DIN EN ISO 19085-4:2025-12 (E)

Woodworking machines - Safety - Part 4: Vertical panel circular sawing machines (ISO 19085-4:2024)

Contents

Page

Foreword ... **v**

Introduction ... **vi**

1 Scope ... **1**

2 Normative references ... **2**

3 Terms and definitions ... **2**

4 Safety requirements and measures for controls ... **6**
4.1 Safety and reliability of control systems ... 6
4.2 Control devices ... 6
4.3 Start ... 6
4.3.1 Direct start ... 6
4.3.2 Start via control power-on ... 7
4.4 Safe stops ... 7
4.4.1 General ... 7
4.4.2 Normal stop ... 7
4.4.3 Operational stop ... 7
4.4.4 Emergency stop ... 7
4.5 Braking function of tools ... 7
4.6 Mode selection ... 8
4.7 Tool speed changing ... 8
4.7.1 Speed changing by shifting the belts on the pulleys ... 8
4.7.2 Speed changing by incremental speed change motor ... 8
4.7.3 Infinitely variable speed by frequency inverter ... 8
4.8 Failure of any power supply ... 8
4.9 Manual reset control ... 8
4.10 Standstill detection and monitoring ... 8
4.11 Machine moving parts speed monitoring ... 8
4.12 Time delay ... 8
4.13 Teleservice ... 8

5 Safety requirements and measures for protection against mechanical hazards ... **9**
5.1 Stability ... 9
5.2 Risk of break-up during operation ... 9
5.3 Tool holder and tool design ... 9
5.3.1 General ... 9
5.3.2 Spindle locking ... 9
5.3.3 Circular saw blade fixing device ... 9
5.3.4 Flange dimension for circular saw blades ... 9
5.4 Braking ... 9
5.4.1 Braking of tools ... 9
5.4.2 Maximum run-down time ... 9
5.4.3 Brake release ... 9
5.5 Safeguards ... 10
5.5.1 Fixed guards ... 10
5.5.2 Interlocking movable guards ... 10
5.5.3 Hold-to-run control ... 10
5.5.4 Two-hand control ... 10
5.5.5 Electro-sensitive protective equipment (ESPE) ... 10
5.5.6 Pressure-sensitive protective equipment (PSPE) ... 10

5.5.7 Enabling control ... 11
5.6 Prevention of access to hazardous moving parts ... 11
5.6.1 Guarding of tools ... 11
5.6.2 Safeguarding of shearing and crushing zones ... 13
5.6.3 Guarding of the rear side ... 13
5.6.4 Guarding of drives ... 13
5.7 Impact hazard ... 13
5.8 Clamping devices ... 13
5.9 Measures against ejection ... 14
5.9.1 General ... 14
5.9.2 Guards materials and characteristics ... 14
5.9.3 Anti-kickback devices ... 14
5.10 Workpiece supports and guides ... 16
5.10.1 Workpiece support ... 16
5.10.2 Middle support device ... 16
5.10.3 Angle cutting device ... 16

6 Safety requirements and measures for protection against other hazards ... 17
6.1 Fire ... 17
6.2 Noise ... 17
6.2.1 Noise reduction at the design stage ... 17
6.2.2 Noise emission measurement ... 17
6.3 Emission of chips and dust ... 17
6.4 Electricity ... 17
6.5 Ergonomics and handling ... 17
6.6 Lighting ... 18
6.7 Pneumatics ... 18
6.8 Hydraulics ... 18
6.9 Electromagnetic compatibility ... 18
6.10 Laser ... 19
6.11 Static electricity ... 19
6.12 Errors of fitting ... 19
6.13 Isolation ... 19
6.14 Maintenance ... 19
6.15 Relevant but not significant hazards ... 19

7 Information for use ... 19
7.1 Warning devices ... 19
7.2 Marking ... 19
7.2.1 General ... 19
7.2.2 Additional markings ... 19
7.3 Instruction handbook ... 20
7.3.1 General ... 20
7.3.2 Additional information ... 20

Annex A (informative) **List of significant hazards ... 21**

Annex B (informative) **Performance level required ... 23**

Annex C (informative) **Stability test ... 25**

Annex D (normative) **Test for braking function ... 26**

Annex E (normative) **Impact test for guards ... 27**

Annex F (normative) **Noise test code ... 28**

Annex G (normative) **Riving knife rigidity tests ... 31**