

ISO 19085-9:2019 (E)

Woodworking machines — Safety — Part 9: Circular saw benches (with and without sliding table)

Contents

| | |
|---------|--|
| | Foreword |
| | Introduction |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | List of significant hazards |
| 5 | Safety requirements and measures for controls |
| 5.1 | Safety and reliability of control systems |
| 5.2 | Control devices |
| 5.3 | Start |
| 5.4 | Safe stops |
| 5.4.1 | General |
| 5.4.2 | Normal stop |
| 5.4.3 | Operational stop |
| 5.4.4 | Emergency stop |
| 5.5 | Braking function of tool spindles |
| 5.6 | Mode selection |
| 5.7 | Spindle speed changing |
| 5.7.1 | Spindle speed changing by changing belts on the pulleys |
| 5.7.2 | Spindle speed changing by incremental speed change motor |
| 5.7.3 | Infinitely variable speed by frequency inverter |
| 5.8 | Failure of any power supply |
| 5.9 | Manual reset control |
| 5.10 | Enabling control |
| 5.11 | Machine moving parts speed monitoring |
| 5.12 | Time delay |
| 5.13 | Power-operated adjustment of the saw blades and/or fences |
| 6 | Safety requirements and measures for protection against mechanical hazards |
| 6.1 | Stability |
| 6.1.1 | Stationary machines |
| 6.1.2 | Displaceable machines |
| 6.2 | Risk of break-up during operation |
| 6.3 | Tool holder and tool design |
| 6.3.1 | General |
| 6.3.2 | Spindle locking |
| 6.3.3 | Circular saw blade fixing device |
| 6.3.4 | Flange dimension for circular saw blades |
| 6.3.5 | Fixing device for milling tools |
| 6.4 | Braking |
| 6.4.1 | Braking of tool spindles |
| 6.4.2 | Maximum run-down time |
| 6.4.3 | Brake release |
| 6.5 | Safeguards |
| 6.5.1 | Fixed guards |
| 6.5.2 | Interlocking movable guards |
| 6.5.2.1 | General |

- 6.5.2.2 Movable guards with interlocking without guard locking
 - 6.5.2.3 Movable guards with interlocking and guard locking
 - 6.5.3 Hold-to-run control
 - 6.5.4 Two-hand control
 - 6.5.5 Electro-sensitive protective equipment (ESPE)
 - 6.5.6 Pressure-sensitive protective equipment (PSPE)
 - 6.6 Prevention of access to moving parts
 - 6.6.1 General
 - 6.6.2 Guarding of tools
 - 6.6.2.1 Access to the saw blade above the machine table
 - 6.6.2.1.1 General
 - 6.6.2.1.2 Additional requirements for guards mounted on the riving knife
 - 6.6.2.1.3 Additional requirements for saw blade guards mounted separately from the riving knife
 - 6.6.2.1.4 Slot for the saw blade/milling tool in the table or in the table slot lining
 - 6.6.2.2 Access to the saw blade below the machine table
 - 6.6.3 Guarding of drives
 - 6.6.4 Guarding of shearing and/or crushing zones
 - 6.6.4.1 Crushing hazards for the body
 - 6.6.4.2 Crushing/shearing hazard of arm/hand/finger
 - 6.7 Impact hazard
 - 6.8 Clamping devices
 - 6.9 Measures against ejection
 - 6.9.1 General
 - 6.9.2 Guards materials and characteristics
 - 6.9.2.1 Choice of class of guards
 - 6.9.2.2 Guards class A
 - 6.9.2.3 Guards class B
 - 6.9.3 Anti-kickback devices
 - 6.10 Work-piece supports and guide
 - 6.10.1 Rip fence
 - 6.10.2 Cross-cut fence
 - 6.10.3 Machine table
 - 6.10.4 Extension table
 - 6.11 Safety appliances
- 7 Safety requirements and measures for protection against other hazards
 - 7.1 Fire
 - 7.2 Noise
 - 7.2.1 Noise reduction at the design stage
 - 7.2.2 Noise emission measurement
 - 7.3 Emission of chips and dust
 - 7.4 Electricity
 - 7.4.1 General
 - 7.4.2 Displaceable machines
 - 7.5 Ergonomics and handling
 - 7.6 Lighting
 - 7.7 Pneumatics
 - 7.8 Hydraulics
 - 7.9 Electromagnetic compatibility
 - 7.10 Laser
 - 7.11 Static electricity
 - 7.12 Errors of fitting
 - 7.13 Isolation
 - 7.14 Maintenance
- 8 Information for use
 - 8.1 Warning devices
 - 8.2 Marking
 - 8.2.1 General
 - 8.2.2 Additional markings
 - 8.3 Instruction handbook
 - 8.3.1 General
 - 8.3.2 Additional information

- Annex A (informative) Performance level required**
- Annex B (normative) Test for braking function**
- Annex C (normative) Stability test for displaceable machines**
- Annex D (normative) Impact test for guards**
- Annex E (normative) Noise emission measurement for machines not in ISO 7960:1995**
- Annex F (normative) Saw blade guard rigidity test**
 - F.1 General**
 - F.2 Saw blade guards mounted separately from riving knife**
 - F.2.1 Saw blade guards with lead-in**
 - F.2.2 Saw blade guards with in-feed rollers**
 - F.3 Riving knife mounted saw blade guards**
- Annex G (normative) Minimum dimensions of machine table, extension table and table insert**
- Annex H (normative) Riving knife longitudinal and lateral stability test**
 - H.1 Riving knife longitudinal stability test**
 - H.2 Riving knife lateral stability test**

Page count: 48