DIN EN ISO 19085-5:2018-02 (E)

Woodworking machines - Safety - Part 5: Dimension saws (ISO 19085-5:2017)

Contents

Page

European foreword ... **4**

Annex ZA (informative) **Relationship between this European Standard and the essential requirements of EU Directive 2006/42/EC** ... **5**

Foreword ... **8**

Introduction ... **9**

1 Scope ... **10**

2 Normative references ... **10**

3 Terms and definitions ... **11**

4 List of significant hazards ... **13**

5 Safety requirements and measures for controls ... **15**

5.1 Safety and reliability of control systems ... 15
5.2 Control devices ... 15
5.3 Start ... 17
5.4 Safe stops ... 17
5.4.1 General ... 17
5.4.2 Normal stop ... 17
5.4.3 Operational stop ... 17
5.4.4 Emergency stop ... 17
5.5 Braking function of tool spindles ... 17
5.6 Mode selection ... 17
5.7 Spindle speed changing ... 18
5.7.1 Spindle speed changing by changing belts on the pulleys ... 18
5.7.2 Spindle speed changing by incremental speed change motor ... 18
5.7.3 Infinitely variable speed by frequency inverter ... 18
5.8 Failure of any power supply ... 18
5.9 Manual reset control ... 18
5.10 Enabling control ... 18
5.11 Machine moving part speed monitoring ... 18
5.12 Time delay ... 19
5.13 Power-operated adjustment of the saw blades and/or fences ... 19

6 Safety requirements and measures for protection against mechanical hazards ... **19**

6.1 Stability ... 19
6.1.1 Stationary machines ... 19
6.1.2 Displaceable machines ... 20
6.2 Risk of break-up during operation ... 20
6.3 Tool holder and tool design ... 20
6.3.1 General ... 20
6.3.2 Spindle locking ... 20
6.3.3 Circular saw blade fixing device ... 20
6.3.4 Flange dimension for circular saw blades ... 20
6.3.5 Fixing device for milling tools ... 20
6.4 Braking ... 21
6.4.1 Braking of tool spindles ... 21
6.4.2 Maximum run-down time ... 21
6.4.3 Brake release ... 21
6.5 Safeguards ... 22
6.5.1 Fixed guards ... 22
6.5.2 Interlocking movable guards ... 22
6.5.3 Hold-to-run control ... 22

6.5.4 Two-hand control 22
6.5.5 Electro-sensitive protective equipment (ESPE) 22
6.5.6 Pressure-sensitive protective equipment (PSPE) 22
6.6 Prevention of access to moving parts 22
6.6.1 General 22
6.6.2 Guarding of tools 22
6.6.3 Guarding of drives 29
6.6.4 Guarding of shearing and/or crushing zones 29
6.7 Impact hazard 30
6.8 Clamping devices 30
6.9 Measures against ejection 30
6.9.1 General 30
6.9.2 Guards materials and characteristics 30
6.9.3 Anti-kickback devices 31
6.10 Work-piece supports and guides 34
6.10.1 Rip fence 34
6.10.2 Cross-cut fence 36
6.10.3 Work piece clamping shoe 37
6.10.4 Machine table 37
6.10.5 Extension table 37
6.10.6 Sliding table 37
6.11 Safety appliances 38

7 Safety requirements and measures for protection against other hazards 40
7.1 Fire 40
7.2 Noise 40
7.2.1 Noise reduction at the design stage 40
7.2.2 Noise emission measurement 40
7.3 Emission of chips and dust 41
7.4 Electricity 41
7.4.1 General 41
7.4.2 Displaceable machines 41
7.5 Ergonomics and handling 41
7.6 Lighting 41
7.7 Pneumatics 41
7.8 Hydraulics 42
7.9 Electromagnetic compatibility 42
7.10 Laser 42
7.11 Static electricity 42
7.12 Errors of fitting 42
7.13 Isolation 42
7.14 Maintenance 42

8 Information for use 42
8.1 Warning devices 42
8.2 Marking 42
8.2.1 General 42
8.2.2 Additional markings 42
8.3 Instruction handbook 43
8.3.1 General 43
8.3.2 Additional information 43

Annex A (informative) **Performance level required 46**
Annex B (normative) **Test for braking function 48**
Annex C (normative) **Stability test for displaceable machines 49**
Annex D (normative) **Impact test for guards 51**
Annex E (normative) **Noise emission measurement for machines not in ISO 7960 52**
Annex F (normative) **Riving knife longitudinal and lateral rigidity tests 53**
Annex G (normative) **Minimum dimensions of machine table and extension table 55**
Annex H (normative) **Saw blade guard rigidity test 56**
Bibliography 59