

DIN EN 809:2012-10 (E)

Pumps and pump units for liquids - Common safety requirements

Contents	Page
Foreword	3
Introduction	4
1 Scope	4
2 Normative references	5
3 Definitions	6
4 List of hazards	7
5 Safety requirements and/or measures	9
5.1 General requirements	9
5.1.1 Environmental and working conditions	9
5.2 Special requirements	11
5.2.1 Requirements to avoid mechanical hazards	11
5.2.2 Requirements to avoid electrical hazards	12
5.2.3 Requirements to avoid thermal hazards	13
5.2.4 Requirements to avoid the danger of noise and vibrations	14
5.2.5 Requirements to avoid hazards from materials	14
5.2.6 Requirements to avoid hazards from neglecting ergonomic principles of machine design	15
5.2.7 Requirements to avoid hazards caused by failure of energy supply, break-downs of machinery components and other malfunctions	15
5.2.8 Requirements to avoid hazards through breakdown and/or wrong installation of protection devices	16
6 Verification of the safety requirements and/or measures	16
6.1 General reference	16
6.2 Specific methods of verification	17
6.2.1 Inspection	17
6.2.2 Review of documentation	17
6.2.3 Calculations	17
6.2.4 Hydrostatic pressure test for pressure containing parts	17
6.2.5 Noise measurement	17
6.2.6 Guarding	17
6.2.7 Stability	17
6.2.8 Surface temperatures	18
7 Information for use	18
7.1 General	18
7.2 Instruction for use - Instruction handbook	18
7.2.1 General	18
7.2.2 Contents	18
7.3 !Assembly instruction for partly completed machinery	23
8 Marking	23
Annex ZA (informative) !Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/CE"	25

Annex ZB (informative) !Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC"	26
!Bibliography"	27