recommended by its producer.
- Stop all machine functions before replacing of tools.
- Do not remove nor in any else interfere to safety elements like coverings, limit switches, nor practise its mutual blockage.
- Require an assistance for manipulation with parts exceeding your abilities.
- At a storm we recommend : Do **NOT** operate at the machine !

4.5 Safety regulations for maintenance

Get up manual instruction for machine maintenance men in all points before starting any maintenance work.



- Before beginning with maintenance works: Switch off always the main switch and lock it or disconnect the machine by towing off the plug from socket. Herewith you avoid an occasional starting of machine by chance by another else person.



- A qualified person must practise maintenance works on electric parts.
- The machine is not disconnected from voltage when it gets stopped. Switch off always the main switch and lock it or disconnect the machine by towing off the plug from socket.
- Do not clean the machine or its peripheral system if machine is completely out of run as long as the main switch is not switched off or the plug towed out from the mains socket.
- Keep your fingers distant from belts and belts pulleys and from chains and chain wheels. Before exchange of machine electric parts – switch off the main switch, lock it or disconnect the machine by towing off the plug from the socket. For replacing of defected products use those consistent with specification of originals.
- Do not remove or do up blocking of limit switches or other safety components.
- Keep always tidy the space for maintenance including your working place.



- Maintenance works must be practised by qualified personnel in tune with producer's instructions.
- Read through all the instructions manual for maintenance men patiently.
- For an exchange of parts and needy subjects – ensure in advance equal ones with the original type or corresponding with the norms.
- Use only specified brands of lubricant (oil or grease) or with these equal ones.
- Do not use compressed air for machine cleaning or removing of wood chips.
- Control results of maintenance in presence of a responsible person.

4.6 Safety regulations for working place



- Ensure always sufficient working space and free access to the machine and its peripheral device.
- Place the tools and other obstacles at a place for this intended and remote from the machine.
- Ensure sufficient lighting in working space that will not throw shadows or cause a stroboscopic effect. Hygienic norms indicate 500 lx for minimal lighting for safe and quality work.
- Never lay tools or other subjects onto working tables or coverings.

5.0 Transport and storage

5.1 Transport and storage

Be especially careful during transport and manipulation and commit it to qualified personnel especially trained for this kind of action.



**You must secure that no person nor subject could be folded by the machine during loading and unloading it !
Never enter the space under the machine lifted up by a crane or a high-lift !**

The machine must be protected against excessive vibrations and moisture during transport. It must be stored indoor in temperature range (minus) – 25°C to + 55°C. The machine is modularly wrapped in shrinkable folio when transported. On customer's wish the machine can be packed in a carton or a resistant wooden box. The machine is delivered partly disassembled. Detached parts are packed and stored at the machine table.

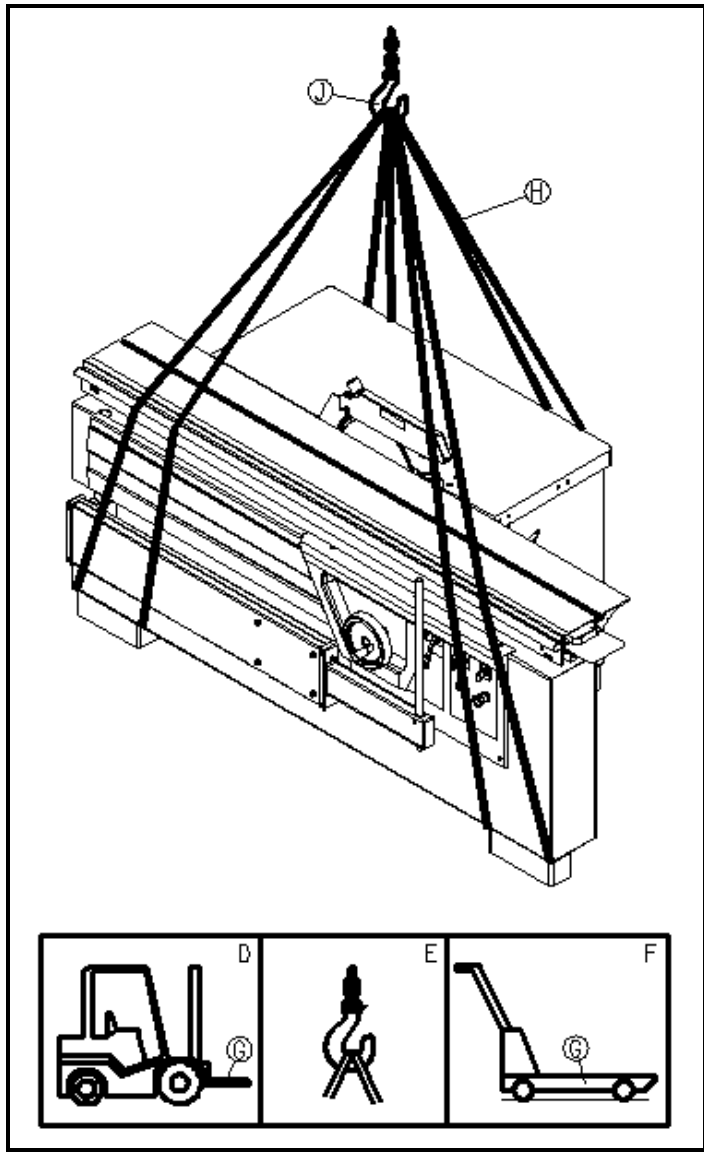
5.2 Machine lifting

The machine or its separate parts can be lifted only with an approved lifting appliance of certified carrying capacity. We recommend you to use :

- D – high-lift
- E – crane or other lifting appliance
- F – manual lifting carriage



Use a high-lift of sufficient forks length !



Prepare a high-lift (D) of sufficient forks carrying capacity

- shift forks (G) under the machine, acc. to picture.

When using a crane (E) or a similar lifting mechanism, proceed followingly : - prepare 4 lifting belts (H) of sufficient lifting capacity or endlessly connected steal ropes of minimal length 4 m,

- bend belts onto crane(of needy lifting capacity) hook(J) and under machine stand,

- use fillers and rope braces so that ropes would not damage plastic parts and the sliding table CV3,

- check up the stability of machine hang at a moderate lifting up eventually change the placing of fillers and of rope braces,

- lift the machine carefully and slowly and then relocate it without sudden moving changings to chosen place.

Weight : PF 400 S kg

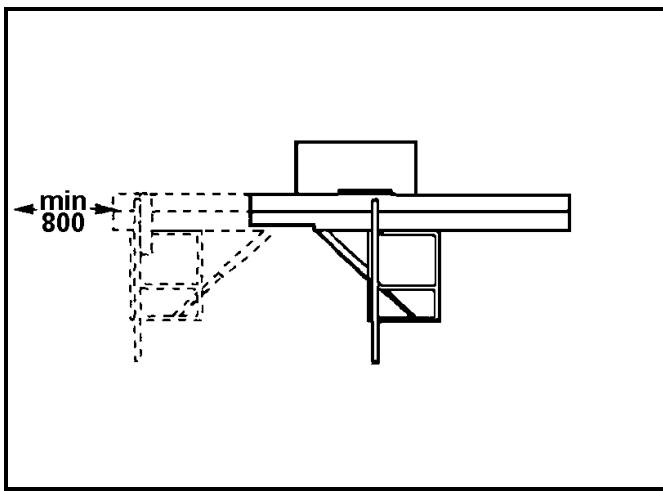
6.0 Machine positioning

Remove protecting coat from table and other machine parts with a solvent. Do not use petrol or kindred solvents for this action. They can cut down resistance against corrosion of some machine parts.

The working space extent depends on machine dimensions, intended working operations and dimensions of processed material.

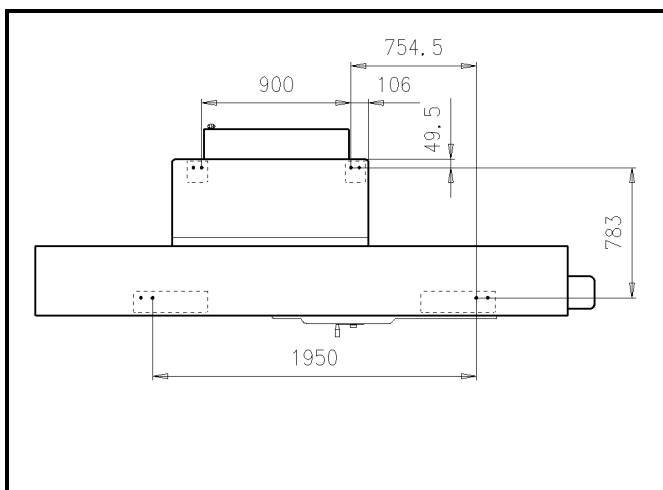
Do not forget to let free a big enough space for installment of a sufficiently effective exhausting unit or hoses connecting with the central exhausting system.

6.1 Working space



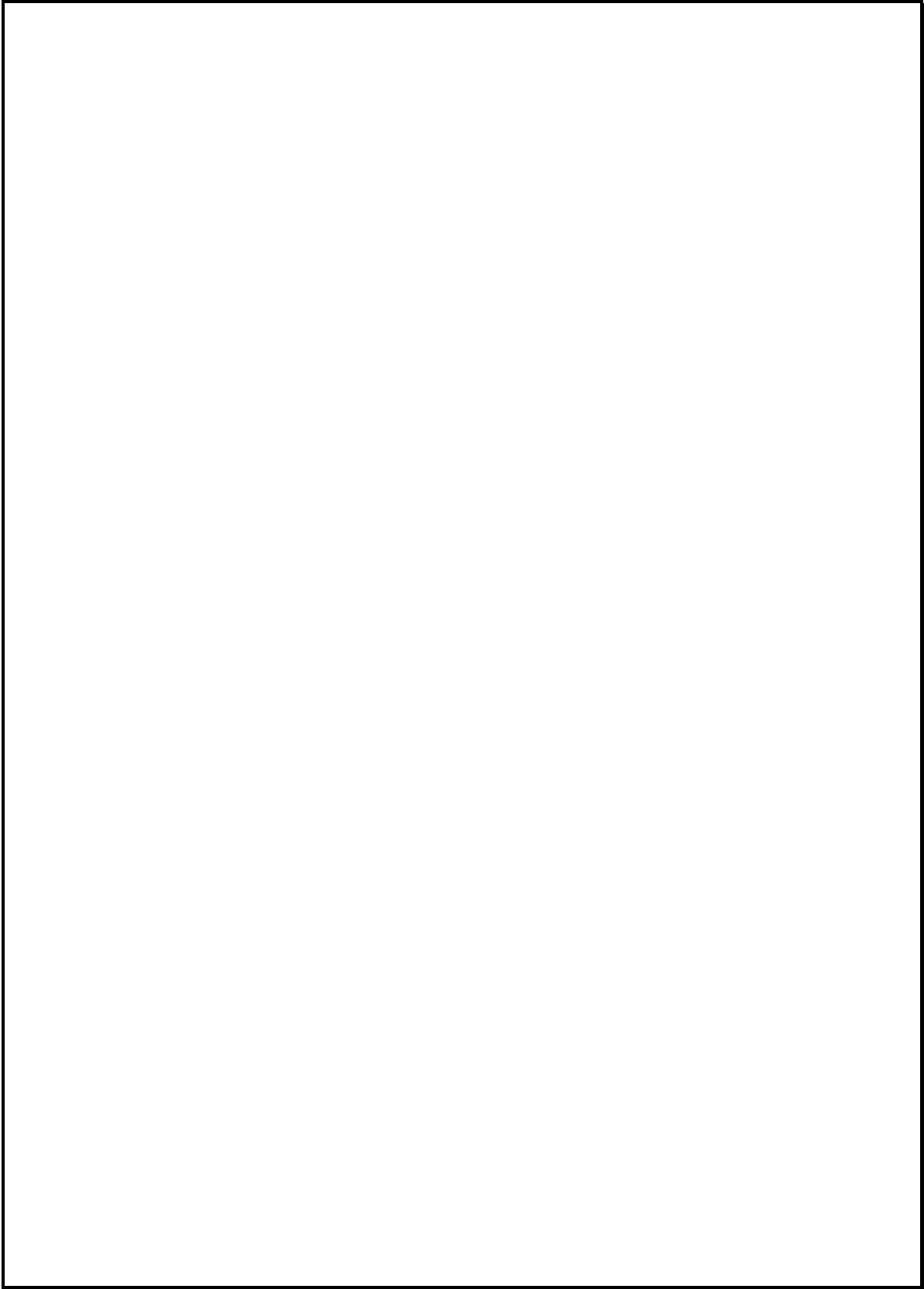
It is important to keep a free space of at least 0,8 m, requested as working space surrounding the machine. If a long piece is planed, it is necessary to have a sufficient space in front of and behind the machine in places of material in - and output.

6.2 Machine levelling and fixing



If you are sure that placing of the machine is good, level the machine by help of forcing-off screws in machine feet. Use steel washers (part of delivery) under levelling screws and balance the machine in plane with the clearance limit 1 mm/1metre and screw down machine feet into the bottom (anchor the machine). Attached drawing shows a lay-out of anchoring openings on the machine.

6.3 Installment of demountable parts



Do not mount dismantled parts onto the machine before having read all service instructions manual and learned about the machine thoroughly.

- Install the suspensory frame (19) onto the sliding table (2), assure them against releasing with clips (1) and against shifting with thearresting eccentric (16); the frame must be supported with a suspensory arm (20),
 - mount the sliding cross-ruler (17) onto the frame (19) and the fixture (4) into the groove (2) of the sliding table,
 - according to a need mount the supporting beam of the frame (18),
 - according to a need mount the pressing backstop (3) at the sliding table (3)
 - put the auxiliary supporting table (13), the angular ruler (14) and the pushing handle (15) onto the sliding table bar,
 - mount the leading bar (11) of ruler (10) with the measuring scale onto the table
 - mount the table prolongation (9)
 - put the lengthwise ruler holder with ruler (10) on the right edge of leading bar (11)
 - according to the machine making use the supporting leg (12) (for sawing width 1050,1500 mm)
- according to the machine making there is actual (from the pictures A, B, C, D)

pict.A – covering of saw blade FRIED

- mount the arm holder (6) onto the machine frame and run the lower part of the arm (8), onto it put on the arm (7) with with the covering of saw blade (5)

pict.B – covering of saw blade FRIED + upper controlling

- mount the arm holder (6) onto the machine frame and run the lower part of arm (8), onto it put on the arm (7) with the covering of saw blade (5) (like at the picture A)
- set the controlling pannel arm (21) into the arm of saw blade covering (7)

pict. C – saw blade covering CPS

- mount the arm holder (23) with the console (22) and put onto it the arm (24) with the saw blade covering (25). Onto the blade covering it is possible to put on the narrow rear covering (26) for sawing with an upright saw blade or the extended rear covering (27) for sawing with a tilted saw blade.

pict. D – covering of saw blade CPS + upper controlling

- mount the frame holder (23) with the console (22) onto the machine frame and put on the arm (24) with the saw blade covering (25). Onto the covering it is possible to put on the narrow rear covering (26) for sawing with an upright saw blade or to put on the extended rear covering (27) for sawing with a tilted saw blade (like at the picture C)
- run the lower part of the arm (22) in the lower arm of the covering CPS (24); onto the arm (22) put on the arm with the controlling panel (21).

7.0 Connecting of exhaustion



An exhausting unit of sufficient exhausting capacity (see the table) is necessary for a proper functioning of the machine.
Always operate machine only with running exhausting !
Start the machine and the exhausting unit all at once !

Minimal exhausting capacity of exhaustion device

	making of exhaustion	diameter of exhausting nozzle [mm]	dry particles $v_{\min.} = 20\text{m/s}$ [m ³ /hod]	wet particles $v_{\min.} = 28\text{m/s}$ [m ³ /hod]
lower exhausting	-	120	815	1 140
upper exhausting	Fried	80	362	507
	CPS	100	565	792
altogether	lower + Fried	120 + 80	1 177	1 647
	lower+ CPS	120 + 100	1 380	1 932

For connecting use a flexible exhausting hose of adequate diameter.
 The lower exhaustion is lead out in the left side machine part.

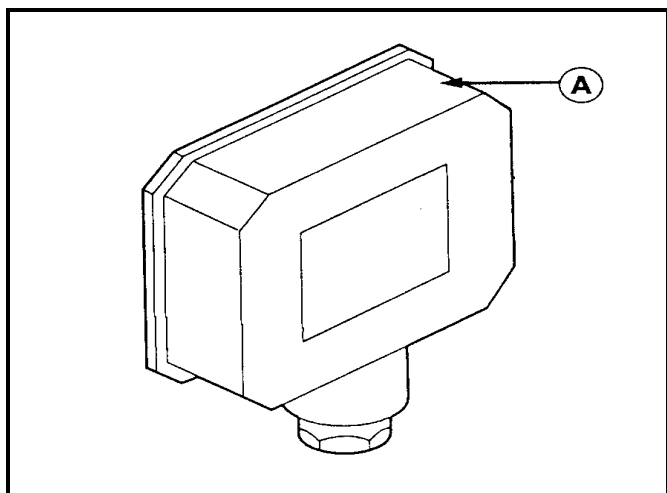
Wooden waste must be liquidated eco-friendly - not to worsen the environment.

8.0 Connection to mains



Only a qualified person is allowed to realize the first connection of the machine to the mains.

8.1 Connecting to mains



Make sure that no voltage is at supply lead before connecting. Unscrew the cover of the terminal board (A), put the connecting cable through - into the box with the terminal board and connect individual phase conductors with corresponding clamps. Connect the protective conductor (yellow-green) to the clamp PE and the central conductor (pale blue) to the clamp N, if required. Cross-sections of phase conductors and protective conductor must be conformable with legal standard norms. Check up the rightness of connecting and fasten the terminal cover with screws again.

8.2 Safety of operation



Damaged supplying lead must be replaced immediately by a competent specialist. Machine run on damaged supply cables is dangerous to life and therefore forbidden !

Before establishing the machine to the run make sure that the voltage and frequency stated on the machine rating plate answer to those of supplying network. The mains socket, hereby the machine is supplied, must be grounded (or neutralized) according to regulations and safeguarded with at least 16 A fusible cut-out breakers or an L-circuit breaker

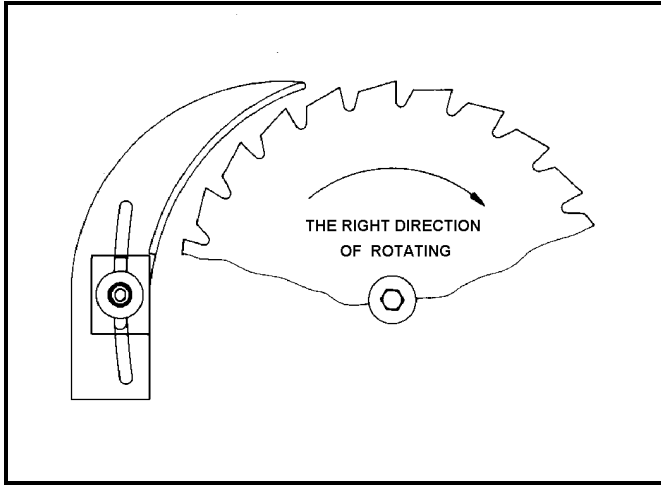


Always switch off the main switch and lock it or disconnect the machine by towing the plug from the socket before tools adjusting, replacement and all adjusting, treatment and maintenance works. Herewith you avoid eventual machine starting by chance by an else person.

8.3 Rotating direction

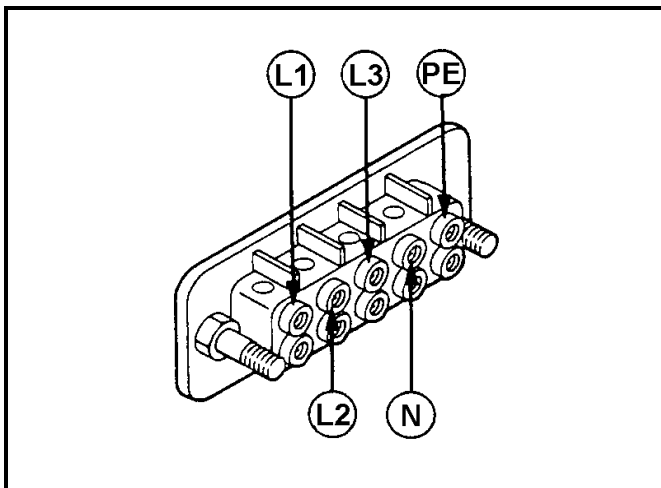


An injury danger menaces at improper rotating direction of saw blade !



When standing at the place of machine operator – the main saw blade must rotate clockwise (= to the right), and the scoring saw blade must rotate anti-clockwise (= to the left).

8.4 Rotating direction change



It is possible to change rotating direction of 3-phases motors by exchanging (switch-over) of conductors one instead of another (between 2 black ones or a brown and a black one) on supplying plug or at terminal board. Attention ! Avoid of mistaken changing the yellow-green wire with the phase !

Entirely a specialist qualified in electrotechnics is allowed to make this change and to realize the connecting !

Start the machine without tools for a flash so as to learn its rotating direction.

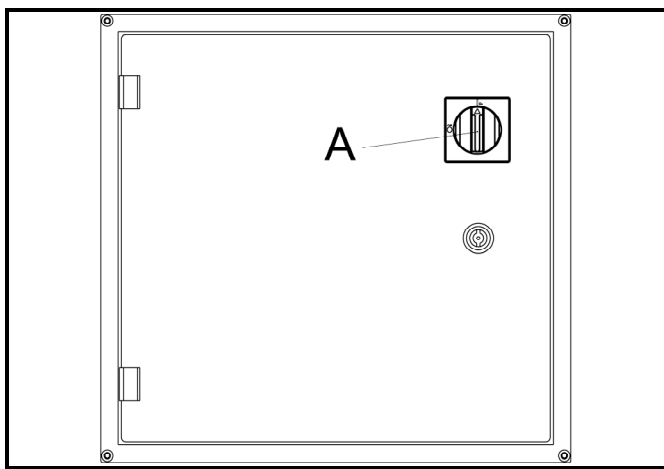
8.5 Protection of electric parts

The electric motor of the saw is equipped with an electric brake, able to stop the spindle in a required time (within 10 s).

If the electric brake does not work well (the spindle run out is more than 10 s) it is forbidden to work on the machine !

The protection against a dangerous contact of inanimate parts is assured with a self acting disconnecting from the mains according to the norm EN 60 204-1 and IEC 60 364-4-41.

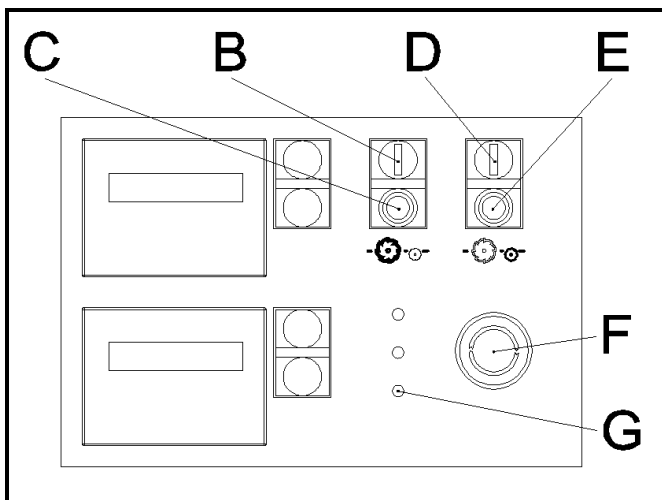
8.6 Machine control



The machine gets connected or disconnected from the mains by switching on/off the lockable main switch (A). The machine cannot be started before being connected. The main switch can be locked with a pad lock against an ineligible starting of the machine.

The saw motor gets started by pushing the green knob (B) at the trigger switch of the main control panel and gets switched off altogether with the scorer motor by pushing the red controller (C). Motor of scoring saw blade gets started by pushing the green controller (D) and gets switched off by pushing the red controller (E). Until the saw

motor is not in run – the scorer motor cannot be started.



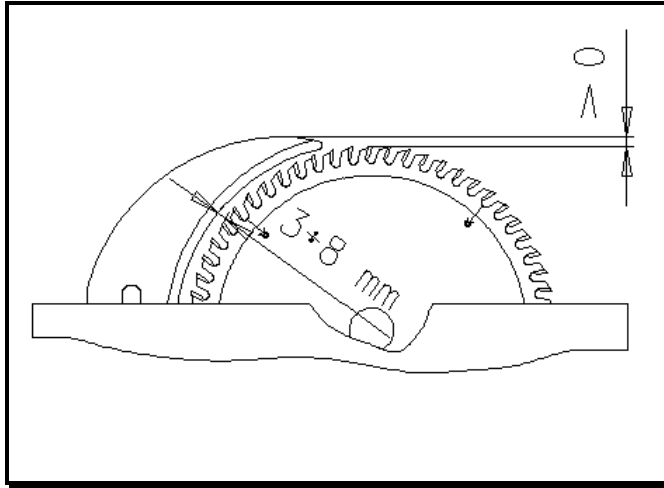
In case of a mains failure the machine is switched off by a tapped coil, means that after the voltage restoring the machine must be switched on again.

The inbuilt breaker will switch off the machine in case of motor overloading. Check up the machine (motor function, blunt tools and the like) if the breaker switches it off several times in a sequence.

The emergency switch (F) will stay secured in the position OFF after being used and it is necessary to release it by turning of the “mushroom” head. Without this release the machine cannot be started again !

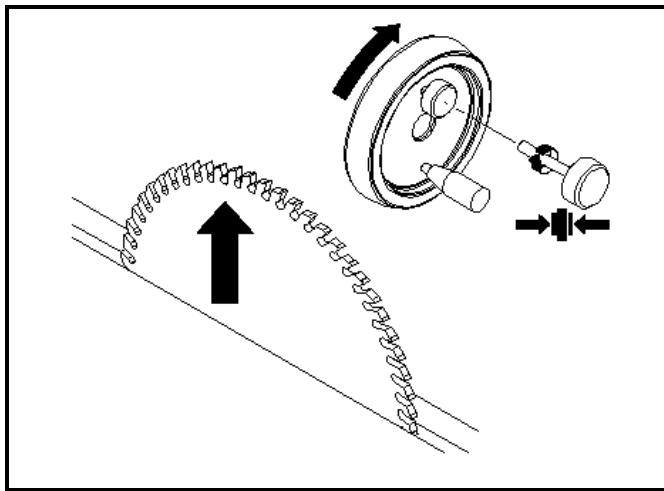
Lighting up of a respective LED diode indicates the setup operation rotating speed of the saw blade (G).

9.0 Operation and adjusting of machine



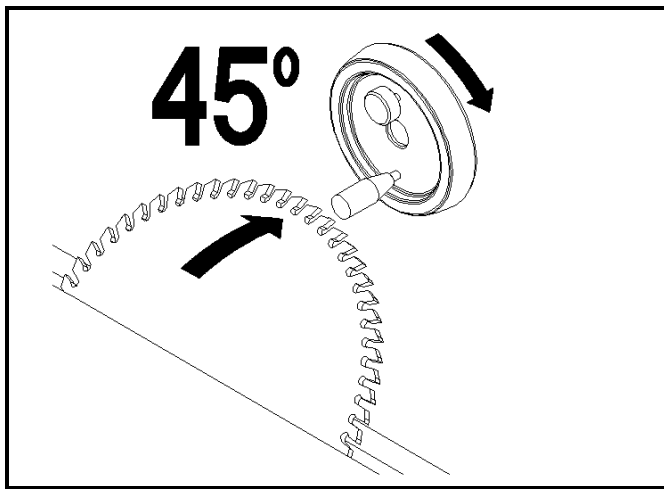
9.1 Riving knife adjustment

The riving knife prevents eventual workpiece enclosure behind the saw disk and its claps during sawing. This could come about a back cling. The riving knife must be mounted permanently. It is adjusted by scrolling so that its horizontal distance from the saw disk is 3 - 8 mm and the knife is vertically higher than the saw disc.



9.2 Height adjustment of main saw blade

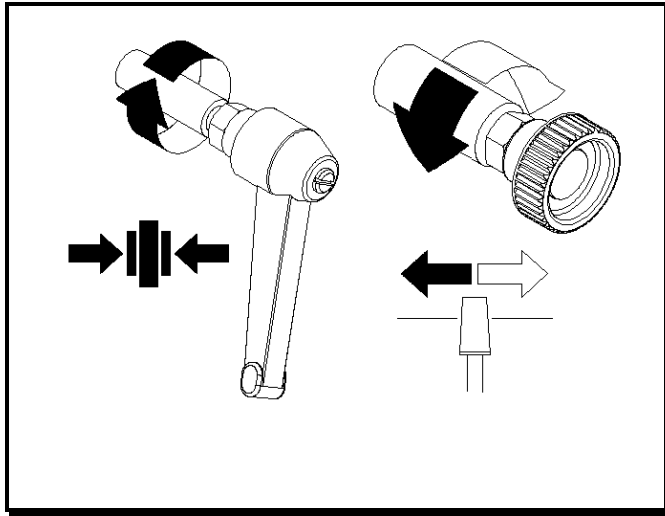
Height of the main saw blade is adjustable by the hand wheel (A) with the arresting screw
clockwise = blade height +
anticlockwise = blade height -
The height of cut gets always adjusted "from below" that enables to adjust eventual allowance.
The cut height is usually set so that the jags project from the workpiece.
The set up position can be locked with the arresting screw.



9.3 Tilting of saw blades

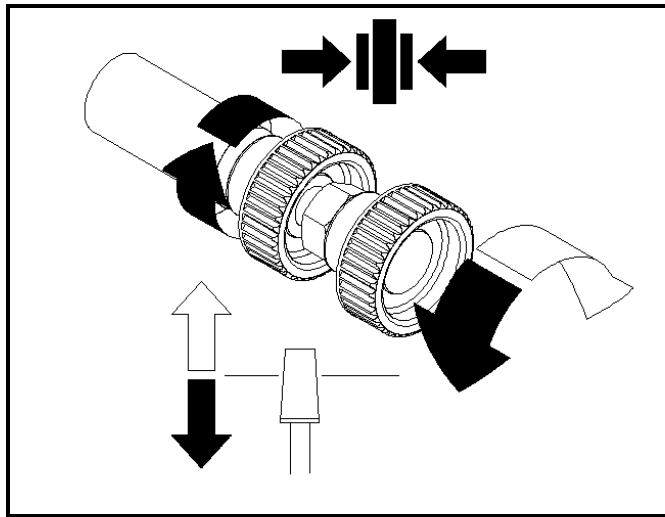
After sinking of scorer saw blade to lower position and releasing of fixing lever (C) at operating wheel (B) – you can tilt the saw blade (by turning with this wheel) within 45°.
Turning to the left = 45° - 90°
Turning to the right = 90° - 45°.
The admeasurement of tilting is showed according to making either at the scale of the "drum"(a wheel turning on transmission with the blade mechanics) by an unmoved finger or at the scale inside the tilting wheel or at a display

Practise the adjusting only when the saw is in a stillstand.



9.4 Setting of scoring saw blade

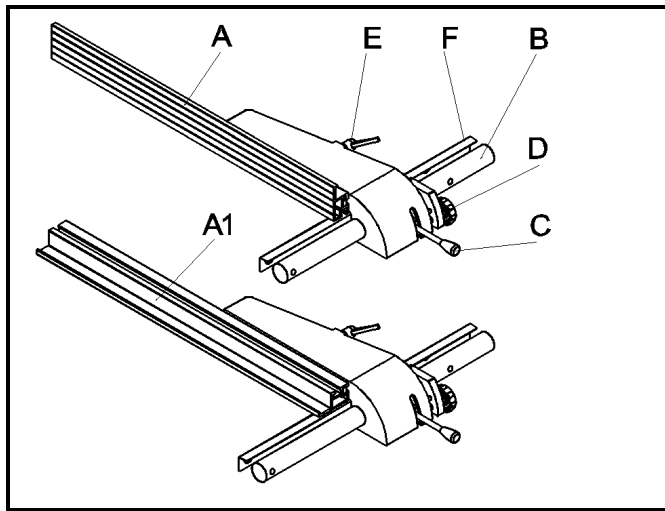
The scoring blade must be aligned with the main blade precisely. After releasing of arresting handle the side adjusting of scoring saw blade is done by turning with the screw with a hand star. By turning to the right the scorer moves to the right and vice versa. Draw up the arresting handle when ready with the scorer side adjustment.



The height of scoring saw blade can be adjusted according to need by the screw with a hand star and an arresting nut. After releasing of arresting nut by turning the screw to the right - the scoring blade protrudes, and vice versa.

Draw up the arresting nut after setting up the required scoring blade position.

Max. height of blade jags over-reaching must not exceed 3mm !

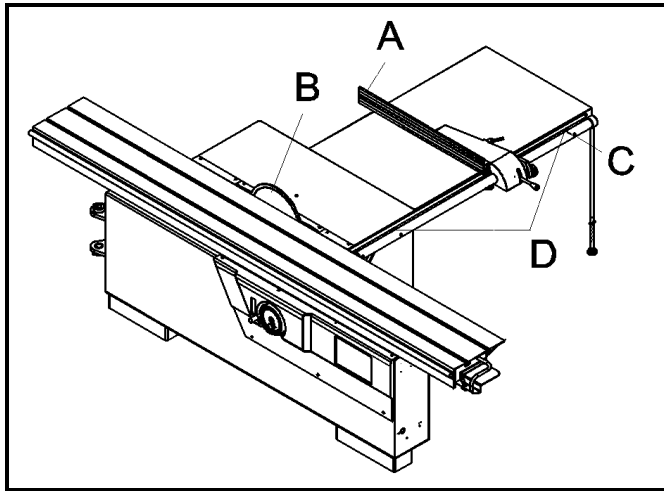


9.5 Adjusting of lengthwise ruler

Required sawing width gets adjusted by shifting of lengthwise ruler (A) along the leading bar (B). The position is locked with the safety lever (C). For a more accurate setting it is possible to use fine sliding by help of a screw with a star. The ruler (A) – after releasing of arresting screws (E) – can be protruded and the “L” profile can be turned into position (A1) when sawing narrow pieces. Sawing width is showed at the measure. The carrying profile can be moved to sides after releasing of fixing screws.

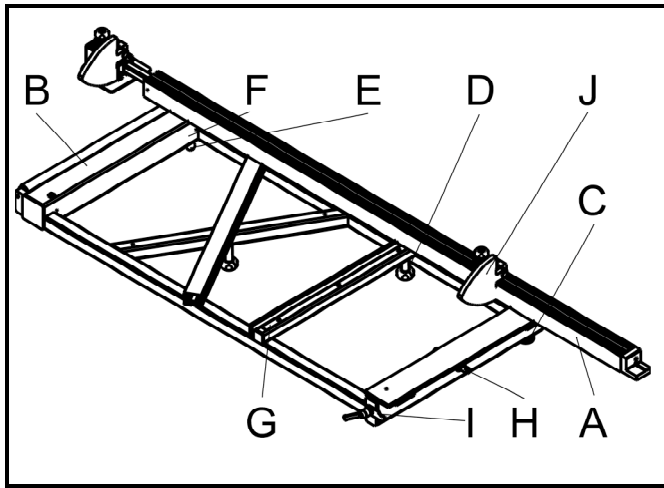
The measure can be so adjusted onto the correct value considering to the set of saw jags of used saw blade.

9.6 Adjusting of the cross-ruler



Adjusting of parallelism

Parallelism of lengthwise ruler (A) with the saw blade (B) gets adjusted by position change of the ruler carrying bar with protrusion or insertion of carrying bars (D) in place where the ruler is fixed to the cast iron table. After releasing of screws (C) and releasing of fixing nuts it is possible to turn with the distance bar and to screw it in or out for a new dimension of distance. It is necessary to fix the new position of the bar by means of 2 nuts in the edge of table extension. The ruler is adjusted from the producer with a divergence to the saw blade of cca $0,1 \div 0,2$ mm/1000 mm.



adjusting of plumb: The cross-ruler (A) is placed at the supporting frame (B) and its plumb to the saw blade gets adjusted - after releasing of arresting stars (C, D) and of arresting screw (F) - **by turning with the eccentric sprung plunger (E)**. Do not forget to draw up the arresting elements again after adjusting the position.

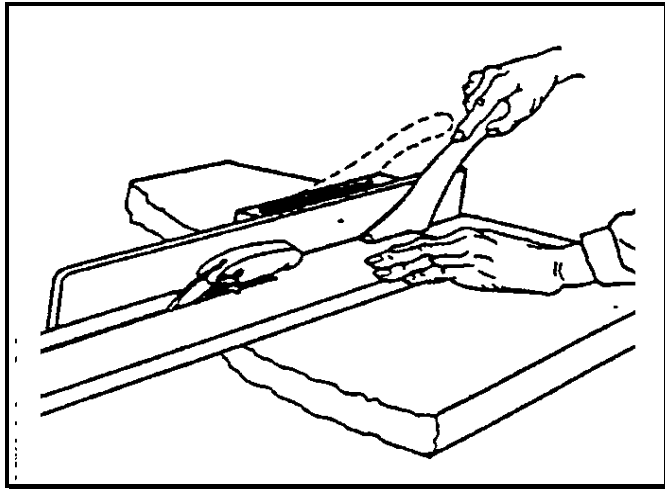
Setting of sawing angle : After arresting stars (C and D) have been released and the centring sprung pin (E) has been pulled to the lower position (it will remain in this position after being turned slightly), the cross

ruler may be adjusted under the angle $0^{\circ} \div 45^{\circ}$ according to scale (G). Do not forget to tighten the arresting components again after the position has been adjusted.

Setting of backstops : Backstops of cutting width (J) are adjustable after the arresting lever has been released by being shifted in a groove of the cross ruler profile (A) while the value of the width is being read on the scale. Do not forget to tighten the arresting components again after the position has been adjusted.!

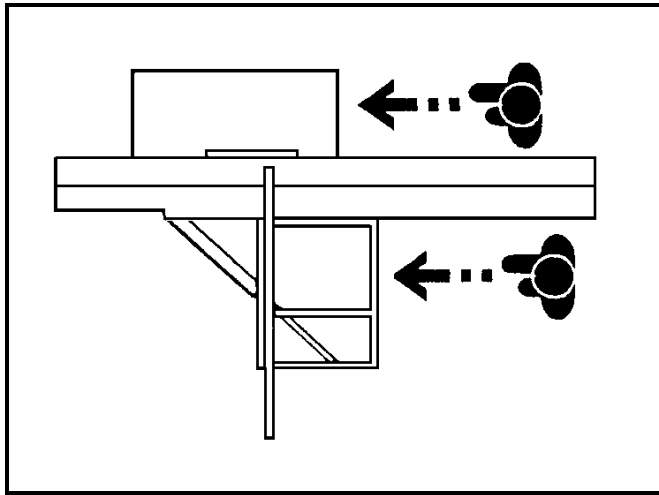
Setting of the zero position: In the perpendicular direction of cross ruler (A) to the saw disc its position is secured with sprung centring pin (E). If the cutting width set by the backstop does not correspond to the reality (e.g. due to a change in the saw disc width), the adjustment may be altered after releasing two arresting screws on the shim in the ruler profile groove in the place of the sprung centring pin. Do not forget to tighten the arresting components again after the position has been adjusted.

Supporting frame position: Supporting frame (B) with cross ruler (A) may be shifted along the supporting bar of the machine after arresting lever (H) has been released. Securing callipers (I) prevent supporting frame (B) from falling off the supporting rod. The position of cross ruler (A) may also be altered by its being moved to the other side of frame (B).



9.7 Fixtures and feeders

A pusher (the machine delivery basic accessories) must be used for pushing (at longitudinal sawing) of workpieces narrower than 120 mm.



9.8 Working places position

Picture shows the position of working place at the machine.

9.9 Safety aids

When working on the saw bench you are obliged to wear short strengthened apron and safety goggles protecting eyes. It is advisable to use an adequate protection of hearing and recommended working footwear. It is forbidden to use working mantles.

9.10 Forbidden manipulations



It is forbidden on the machine :

- to make any treatments of machine safety elements not approved by the producer,
- to make any manipulations in contrary with this manual safety instructions (chp. 3.0),
- to touch or interfere with the saw blade or its near surroundings and other moving parts,
- to saw other material than wood or those on its base,
- to overload the machine by sawing of too large workpieces,
- to remove shavings from tools surroundings by hand or any thing at a running machine,
- to use other saw blades than recommended by the machine producer

10.0 Tools

10.1 Recommended tools

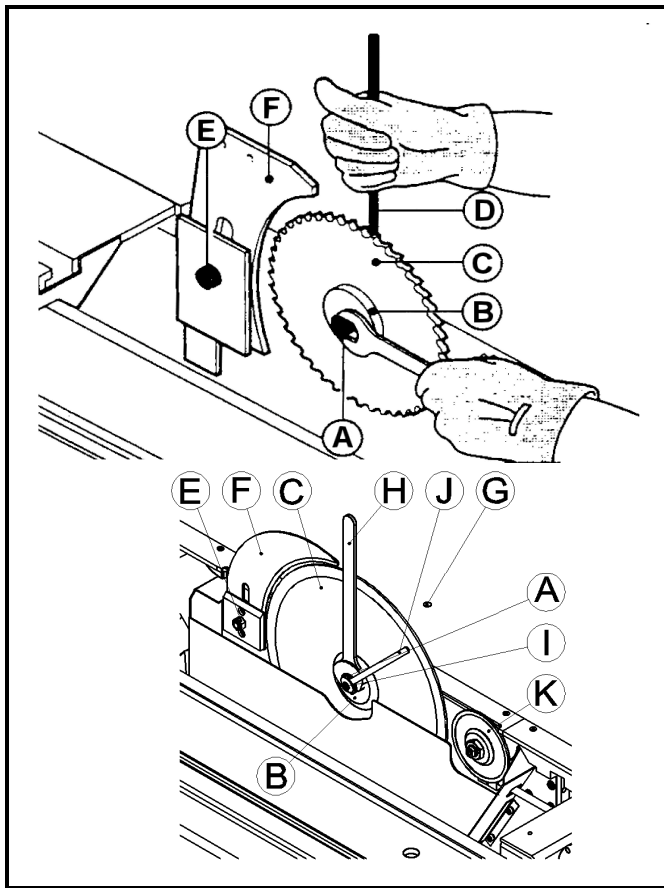


Using of saw blades from HSS steel is forbidden for its high risk to get broken !

Saw blades have to be marked with the manufacturer's name or logo (marking) and with the max. admissible rotation speed.

An apt tool to be used at this machine is a saw blade of \varnothing 400 x 3,6/2,5 x 30 - 96 z (number of jags can be chosen according to cut material) and scoring blade \varnothing 125 with clamping opening \varnothing 20 mm and thickness 2,5 up to 4 mm (adjustable two piece scoring blade).

10.2 Saw blades exchange



Slide out the sawing unit by the hand wheel to the highest plumb position. Shift the sliding table to the back-stop position, lock off and tilt out the saw blades protecting cover, placed under this sliding table.

a) There are two openings in spindle belt pulley for fixing the spindle against turning. Intromit the holding lever (D) from the accessories through the opening (G) in the table – so as the spindle cannot turn. At this manipulation it is necessary to surpass the electric motor breaking effect with a wrench (h) onto the (A).

b) For fixing of the spindle it is possible to use a wrench (J) put on the adapted spindle end (I). After fixing the spindle by turning with the nut (A) in clockwise sense (left thread) – screw the nut out, take out the flange (B) and the old saw blade (C). At a new saw blade check up whether its fitting plates are clean and without bulgings. Draw up the

saw blade, check and eventually adapt the setting of riving knife (F) and screws (E), cast down the covering of saw blades, placed under the sliding table and fix it with a screw.

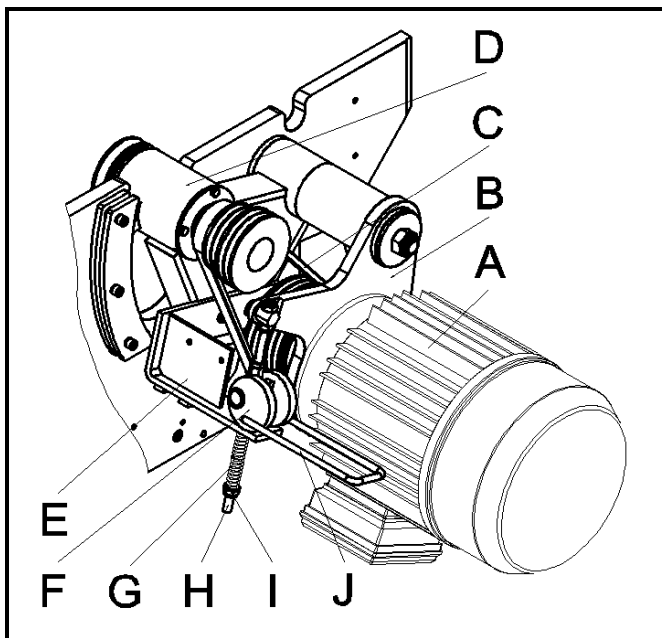
When changing the scorer blade – proceed likewise (fixing of scorer spindle according to b)).
Attention – the spindle of scorer has a right thread !

11.0 Maintenance and repairs



Always disconnect the machine from the network before any maintenance or repair. Switch off the machine and lock up the main switch ! So you avoid an occasional starting of the machine by somebody else.

11.1 Tightening and exchange of V-belts or changing of saw blade drive step-up ration



11.1.1 Unit description

Bedding mechanism of spindle and electric motor is accessible after opening the back door of machine frame that is blocked electrically. When the door is open – the machine cannot be started.

Electric motor (A) with holder (B) is hung around a pivot. The holder (E) of tilting is fastened at the spindle body (D). The screw of take-up (H), by help of spring (G), presses the spindle body and motor holder (B) from itself and herewith tightens the belt (C) automatically.

11.1.2 Changing belt tightening

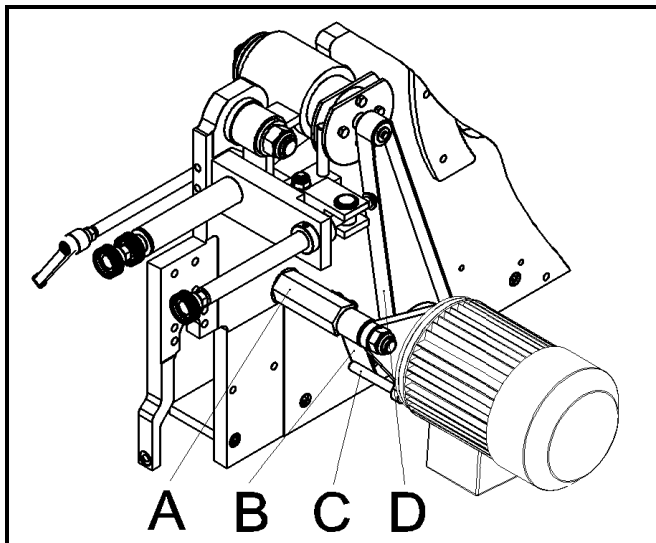
The change is practised by changing (pressing or releasing) of the spring tension by help of a position change of nut with a counternut (I).

If you press onto the middle of a properly tightened belt with a force of 25 N (2,5 kg) – it should sag of 5 – 6 mm.

11.1.3 Change of belts or change of transmission ratio

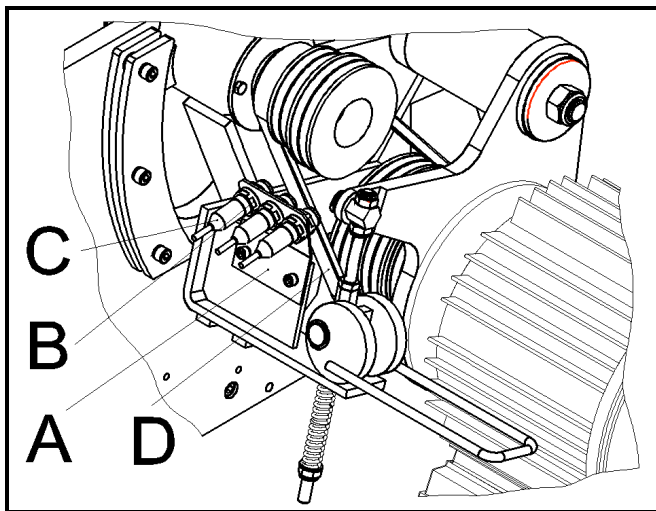
At a belt change or that of transmission ratio it is necessary at first to release the belt. It is done quickly and easily by moving the lever (J) with excenter (F) into a lower vertical position. Now it is possible to change the belt or to put it onto an else step-up ratio at a multiple belt pulley and to put the lever (J) with excenter (F) back to the initial position. Herewith the spring (G) will get unblocked and the belt will be tightened automatically.

11.2 Tightening of scorer V- belt



The scorer spindle is driven from electric motor with a flat belt (D). After releasing of screw from inside of exhausting nozzle it is possible to turn with the pivot (A) and by help of the spring (B) to push off the tightening tenon (C) with electric motor holder. By help of spring preload change it is possible to change the tension of flat belt (D). After setting of belt tightening strength it is necessary to draw up well the screw of pivot (A) from inside of exhausting nozzle.

11.3 Reading of geared saw blade revolutions - maintenance



Reading of geared saw blade revolutions is realized by means of diffusion sensors (C) those indicate the position of belt (D) on multiple belt pulleys. The sensors (C) are placed at the holder (A) and their position related to the belt is adjustable with the nuts (B) at the sensors bodies. For a good functioning it is necessary to keep the sensors clean, especially from the side, where the beam transmitter and receiver is placed. The dust can cause their bad functioning and herewith also a bad indication of preset operative saw blade rotating speed at the controlling panel.

11.4 Cleaning and lubricating

Clean the machine regularly. Oil the bars, gudgeons, screw bars and other parts amenable fret. The oiling frequency depends on the way of working, but apply it minimally once a month. Bearings of electric motors and shafts have a permanent grease filling and are sealed (closed). For this reason - do not grease them.

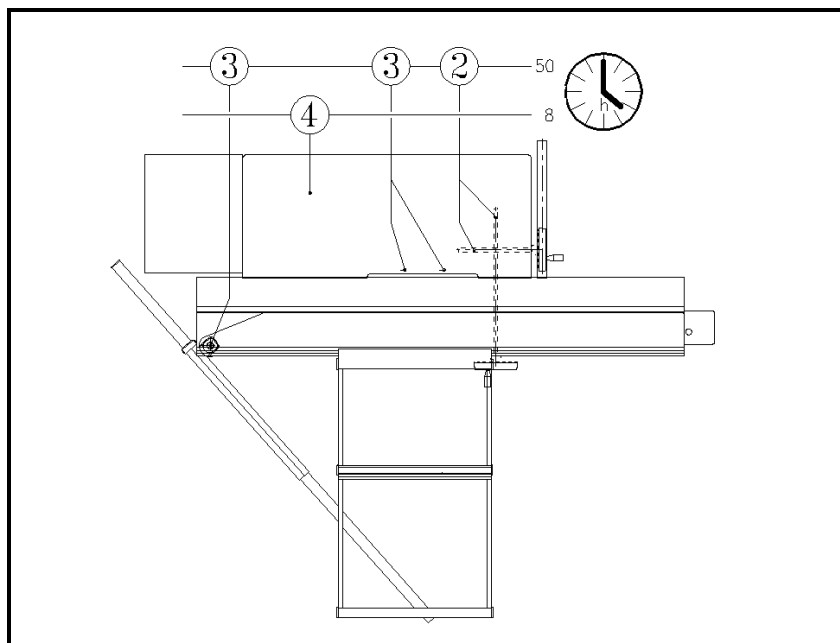
Clean the tables from resin with suitable solvent - for example by turpentine or petroleum, or by other suitable solvent according to your need.

Take care that the belts are not fouled (dirty) with oil or grease. In case it happens, clean the belts only with paper or dry them up .

Clean the machine from dust with a vacuum cleaner. Do this regularly once a week.

Lubrication points – surway table

	spindle bearings	motion screws	yokes, shoes pivots of tilting and the like	table plate	spindles and flanges (distance rings)
lubrication point needy act period	1 (hour)	2 hours)	3 (hrs.)	4 (hrs.)	5 (hrs.)
permanent grease filling	at exchange				
to spread		50			
lubricate by oil can			50	8	wihout tools /out of machine run
plastic lubricant/ oil	LV-2-3	LV-2-3	OL-B5	OL-B5	OL-B5
equivalent	ISO-L-XCBEA 3		ISO – LAN 68		



11.5 Remedy of faults

No defect should arise if you operate the machine properly and practise suitable maintenance regularly. In case that the sawdust sticks onto saw blade or the exhausting hose is filled up - switch off the electric motor before beginning of a repair, otherwise it could get damaged. Switch off the electric motor immediately, if the machine is getting jammed with the workpiece. The blunt saw blade is often a cause of the motor overheating. If the machine embodies increased vibrations, check its placing, fixing, or fixing and balance of tools.

The machine does not work:

Check the electric installation and the connection to the mains.

Machine output is insufficient:

Tools are blunt.

A too big chip (too big speed~force of feeding) – It is necessary to consider the workpiece cross-section and the hardness of wood and feed the workpiece more slowly.

Driving belts are not tight enough.

The electric motor does not give a full output – consult a specialist.

The machine vibrates:

Tools are unbalanced – not clear clamping flats of tool(s).
blunt tools

The machine is installed on an uneven surface.

Workpiece strikes the riving knife :

Badly chosen or mounted riving knife.

12.0 Delivery extent

Complete machine,
accessories according to the list,
usage instructions manual,
special accessories (if ordered).

12.1 Accessories

name		pcs.	note
wrench 13 x 16		1	
wrench 18 x 24		1	
wrench 30 x 27		1	
wrench 3		1	
wrench 6		1	
wrench 10		1	
holding lever		1	for saw blades exchange
washer		4	under levelling screws
cartoon box		1	for added packing
PE bag on zip fastener	250 x 350mm	2	for instructions manual
pusher		1	

13.0 Special accessories

roll of supporting frame,
supporting profil of frame,
auxiliary supporting table,
angular ruler,
ruler DUPLEX,
digital measuring of lengthwise ruler adjusting.

14.0 Spare parts

When ordering spare parts : Mention always the machine production number, type and year (from the machine rating plate) and the part position number in the spare parts drawing.

If an enclosure with listed spare parts is a part of this manual, it is available to state the numbers and names of spare parts according to this list.

15.0 Guarantee

Works and operations, not mentioned here, involve a written agreement of the ROJEK Co., Masarykova 16, 5170 50 Castolovice, the Czech Republic, Europe. Every machine and equipment is provided with a guarantee certificate. It is important to fill the guarantee certificate just during purchasing it with a respect of possibility to set up an eventual guarantee claim and for the sake of products safety. If the machine is not installed in a proper way, it may cause a damage on it own or an injury to the operator. In this case we do not bear any responsibility. Possible guarantee claims have to be asserted at the machine seller. When the guarantee period expires, you can get the machine repaired at any specialized repair shop.

16.0 Machine packing and service life expiry

16.1 Dealing with machine packing

Our products are transported in packing from cartoon or PE folio. Producers of these packings issued a legal declaration about their product. They concluded a contract about filling duties of taking back and usage of the waste from packings with an authorized company. One of duties of these companies is also to inform the clients how taking it back is assured.

16.2 Dealing with machine

The service life of this machine depends particularly on the way of use, working engagement intensity, frequency and kind of applied maintenance. The producer is responsible to the machine user for evident losses, caused by the machine, for ten years.

The machine user is obliged to guarantee an eco-friendly machine liquidation according to the country's in question laws about leavings not to endanger the environment.

We recommend to run on as follows :

- 1) Demount all plastic parts and consign it to relevant accumulating containers.
- 2) Separate resting iron from non-iron parts and commit it to a specialized company for a separate liquidation.

List of electrotechnical parts – dimension saw PF 400 S							
Marking	Function	Type, technical data	5,5kW ks	7,5kW ks	Supplier	Substitute	Note
M1	Saw drive	CEG M132SA-2/FPC 5,5kW 3x400/690V 12,3/7,13A 50,60Hz 2900 /min IM B14	1	-	CEG Italy		for voltage 3x400V
		CEG M132SA-2/FPC 7,5kW 3x400/690V 16,8/9,7A 50,60Hz 2920 /min IM B14	-	1			
		CEG M132SA-2/FPC 5,5kW 3x230/400V 21,2/12,3A 50,60Hz 2900 /min IM B14	1	-			for voltage 3x230V
		CEG M132SA-2/FPC 7,5kW 3x230/400V 28,9/16,8A 50,60Hz 2920 /min IM B14	-	1			
M2	Scorer drive	CEG M71b 0,5kW 3x400/230V 1,33/2,3A 50/60Hz 2800/min B14	1	1	CEG Italy		
	Distributor	according to machine variant	1	1	BaK Systémy		
W1-10	Controlling circuits	H05VV-K1X1				CYSY 2A x 1mm ²	
W11-20 W31-40	Power circuits.	H05VV-K3G2,5				CYSY 3Bx2,5mm ²	
		H05VV-K4G2,5				CYSY 4Bx2,5mm ²	
		H05VV-K4G1,5				CYSY 4Bx1,5mm ²	
		H05VV-K5G1,5				CYSY 4Bx1,5mm ²	
		H05VV-K7G1,5				CYSY 5Bx1,5mm ²	
W21-30	Protecting circuits.	H05V-K1G1,5				CYA 1,5 mm ²	
XT1	Terminal	Terminal box	1	1	GEWISS		

note : The producers reserves himself the right of changing the part(s) and its supplier.

