

Installation Instructions  
for the  
Manufacturer  
of the End Product  
**MULTIMAT B23**  
Drive System



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## General Information

**These instructions are intended for the manufacturer of the end product** and are not designed for passing on to the operator of the end product. With regard to the specialist information contained herein, these instructions can well serve as a basis for drawing up the instructions for the end products.

**It is essential to note the information contained in these instructions!** In doing so, you can prevent mistakes being made in installing or connecting the system which could result in

- **injury and accidents as well as**
- **damage** to the drive system or the end product.

### **Use only DEWERT drive control units!**

The DEWERT drive control unit incorporate an earth-free circuit which is isolated from the supply mains by reinforced insulation or double insulation.

DEWERT **accepts no liability** for damage caused as a result of ...

- non-observance of these instructions,
- alterations to the product not approved by DEWERT or ...
- the use of spare parts not manufactured or approved by DEWERT- these may not ensure adequate safety!

Due to the policy of ongoing product improvement, DEWERT reserves the right to carry out technical changes at any time without prior notification!

## 1. Designated Use

The **MULTIMAT B23** drive system is **designed for installing in end products...**

- for the motorised adjustment of movable furniture parts **using suitable fittings/ mountings.**

The **MULTIMAT B23** drive system is **not intended for use...**

- in the proximity high-**frequency surgical equipment** and **defibrillators,**
- in an environment where **flammable** or **explosive** gases or vapours (e.g. anaesthetics) are likely to occur,
- in a damp environment, i.e. outdoors nor in beds intended for cleaning in wash tunnels,
- in applications where unintentional movements cannot be stopped by adequate actions,
- as an adjustment drive for young children or the infirm.

## 2. Prerequisites

The installation steps described in these instructions must be performed by a **fully trained electrical engineer.**

- This being the case, you should never carry out this work **yourself** unless you are a **qualified electrical engineer** or
- you should **entrust** this work to suitably **qualified persons** only.

Conformity in accordance with EC Directives

The drive system is supplied ex factory as a **machine not ready for use** in accordance with the EC "Machinery" Directive. In other words, you may not put the drive system into operation until you have met the **safety** objectives of the "Machinery" Directive and issued a corresponding **Declaration of Conformity!**

The drive system with DEWERT controls meet the safety objectives of the EC Directives concerning "**Low Voltage**" and "**Electromagnetic Compatibility (EMC)**".

The drive is **not a medical product** - for installing into same, manufacture in **conformity** with the EC Directive for "Medical Products" or other regulations is the responsibility of the **manufacturer of the end product.** For this purpose, DEWERT has additionally applied, fully or partially, a number of standards from the medical products sector, in order **to facilitate** use in medical products (see page 17, Additional Information).

## 3. Getting to Know the System

The **MULTIMAT B23** drive system is intended for the German market and complies with the Law applicable in Germany in implementation of relevant EC Directives.

# MULTIMAT **B23**

## a) **Product Versions**

The drive system is supplied ex factory for the motorized adjustment of a furniture application.

<b>Version</b>	<b>Home</b>	<b>Care</b>
<b>With bellow on the clevis side</b>	optional	compulsory
<b>With bellow on the end cap side</b>	optional	compulsory
<b>Steel clevis</b>	optional	not possible
<b>Plastic clevis</b>	optional	not possible
<b>Special clevis</b>	optional	compulsory
<b>End cap</b>	optional	compulsory
<b>Protection category</b>	IP20	IP44

With regard to other variation options contact your after-sales service or take a look at the current catalogue. We will be happy to assist you with any special requests you may have.

## b) Technical Data

Rated voltage.....:	24 V DC
Power consumption with rated load.....:	max. 5 A DC (depending on rated load)
Max. permissible force.....:	max. 4000 N (depending on version)
Operating mode <sup>1)</sup> with max. rated load.....:	Intermittent duty 2 min./18 min.
Protection classification.....:	III
Noise level.....:	≤ 65 dB(A)
Drive type.....:	Single drive
Stroke <sup>2)</sup> .....:	push: <300mm pull : <400mm
Adjustment Speed <sup>3)</sup> .....:	from 4 to 10 mm/s (depending on version)
Protection category.....:	IP20
Colours .....	black

## Dimensions and Weights

Length x width x height of the drive.....:	min. 152 x 166 x 85 mm
Weight.....:	approx. 2.0 kg

## Ambient Conditions

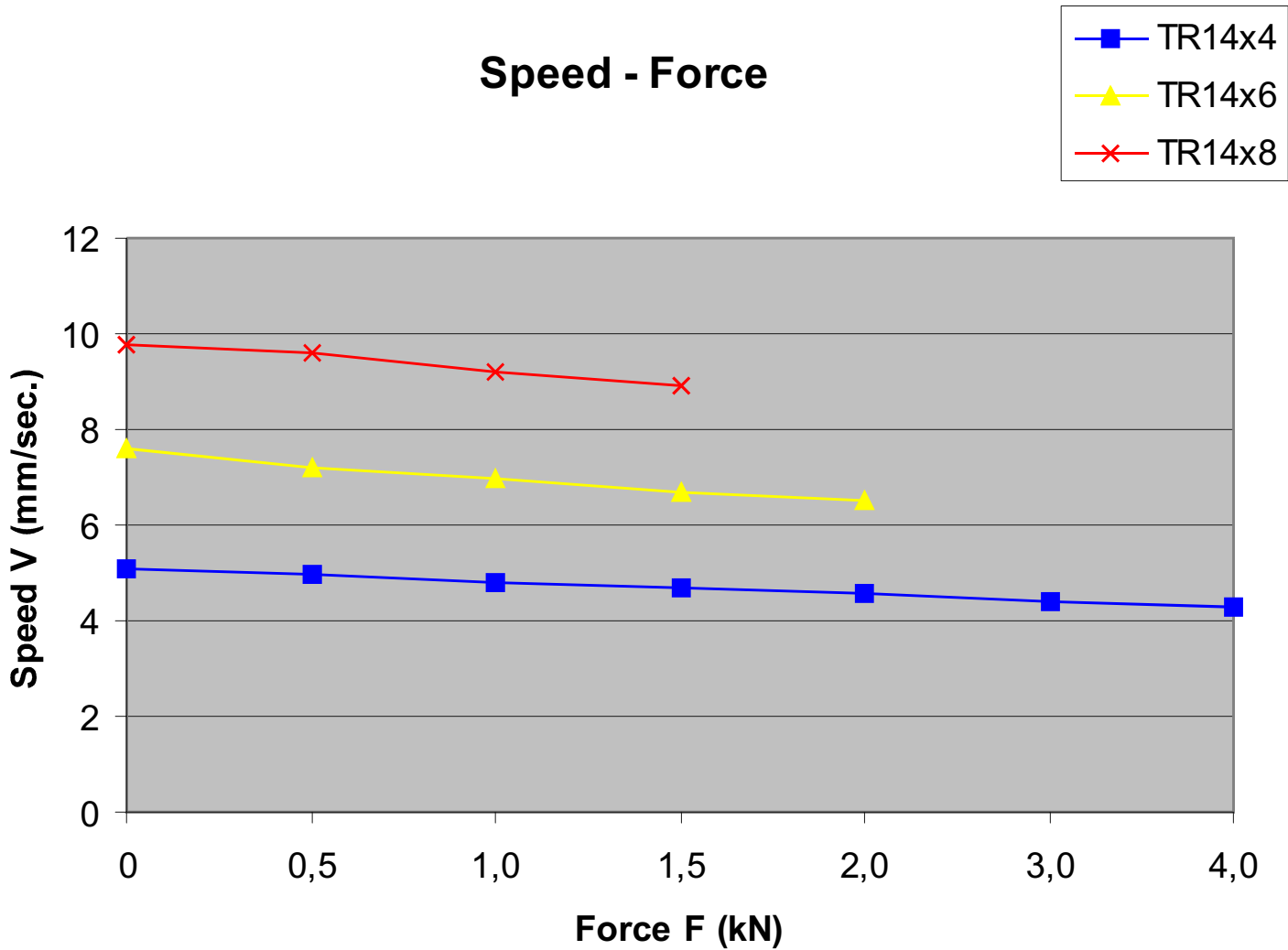
Room temperature.....:	from +10° to +40° C
Relative humidity.....:	from 30% to 75%
Barometric pressure.....:	from 700 hPa to 1060 hPa

- 1) Operating mode = **intermittent duty 2 min./18 min.**, i.e. run for a maximum of 2 min. under rated load, then observe a **rest period** of 18 min. Operational failure could otherwise result.
- 2) Data deviating from these standard values can be established after consultation and depending on the application.
- 3) Adjustment speed = **speed** at which the spindle block travels **without load** (speed varies according to the load).

# MULTIMAT B23

## Example

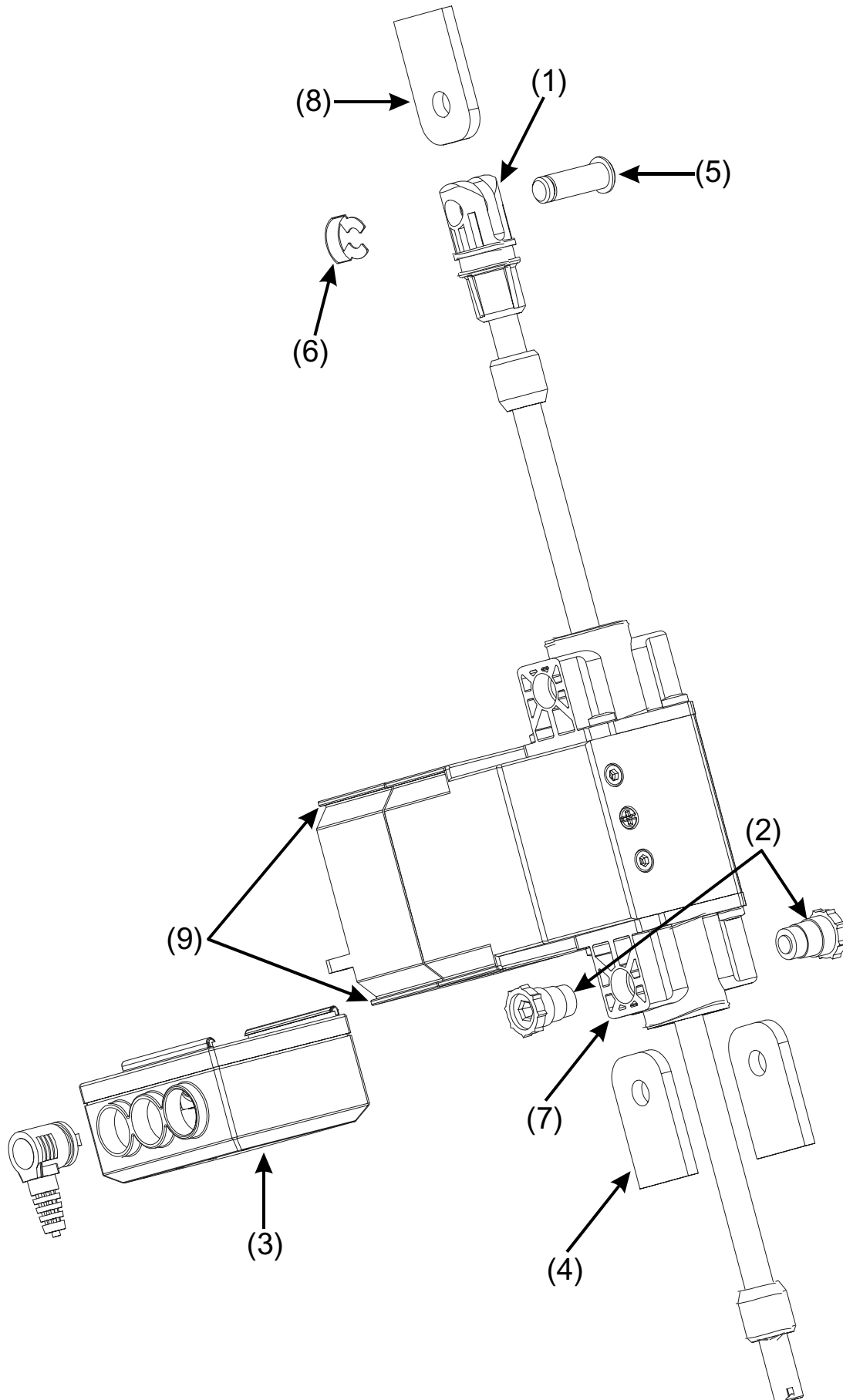
The adjustment speeds actually reached can be less depending on the drive version and type of controls.



The measurement curves shown were established in our laboratory using suitable transformers and drive components. They represent the maximum driving power that can be achieved using suitable DEWERT control components. We will be happy to assist you in designing your own individual drive system.

# Assembly of the MULTIMAT B23 Drive system

(Illustration example: MULTIMAT B23 with MBK-control)



## 4. Fitting

### Caution!

Only ever connect or disconnect electrical components when they are voltage-free.

#### a) Installation

- 1) Remove bearing journals (2) from the housing covers (8)
- 2) Push the drive into mounting (4) and fasten it there with bearing journals (2).
- 3) Now fasten the spindle clevis (1) with the BEK-bolts (5) and security clip (6) on the mounting (8).
- 4) If you use controls (3) of the MB, MBK, MBL or the MBXL type, push these onto dovetail seat (9) and screw the housing of the controls to the motor casing. Alternatively, the controls can also be attached directly to the furniture frame using a mounting plate which is available as an optional accessory.  
Now connect the drive(s) and the hand set to the control unit.  
(Please also refer to the Installation Instructions supplied with the DEWERT control units)



**Recommendation:** Please bear in mind that installing mechanical limit stops into your end product considerably increases the safety standard.



#### b) Electrical Connection

In the **Operating Instructions** to be issued by you, point out to the operator that if leads, in particular the connection lead, are driven over they could sustain damage. **Mechanical loads should also be avoided.**

When routing the leads make sure that they:

- cannot get caught up or trapped,
- are not subjected to mechanical pull,
- cannot get damaged in any other way.

Make sure that the leads, possibly incorporating a **strain relief with kink protecting**, are fastened to the application.

All the components are prewired ready to be plugged in and should only be connected as shown in the connecting plan (refer to the Installation Instructions supplied with the Dewert control units).

#### c) Dismantling

Operate the application to travel to the starting position and disconnect the drive from the mains supply. **Support drive (1)** when removing bearing journals (2) and **BEK bolt (4)** because it is released immediately.



## 5. Operation

For drawing up the Operating Instructions for the end product, you can use the specialist information described herein. Please bear in mind that these instructions are intended for you as a specialist and not for the possibly non-technically trained operator of the end product.

### **Attention!**

- **The electric adjustment drive is not intended to be used by small children or the unsupervised infirm.**
- **The electric adjustment drive is not a toy for children to play with.**

#### a) Prerequisites

The **MULTIMAT B23** drive system is intended to be used only with a DEWERT control unit belonging to it.

In this connection please also follow the Installation Instructions supplied with the corresponding control unit.

# MULTIMAT B23

## b) Maintenance and Repairs

At regular intervals carry out the inspections in accordance with the BGV A2 (Instruction of the Professional Trade Association). The inspections must be performed by an electrical specialist.

The recommended inspection period in accordance with the BGV A2 is: **6 months**

- **Regular visual checks** for damage of all kinds

Check the housing for **cracks** and **fractures** and the connection lead for signs of **pinching** and **shearing-off**. Also check the **strain relief** with **kink protection**, in particular after each case of mechanical loading. Any **damaged connection leads** of equipment must be replaced by **the manufacturer** or **persons qualified** to do so (see page 3) in order to exclude hazards.

Check the limit switches by using the DEWERT control unit to make the drive travel to the end-of-travel positions.

## Caution!

### For Your Own Safety!

**Shutdown in an emergency is achieved by pulling out the mains plug!** The **mains plug** must therefore be **accessible at all times** when the system is in operation to ensure it can be quickly **pulled out of the wall socket** in an emergency.

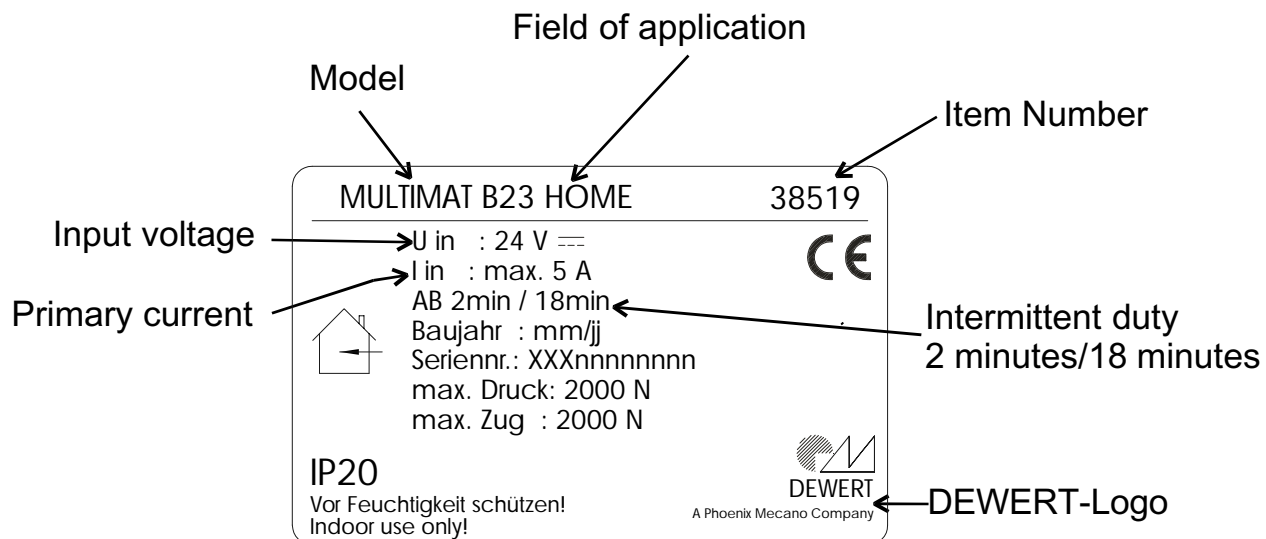
Movement of the drive takes place via an **open** spindle. Please bear this in mind when designing your product:

- After installing the **Multimat B23** make sure that no shearing or trap/crush zones are accessible from the outside.
- Otherwise use the **Multimat B23** with bellow (optional). (Compare to the table on side 4).

In the Operating Instructions to be drawn up by yourselves, it is essential that you draw the operator`s attention to the points mentioned here.

## 6. Type Plate - Example

Each drive component carries a type plate giving the exact designation, item number and technical specifications (for explanation see following figure as an example).



### Graphical Symbols



Conformity marks

IP20

Protection category



Use in dry rooms only



In order to guarantee the safety of DEWERT products, a seal is attached to all DEWERT products. Opening the product damages the seal, thereby indicating that the drive has been altered or tampered with. The drive may only be opened by specialist personnel holding the qualifications as described on page 3

# MULTIMAT B23

## 7. Trouble-shooter's Guide to Detect and Eliminate Common Faults and Errors

The following table has been developed to help you detect and eliminate common faults and errors. If you come across a fault/error that is not listed here, please contact your supplier. All of these faults/errors may only be investigated and rectified by specialists holding the qualifications as described on page 3.

<b>Problem</b>	<b>Possible Cause</b>	<b>Remedy</b>
Handset or drive system without function	<ul style="list-style-type: none"><li>- Handset or drive system defective</li><li>- No supply voltage</li></ul>	<ul style="list-style-type: none"><li>- Contact your supplier/dealer</li><li>- Connect to mains</li></ul>
Drives suddenly no longer respond, no movement takes place	<ul style="list-style-type: none"><li>- Thermoswitch on transformer or in the DEWERT controls has possibly been triggered</li><li>- Temperature fuse in transformer has possibly been triggered</li><li>- Instrument fuse has possibly been triggered</li><li>- Lead (mains and/or handset/ slave drives) interrupted</li><li>- No supply voltage</li></ul>	<ul style="list-style-type: none"><li>- Leave the drive system in the rest position for approx. 20-30 minutes</li><li>- Contact your supplier/dealer</li><li>- Check the lead, if necessary restoring contact</li></ul>

## 8. Cleaning

The **MULTIMAT B23** drive system should be cleaned with a damp cloth using a proprietary cleaning agent suitable for **Polyamid 6**. Follow the instructions provided by the manufacturer of the respective cleaning agent used.

**Before cleaning, always pull out the mains plug from the control unit!**

**Never clean** the drive system in a wash tunnel or with a **high-pressure cleaner nor spray liquids onto it**. You otherwise risk damaging the equipment!

When **cleaning**, take care not to damage the drive system's **connection lead!**

The drive system meets the requirements of the IP20 protection category.

**Do not use any solvents** such as **benzene, alcohol** or similar substances.

## 9. Disposal

The **MULTIMAT B23** drive system contains electronic components, cables, metal, plastic etc. The **MULTIMAT B23** drive system should be disposed of in accordance with the environmental regulations applicable in the respective country. Information on this subject can also be obtained from:

Federal Association for  
Disposal Management BDE  
Schönhauser Str. 3  
51118 Cologne  
Germany  
Phone: +49(0)2 21/9 34 70 0-0

# MULTIMAT B23

## EC Manufacturer's Declaration

In accordance with Annex II B of the EC Machinery Directive (89/392/EC)

The Manufacturer:

**DEWERT**

**Antriebs- und Systemtechnik GmbH**

**Weststr. 1**

**32278 Kirchlengern**

**Germany**

hereby declares that the drive system described below

**MUITIMAT B23**

is not a ready-to-use machine in accordance with the EC Machinery Directive and, therefore, does not fully comply with the requirements of the Directive!

This machine may not be put into operation until conformity with the above Directive of the entire machine, into which it is to be installed, has been declared!

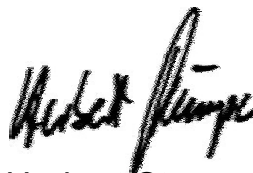
Partially applied harmonized standards:

Based on:

**EN 292-1** Safety of Machines, Basic Terminology, Methods

**EN 292-2** Safety of Machines, Guiding Technical Principles

Kirchlengern, 05th October 2005



Herbert Stumpe  
Management

## EC Declarations

### EC Declaration of Conformity

In accordance with Annex I of the EC Directive on Electromagnetic Compatibility 89/336/EEC, in accordance with Annex III of the EC Low-Voltage Directive 73/23/EEC

The Manufacturer:

**DEWERT**  
**Antriebs- und Systemtechnik GmbH**  
**Weststr. 1**  
**32278 Kirchlengern**  
**Germany**

hereby declares that the drive system described below

**MUITIMAT B23 with DEWERT Control units**

satisfies the following EC Directives:

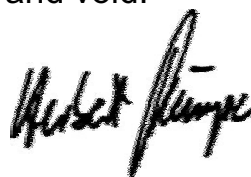
**Directive on Electromagnetic Compatibility 89/336/EEC**  
**(last amended by 93/68/EEC)**

**Low-Voltage Directive 73/23/EEC**  
**(last amended by 93/68/EEC)**

Applied Standards:

**EN 60335-1**  
**EN 55014-1**  
**EN 55014-2**  
**EN 61000-3-2**  
**EN 61000-3-3**

Constructional changes which affect the technical data stated in the Installation Instructions as well as the designated use, in other words which alter the drive system in a significant extent, make this Declaration of Conformity null and void!



Kirchlengern, 05th October 2005

Herbert Stumpe  
Management

# MULTIMAT B23

## Additional Information

For the MULTIMAT B23 drive system in the IP44 version with DEWERT CARE/HOSP control unit, the following standards were applied.

Based on EN 60601-1:1990 +A1:1993 +A2:1995, Electromedical Equipment

EN60601-1, main section 2	Environmental Conditions
EN60601-1, main section 3	Protection against Electrical Shock Hazard
EN60601-1, section 21	Mechanical Strength
EN60601-1, main section 7	Protection against Excessive Temperatures
EN60601-1, main section 9	Non-designated Operation and Cases of Faults
EN60601-1, main section 10	Constructional Requirements
EN60601-1, section 56.8	But without power supply indicator
EN60601-1, section 36	Electromagnetic Compatibility
EN60601-1-2	Electromagnetic Compatibility



# Notes



**DEWERT**

A Phoenix Mecano Company

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