

## Guideline for furniture manufacturers for the use of the EU Machinery Directive (2006/42/EC) for furniture equipped with Free E

### 1. Background information and classification Free E

The EU Machinery Directive defines health and safety requirements for bringing machinery into circulation within the European Economic Area (EEA), Switzerland and Turkey.

According to the latest version of the EU Machinery Directive, the Free E drives are an **incomplete machine**. A **complete machine** in the sense of the Machinery Directive does not occur until an E-drive is installed in furniture. For this reason, manufacturers and distributors of furniture with electromotive drives fall within the scope of validity of the Machinery Directive and must adhere to certain procedures in order to market their product in compliance with the directive. These procedures are explained in detail below.

The relevant directives and standards are usually covered by certification in accordance with the IECEE CB scheme for countries outside the European Economic Area.

### 2. Requirements in accordance with the Machinery Directive

As the manufacturer or distributor of a furniture item with an electromotive drive which corresponds with the machine definition in accordance with the Machinery Directive, you must fulfil the following obligations:

- Production and storage of product-related **technical documentation**
- Carrying out of a **risk assessment** for the installed furniture
- Production of a **declaration of conformity**
- Attachment of a **type plate** and a **CE marking** to the completed furniture
- **Handover of documentation** to end customers

## 2.1. Production and storage of product-related technical documentation

Separate technical documentation must be prepared for a furniture item equipped with an electromotive drive and kept for the duration of at least ten years. The documentation should contain the following:

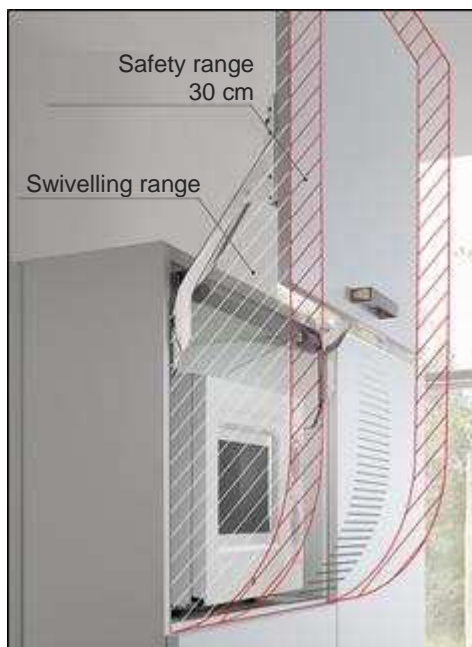
Document	Created by
Construction drawing of the furniture	Furniture manufacturer
Technical specifications and test reports	Furniture manufacturer
Risk assessment for installed furniture (see 2.2)	Furniture manufacturer
EC declaration of conformity (see 2.3)	Furniture manufacturer
Installation instructions for the Free fitting (see 2.4)	Häfele
Operating instructions for Free E (see 2.4)	Häfele

## 2.2. Carrying out of a risk assessment for the installed furniture

The risk assessment should point out any dangers associated with the installed furniture item with electromotive drive, and the extent of the potential danger and the probability of occurrence should be evaluated. Any measures for minimising the risk must also be described.

Häfele has produced the following example risk assessment for a standard single-line kitchen, which uses the following prerequisites as a starting point:

- Adherence to the processing and usage specifications shown in the installation and operating instructions for Free E
- No risk of collisions with structural elements that are present or other furniture fronts
- Additional safety clearance of 30 cm from the swivelling range of the furniture front



If all of these prerequisites are fulfilled, the risk assessment in the following can be taken over as a guideline. Otherwise, if the processing and usage specifications are not complied with, a full risk assessment in accordance with DIN EN ISO 12100 is required.

## Example illustration of risk assessment for a standard single-line kitchen:

Danger location	Risk in starting situation		Measures	Risk after measure	
<b>Risk of crushing</b>					
Risk of crushing if two Free E flap fronts collide which are arranged across a corner	W	0	Carry out programming to avoid collision --> Section in operating instructions: "Teach in across-corner operation"	W	0
	SA	L		SA	K
	AD	H		AD	-
	EA	M		EA	-
	WE	M		WE	-
Risk of crushing when opening and closing adjacent Free E flap fronts and other furniture fronts / moving elements (e.g. tall cabinet door, kitchen entrance door)	W	0	None (low risk, small amount of damage)	W	0
	SA	L		SA	L
	AD	H		AD	H
	EA	M		EA	M
	WE	M		WE	M
Risk of crushing when opening and closing Free E flap fronts which are arranged one on top of the other (e.g. lower flap front collides with the open flap front above it when it opens)	W	0	Carry out programming to avoid collision --> Section in operating instructions: "Teach in across-corner operation"	W	0
	SA	L		SA	K
	AD	H		AD	-
	EA	M		EA	-
	WE	M		WE	-
Risk of crushing when Free E flap front is opening due to collision with adjacent fixed element(s) (e.g. tall cabinet)	W	0	None (low risk, small amount of damage)	W	0
	SA	L		SA	L
	AD	H		AD	H
	EA	M		EA	M
	WE	M		WE	M
<b>Risk of cutting</b>					
Risk of cutting from sharp edges on front panel	W	1	Front panel and cabinet edges with rounding radius >1.5 mm	W	0
	SA	L		SA	K
	AD	H		AD	-
	EA	K		EA	-
	WE	M		WE	-
<b>Electrical danger</b>					
Power supply / cable at risk due to mechanical effects (e.g. chafing against moving parts)	W	5	Pay attention to the notes in the operating instructions	W	0
	SA	T		SA	K
	AD	S		AD	-
	EA	M		EA	-
	WE	K		WE	-

Key			
Value	W	0	Minimum risk
		10	Maximum risk
Extent of damage	SA	L	Minor
		S	Major
		T	Death
Time spent in danger area	AD	S	Seldom
		H	Frequent
Possibility of detecting and avoiding the danger	EA	M	Possible
		K	Hardly possible
Probability of occurrence	WE	K	Low
		M	Medium
		G	High

If the installation situation changes or the furniture with the electromotive drive is relocated, another risk assessment must be carried out.

### 2.3. Production of an EC declaration of conformity

With the EC declaration of conformity, the furniture manufacturer is documenting adherence to the health and safety requirements listed in the machinery directive in a legally binding way. A copy of the EC declaration of conformity that has been signed by the manufacturer must be enclosed with every furniture item that is equipped with a Free E-drive. A template for an EC declaration of conformity in accordance with the Machinery Directive 2006/42/EC can be found below:

Example illustration of an EC declaration of conformity:

EC Declaration of conformity		
We,	Your company name and address	
declare on our own responsibility that product	Identification of furniture (see type plate)	
to which this declaration relates is compliant with the following EC directives:		
• EC Machinery directive		2006/42/EC
• EC EMC directive		2004/108/EC
• Radio and telecommunications terminal equipment directive		1999/05/EC
The following harmonised European directives were used for correct implementation of the requirements mentioned in the EC directives:		
EN 300440-2	EN 60335-1	EN 55014-2
EN 301489-3	EN 62233	EN 61000-3-2
EN 301489-1	EN 55014-1	EN 61000-3-3
Also tested in compliance with DIN EN 15282		
Location	Your location	
Date	Date	Name of the contact for techn. documentation
Name	Your name	Your name
Function	Your function	
Signature	Your signature	

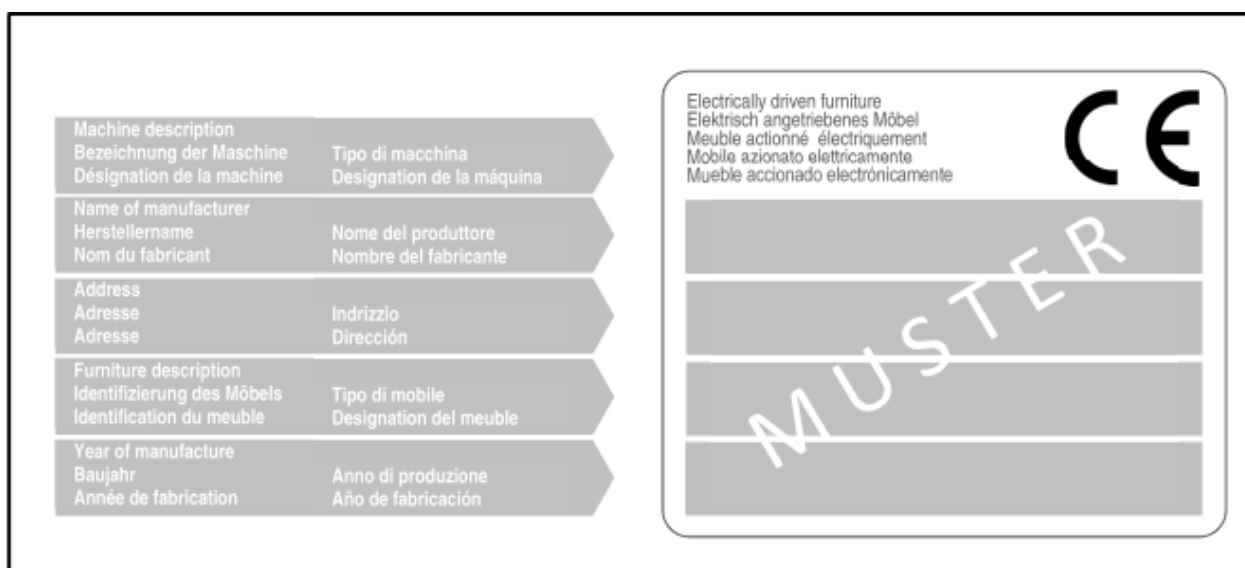
## 2.4. Attachment of a type plate and a CE marking to the completed furniture

On the basis of the EC declaration of conformity, the completed and ready-to-operate furniture with E-drive must be permanently and visible marked with the CE symbol. As shown in the following example, this can take place in connection with the type plate which is also required. The latter must contain the following information:

- Manufacturer name and address
- Product and type designation
- Date of manufacture

The type plate must be attached in a location which is clearly visible to the user of the furniture.

Example illustration of type plate:



After attaching the type plate and the CE marking to the furniture, the CE marking on the type label of the E-drive unit must be obliterated.

## 2.5. Handover of documentation to end customers

The following documents must be handed to the end customer during the delivery and installation of the furniture:

- Free E-drive installation and operating instructions from Häfele
- Copy of signed EC declaration of conformity

If there are any other questions about the applicability of the EU Machinery Directive to a furniture item equipped with a Free E fitting, please contact us via your Häfele sales adviser or at [www.haefele.de](http://www.haefele.de).