



SLOVENSKI STANDARD

SIST EN 1218-5:2004

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Safety of woodworking machines - Tenoning machines - Part 5: One side profiling machines with fixed table and feed rollers or fed by chain

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Sicherheit von Holzbearbeitungsmaschinen - Zapfenschneid- und Schlitzmaschinen - Teil 5: Einseitige Profiliermaschinen mit festem Tisch und Vorschubrollen oder mit Kettenbandvorschub

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Sécurité des machines pour le travail du bois - Tenonneuses - Partie 5: Machines a profiler sur une face a table fixe et avance par rouleaux ou par chaîne

Ta slovenski standard je istoveten z: EN 1218-5:2004

ICS:

79.120.10 Lesnoobdelovalni stroji Woodworking machines

SIST EN 1218-5:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 1218-5

July 2004

ICS 79.120.10

English version

**Safety of woodworking machines - Tenoning machines - Part 5:
One side profiling machines with fixed table and feed rollers or
fed by chain**

Sécurité des machines pour le travail du bois -
Tenonneuses - Partie 5: Machines à profiler sur une face à
table fixe et avance par rouleaux ou par chaîne

Sicherheit von Holzbearbeitungsmaschinen -
Zapfenschneid- und Schlitzmaschinen - Teil 5: Einseitige
Profiliermaschinen mit festem Tisch und Vorschubrollen
oder mit Kettenbandvorschub

This European Standard was approved by CEN on 24 March 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 1218-5:2004) has been prepared by the Technical Committee CEN/TC 142 "Woodworking machines -Safety", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

Organisations contributing to the preparation of this European Standard include European Committee of Woodworking Machinery Manufacturers Association "EUMABOIS".

The European Standards produced by CEN/TC 142 are particular to woodworking machines and complement the relevant A and B Standards on the subject of general safety (see introduction of EN ISO 12100-1:2003 for a description of A, B and C standards).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Introduction

This document has been prepared to be a harmonised standard to provide one means of conforming to the essential safety requirements of the Machinery Directive, and associated EFTA regulations.

This document is a type C standard as stated in EN 1070:1998.

The machinery concerned and the extent to which hazards, hazardous situations and events covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this C type standard take precedence over the provisions of other standards, for machines that have been designed and built in accordance with the provisions of this type C standard.

The requirements of this document are directed to manufacturers and their authorised representatives of one side profiling machines with fixed table and feed rollers or feed chain. It is also useful for designers.

This document also includes information which can be provided by the manufacturer to the user.

Common requirements for tooling are given in EN 847-1:1997.

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1 Scope

This document specifies the requirements and/or measures to remove the hazards and/or limit the risks on one side profiling machines with fixed table and feed rollers or feed chain hereinafter referred to as "machines", where the loading and unloading is manual and where the maximum work-piece height capacity is 200 mm. The machine is designed to process in one pass one side of solid wood, chip board, fibreboard or plywood and also these materials where they are covered with plastic laminate. The work-piece is fed through the processing units by an integrated feed consisting of rollers or a chain.

This document covers the hazards relevant to these machines as stated in Clause 4.

This document does not apply to transportable machines.

This document does not deal with any hazards relating to:

- a) mechanical loading and/ or unloading of the work-piece; or
- b) a machine being used in combination with any other machine (as part of a line); or
- c) use of laser.

For Computer Numerically Controlled (CNC) machines this document does not cover hazards related to Electro-Magnetic Compatibility (EMC).

NOTE 1 The requirements of this document apply to all machines whatever their method of control e.g. electromechanical and/or electronic.

This document is primarily directed to machines which are manufactured after the date of publication by CEN.

NOTE 2 Single end tenoning machines with sliding table are dealt with in EN 1218-1:1999. Double end tenoning and/or profiling machines fed by chain or chains are dealt with in EN 1218-2. Single end tenoning machines where the tenon is produced only by means of saw-blades are dealt with in EN 1218-3.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- EN 294:1992, *Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs.*
- EN 418:1992, *Safety of machinery - Emergency stop equipment, functional aspects - Principles for design.*
- EN 847-1:1997, *Tools for woodworking - Safety requirements - Part 1: Milling tools and circular sawblades.*
- EN 954-1:1996, *Safety of machinery - Safety related parts of controls systems - Part 1: General principles for design.*
- EN 982:1996, *Safety of machinery - Safety requirements for fluid power systems and their components – Hydraulics.*
- EN 983:1996, *Safety of machinery - Safety requirements for fluid power systems and their components – Pneumatics.*
- EN 1037:1995, *Safety of machinery - Prevention of unexpected start-up.*
- EN 1070:1998, *Safety of machinery - Terminology.*

- EN 1088:1995, *Safety of machinery - Interlocking devices associated with guards - Principles for design and selection.*
- EN 1760-2:2001, *Safety of machinery - Pressure sensitive protection devices - Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars.*
- EN 1837:1999, *Safety of machinery - Integral lighting of machines.*
- EN 60204-1:1992, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:1992, modified).*
- EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989).*
- EN 60947-4-1: 1992, *Low-voltage switchgear and control gear - Part 4-1: Contactors and motor-starters – Electromechanical contactors and motor starters (IEC 60947-4-1:1990)*
- EN 60947-5-1:1997, *Low-voltage switchgear and control gear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices (IEC 60947-5-1:1990)*
- EN ISO 354:2003, *Acoustics - Measurement of sound absorption in a reverberation room (ISO 354:2003)*
- EN ISO 3743-1:1995, *Acoustics - Determination of sound power levels of noise sources - Engineering methods for small, moveable sources in reverberant fields - Part 1: Comparison method for hard walled test rooms (ISO 3743-1:1994).*
- EN ISO 3743-2:1996, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, moveable sources in reverberant fields - Part 2: Methods for special reverberation test rooms (ISO 3743-2:1994).*
- EN ISO 3744:1995, *Acoustics - Declaration of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994).*
- EN ISO 3745:2003, *Acoustics - Determination of sound power levels of noise sources - Precision methods for anechoic and semi-anechoic rooms (ISO 3745:2003).*
- EN ISO 3746:1995, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:1995).*
- EN ISO 4871:1996, *Acoustics - Determination and verification of noise emission values of machinery and equipment (ISO 4871:1996).*
- EN ISO 9614-1:1995, *Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points (ISO 9614-1:1993).*
- EN ISO 11202:1995, *Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a workstation and at other specified positions (ISO 11202:1995).*
- EN ISO 11204:1995, *Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a workstation and at other specified positions – Method requiring environmental corrections (ISO 11204:1995).*
- EN ISO 11688-1:1998, *Acoustics - Recommended practice for the design of low noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995).*
- EN ISO 12100-1:2003, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology (ISO 12100-1:2003)*
- EN ISO 12100-2:2003, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)*

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ISO 286-2:1988, *ISO system of limits and fits - Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

HD 21.1 S3:1997, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V - Part 1: General requirements.*

HD 22.1 S3:1997, *Rubber insulated cables of rated voltages up to and including 450/750V - Part 1: General requirements.*

3 Terms and definitions**3.1 General**

For the purposes of this document, the terms and definitions given in EN 1070:1998 apply. Additional definitions specifically needed for this document are shown in 3.2 and 3.3

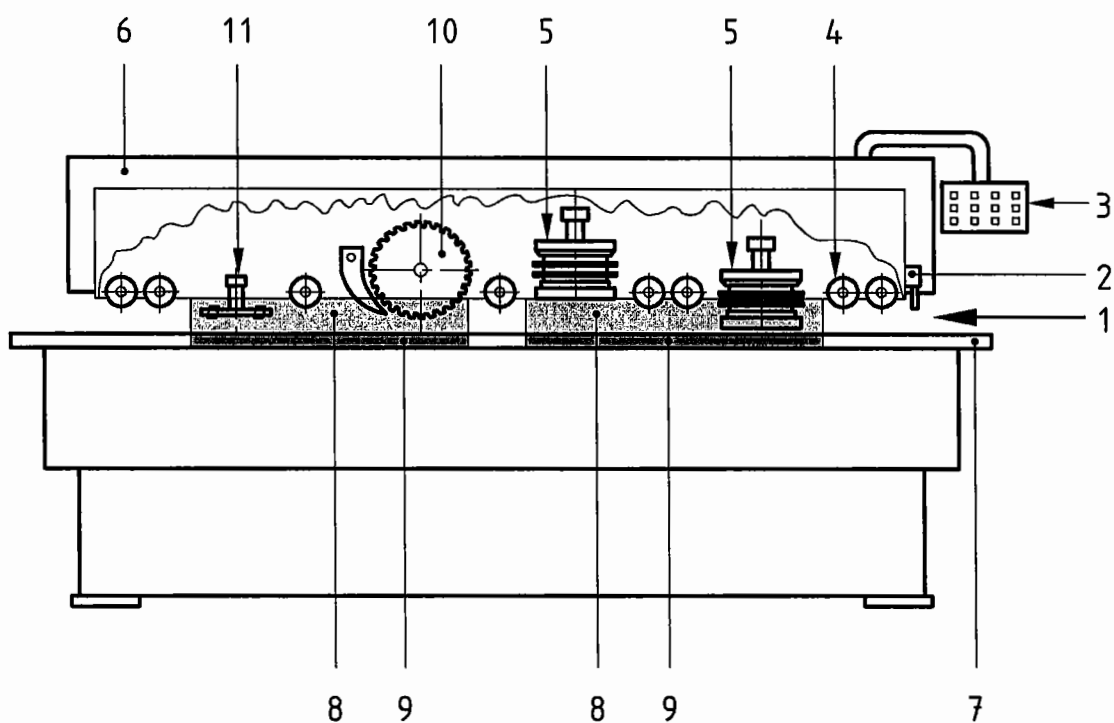
3.2 Terms

The main parts of a one side profiling machine with fixed table and feed rollers or feed chain and their terminology are illustrated in Figures 1 and 2.

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**Key**

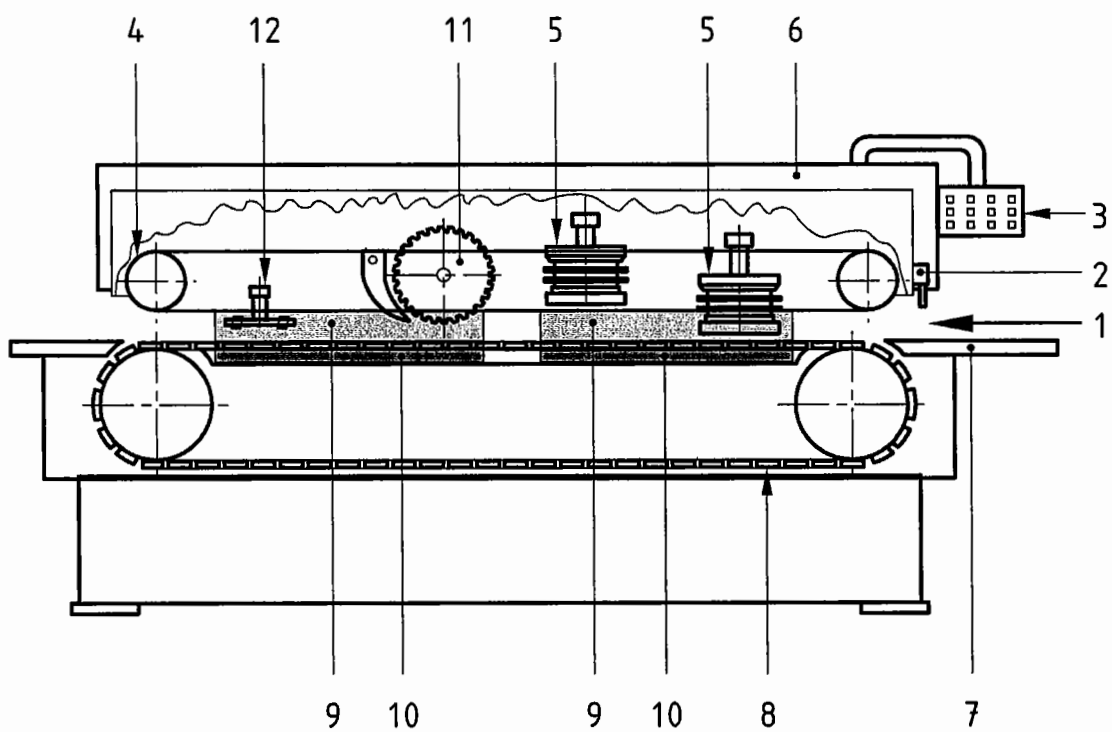
- 1 Feed direction
- 2 Trip device at in feed of the machine
- 3 Controls
- 4 Feed rollers
- 5 Milling tools
- 6 Integral enclosure
- 7 Fixed table
- 8 Deterring/impeding device above the work-piece
- 9 Deterring/impeding device below the work-piece
- 10 Glass bead saw unit (optional)
- 11 Hinge recessing unit (optional)

Figure 1 — Terminology of a machine with roller feed

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**Key**

- 1 Feed direction
- 2 Trip device at in feed of the machine
- 3 Controls
- 4 Pressure belt
- 5 Milling tools
- 6 Integral enclosure
- 7 Fixed table
- 8 Feed chain
- 9 Deterring/impeding device above the work-piece
- 10 Deterring/impeding device below the work-piece
- 11 Glass bead saw unit (optional)
- 12 Hinge recessing unit (optional)

Figure 2 — Terminology of a machine with chain feed

3.3 Definitions

3.3.1

one side profiling machine with fixed table and feed rollers or feed chain

machine designed to profile one side of the work-piece in one pass (see for an example of one side profiling machine Figure 3). The machine consists of a zone for milling with one or more vertical tool spindles. In addition the cutting and recovery of a glass bead (glass bead saw unit – see Figure 4) and/or hinge recessing (hinge recessing unit – see Figure 5) may be provided

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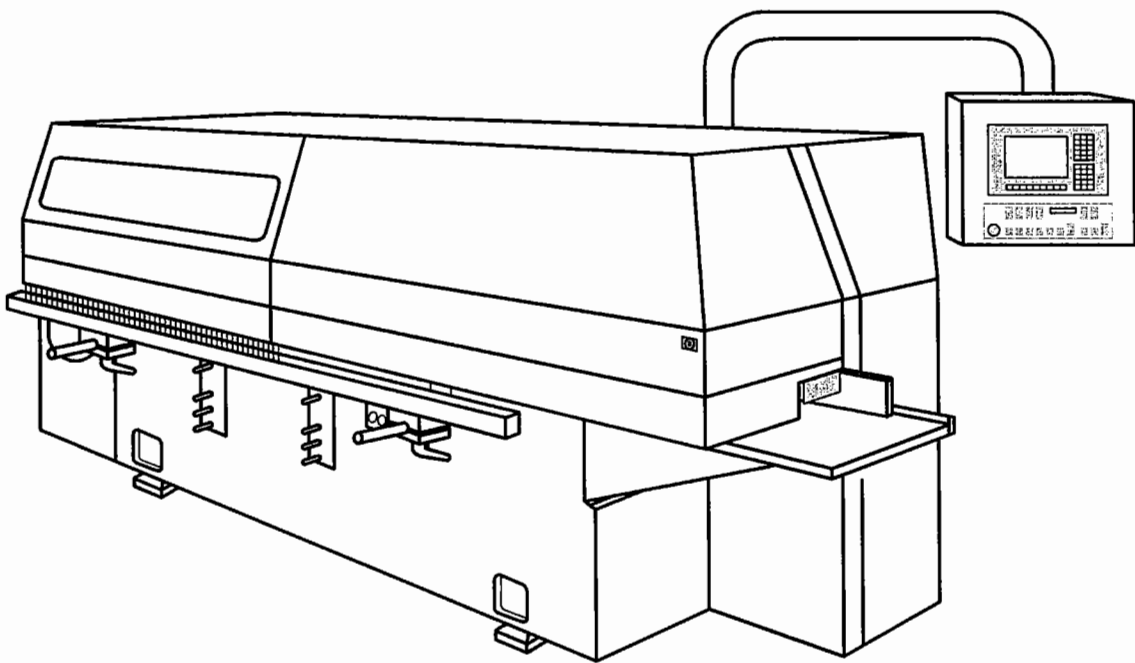


Figure 3 — Example of a one side profiling machine

3.3.2

integrated feed of one side profiling machines with fixed table and feed rollers or feed chain

feed mechanism for the work-piece which is integrated with the machine and where the work-piece is held/controlled mechanically during the machining operation. The feed mechanism consists of either feed rollers in conjunction with a fixed table (see Figure 1) or a feed chain in conjunction with a top pressure device e.g. pressure rollers or pressure belts (see Figure 2)

3.3.3

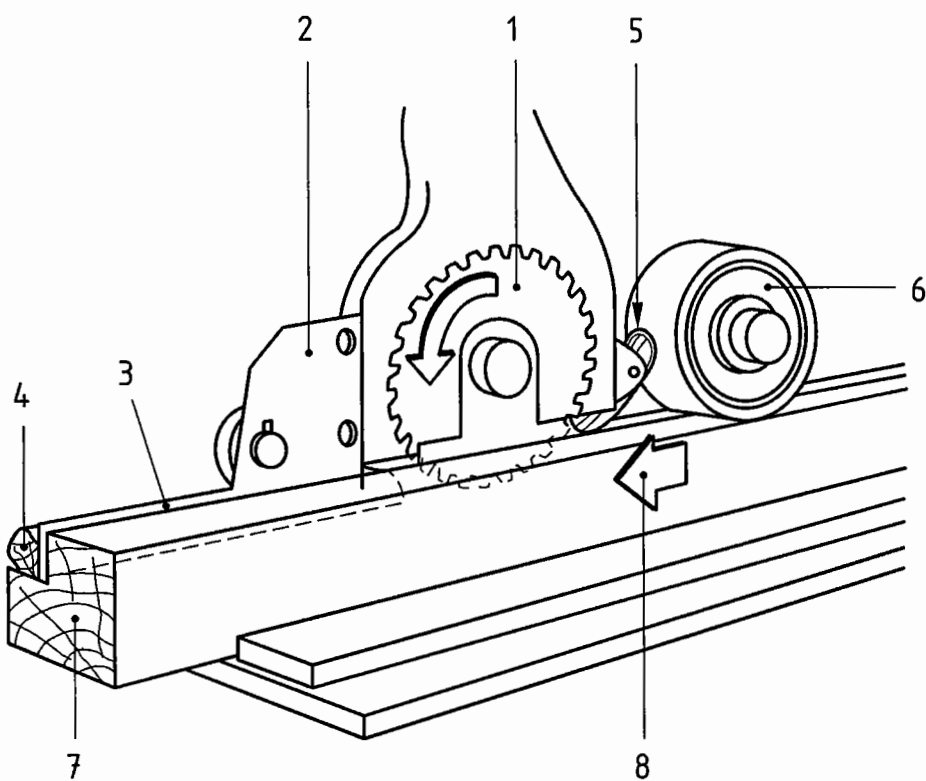
glass bead saw unit

work unit fitted with a saw-blade to cut out a glass bead from the machined profile of the work-piece (e.g. see Figure 4)

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**Key**

- 1 Glass bead saw-blade
- 2 Riving knife
- 3 Guiding channel for bead ledge
- 4 Bead ledge
- 5 Anti-kickback finger
- 6 Feed roller
- 7 Work-piece
- 8 Feed direction

Figure 4 — Example of a glass bead saw unit

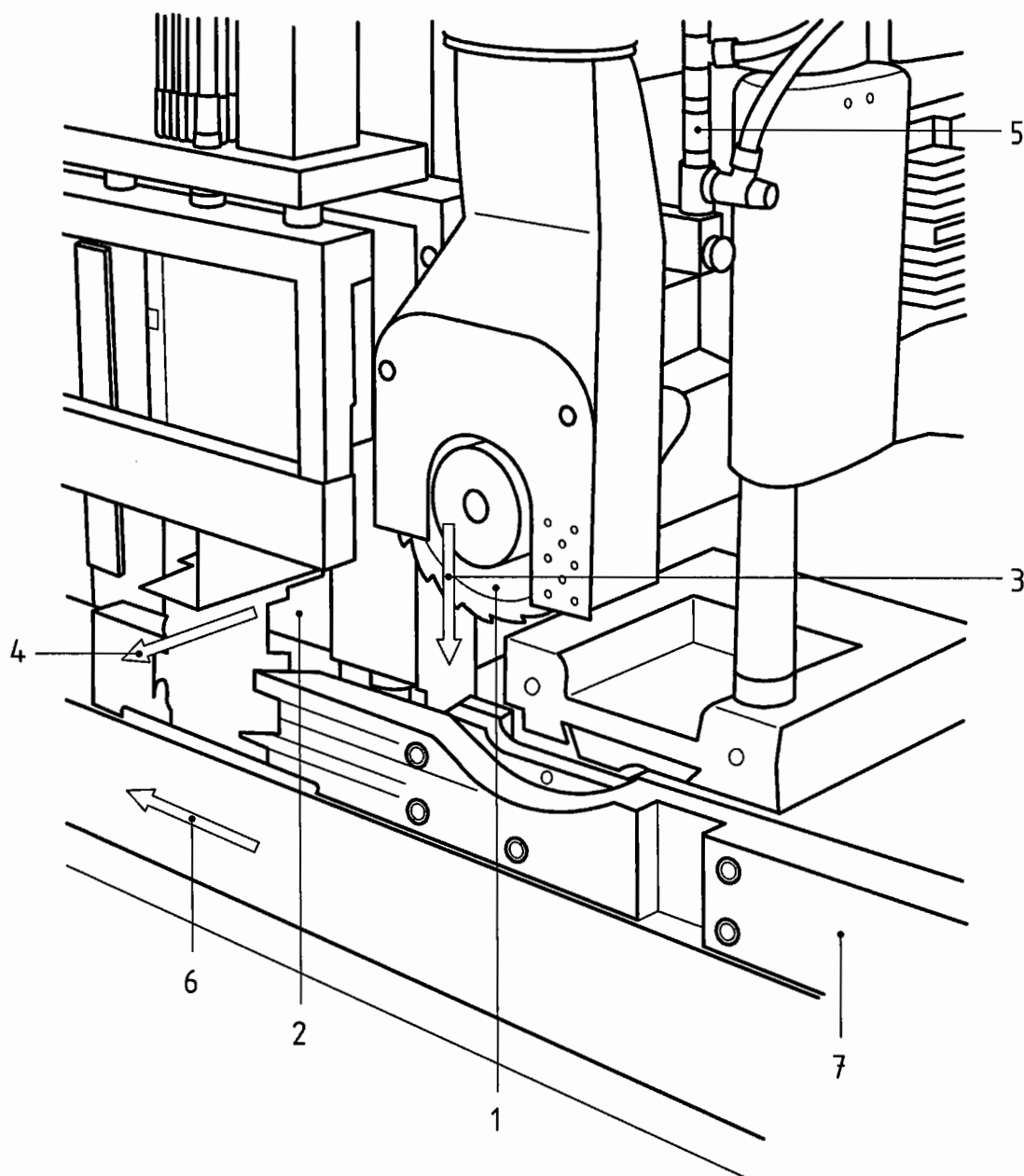
3.3.4**hinge recessing unit**

work unit fitted with a milling tool to recess hinges for window fittings (e.g. see Figure 5). The tool spindle moves in a plane vertically to the fence during processing and returns to its starting position ready for the following (succeeding) work-piece

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**Key**

- 1 Vertical hinge recessing unit
 2 Horizontal hinge recessing unit
 3 Processing movement of vertical hinge recessing unit
 4 Processing movement of horizontal hinge recessing unit
 5 Actuator for movement of vertical hinge recessing unit
 6 Feed direction
 7 Fence

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Figure 5 — Example of hinge recessing units