

DIN EN 16500:2014-10 (E)

Machines for compacting waste materials or recyclable fractions - Vertical baling presses - Safety requirements

Contents		Page
Foreword		4
Introduction		5
1	Scope	6
2	Normative references	7
3	Terms and definitions	9
4	List of significant hazards	13
5	Safety requirements and/or protective measures	16
5.1	Mechanical hazards	16
5.1.1	General	16
5.1.2	Feed area	19
5.1.3	Baling chamber area	22
5.1.4	Bale ejection area	22
5.2	Control actuators, devices and system	23
5.2.1	Control actuators and devices	23
5.2.2	Required performance levels PLr	24
5.2.3	Prevention of unauthorised or unintentional operation or start-up	25
5.2.4	Emergency stop	25
5.3	Hazards from hydraulic equipment	26
5.3.1	Hydraulic equipment	26
5.3.2	Hot surfaces of the hydraulic system	26
5.3.3	Hydraulic control system	26
5.4	Hazards from pneumatic equipment	26
5.4.1	Pneumatic equipment	26
5.4.2	Pneumatic control system	27
5.5	Electrical hazards	27
5.6	Hazards generated by noise	27
5.6.1	Noise reduction at source by design	27
5.6.2	Noise reduction by protective measures	28
5.6.3	Information connected with noise hazards	28
5.7	Hazards due to neglecting ergonomic principles in the design of the machine	28
6	Verification of the safety requirements and/or protective measures	28
7	Information for use	30
7.1	General information	30
7.2	Information for safe operation	30
7.2.1	General	30
7.2.2	Instructions for operation	31
7.2.3	Instructions for maintenance	31
7.2.4	Instructions for periodic examinations	32
7.2.5	Information on installation	32
7.2.6	Information on noise	33
7.3	Marking	33
7.3.1	Manufacturer's marking plate	33
7.3.2	Safety signs	33

7.3.3	Other markings	34
Annex A (normative) Noise test code		35
A.1	Scope	35
A.2	Determination of emission sound pressure level at the work station(s)	35
A.2.1	Basic standards	35
A.2.2	Measurement uncertainty	36
A.3	Determination of sound power levels	36
A.3.1	Basic standards	36
A.3.2	Measurement uncertainty	36
A.4	Installation and mounting conditions for the noise measurement	36
A.5	Operating conditions	36
A.6	Information to be recorded and reported	37
A.6.1	General	37
A.6.2	Vertical baling press - Data	37
A.6.3	Standards used	37
A.6.4	Noise data	37
A.6.5	Specified test parameters	37
A.6.6	Installation and operating conditions	37
A.7	Declaration and verification of noise emission values	37
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC		39
Bibliography		40