



MULTIMAT B23

Installation Instructions

(Translation of the original
Installation instructions)

MULTIMAT B23

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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 DewertOkin drive control units!

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

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

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

Due to the policy of ongoing product improvement, DewertOkin 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 **inflammable** 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 DewertOkin 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, DewertOkin 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.

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a) Product Versions

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

Version	Home	Care
With bellow on the clevis side	optional	compulsory
With bellow on the end cap side	optional	compulsory
Steel clevis	optional	not possible
Plastic clevis	optional	not possible
Special clevis	optional	compulsory
End cap	optional	compulsory
Protection category	IP20	IPX4

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 - 29 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 ¹⁾ with max. rated load.....	Intermittent duty 2 min./18 min.
Protection classification.....	III
Noise level.....	≤ 65 dB(A)
Drive type.....	Single drive
Stroke ²⁾	push: <300mm pull : <400mm
Adjustment Speed ³⁾	from 4 to 10 mm/s (depending on version)
Protection category.....	IP20 (optional IPX4)
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 for operation, storage and transport

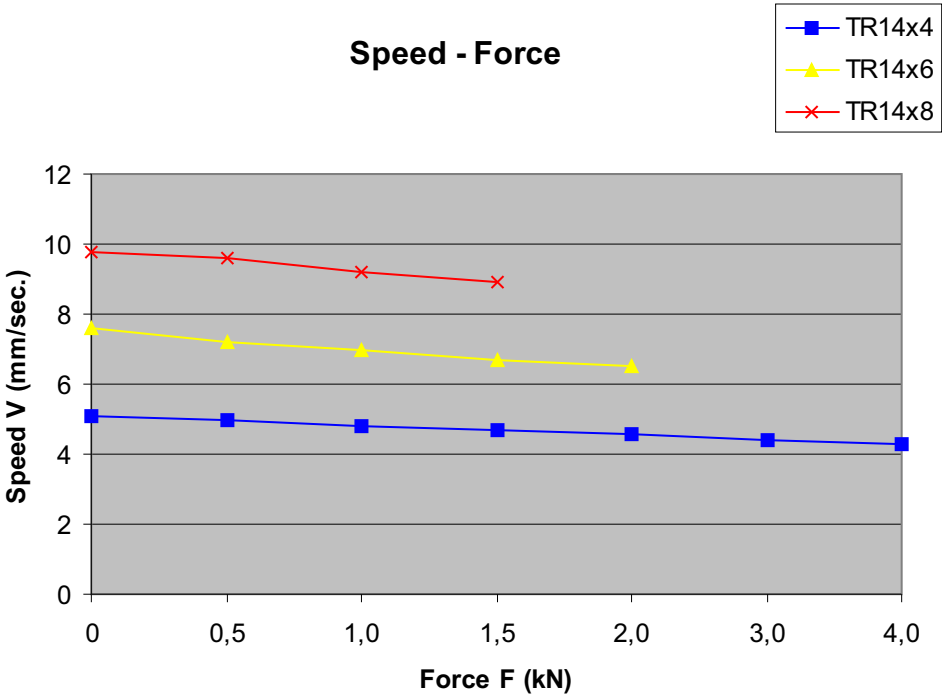
Transport / storage temperature.....	from -20 °C to +50 °C from -4 °F to +122 °F
Operating temperature.....	from +10 °C to +40 °C from +50 °F to +104 °F
Relative humidity.....	from 30% to 75%
Air pressure.....	from 800 hPa to 1060 hPa
Altitude.....	< 2000m

- 1) Mode of operation: intermittent duty 2 min./18 min. This means that after the unit is operated with its rated load for up to two minutes it must then be paused for 18 minutes. The system can malfunction if this pause is not observed!
- 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).

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Example

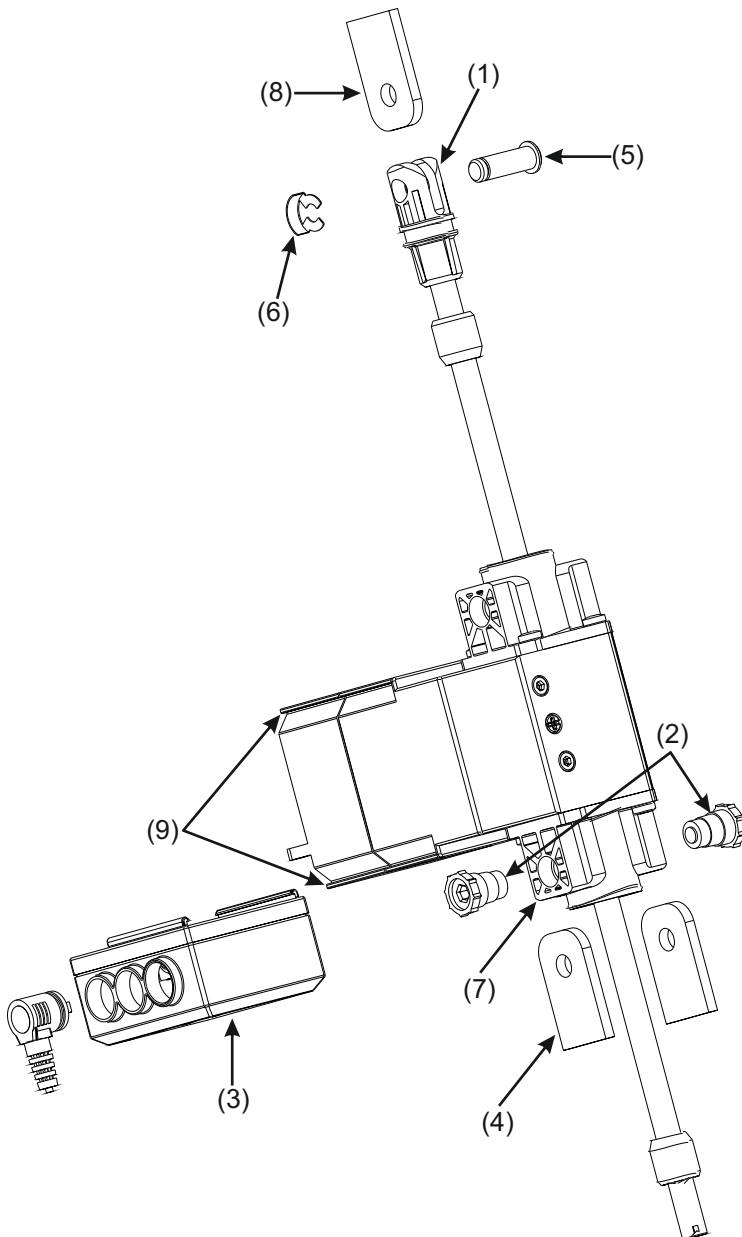
The adjustment speeds actually reached can be less depending on the drive version and type of controls.



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 DewertOkin control components. We will be happy to assist you in designing your own individual drive system.

Assembly of the MULITMAT B23 Drive system

(Illustration example: MULTIMAT B23 with MBK-control)



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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 DewertOkin 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 DewertOkin 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 DewertOkin control unit belonging to it.

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

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b) Maintenance and Repairs

At regular intervals carry out the inspections. The recommended inspection period is: **6 months**

In addition to the above, the following checks should be carried out at shorter intervals:

- **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 DewertOkin 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 the mains plug out of the drive controls!

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 a stroke pipe. 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).



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xxxxx

24-29V

max. 3.00A

Duty cycle 2min ON / 18 min OFF

max. Push Force

max. Pull Force

Prod.Date

Serial-No.

IPX4



Article type designation

Article number

Input voltage

Current consumption

Intermittent operations: 2 minutes / 18 minutes

Push force

Pull force

Week / Year

Serial number

Protection category

Use in dry rooms only!

Follow all special disposal instructions!

Mark of CE conformity

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7. Troubleshooting

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.

Problem	Possible Cause	Remedy
Handset or drive system without function	- Handset or drive system defective - No supply voltage	- Contact your supplier/dealer - Connect to mains
Drives suddenly no longer respond, no movement takes place	- Thermoswitch on transformer or in the DewertOkin controls has possibly been triggered - Temperature fuse in transformer has possibly been triggered - Instrument fuse has possibly been triggered - Lead (mains and/or handset/ slave drives) interrupted - No supply voltage	- Leave the drive system in the rest position for approx. 20-30 minutes - Contact your supplier/dealer - Check the lead, if necessary restoring contact

8. Cleaning

The **MULTIMAT B23** drive system has been designed to facilitate cleaning for the user, and this has been made even easier thanks to the large number of flat surfaces.

The **MULTIMAT B23** drive system should be cleaned with a household cleaning agent suitable for plastic using a damp cloth. Always note 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**!

In its basic version the drive system meets the requirements of the IP20 protection category. You have the option of upgrading the protection category up to IPX4.

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

9. Disposal

The **MULTIMAT B23** drive consists of electronic components, cables and metal and plastic parts. You should observe all corresponding national and regional environmental regulations when disposing of the **MULTIMAT B23** drive.

The disposal of the product is regulated in Germany by Elektro-G, internationally by the EU Directive 2012/19/EC (WEEE), or by any applicable national laws and regulations.



The **MULTIMAT B23** drive system may not be disposed of with the normal household waste!

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Declaration of Incorporation

According to Appendix II of the EU Machinery Directive 2006/42/EC

The manufacturer:

**DewertOkin GmbH
Weststraße 1
32278 Kirchlegern
Deutschland - Germany**

declares that the incomplete machines described below

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complies with the following basic requirements of the Machinery Directive (2006/42/EC):

Sections:

1.1.3; 1.3.3; 1.3.4; 1.3.7; 1.5.1; 1.5.2; 1.5.5; 1.5.6; 1.5.7; 1.5.8; 1.5.9; 1.5.10; 1.5.13

You may only operate this incomplete machine after you have confirmed that the end product (into which this machine will be installed) complies with the Machinery Directive 2006/42/EC.

On reasonable request, the manufacturer is obliged to send the special documentation accompanying the partially completed machinery in electronic form to the appropriate national institution. The special technical documents corresponding to the machine have been created according to Appendix VII, part B.

For preparation of the technical documentation is authorized:

**DewertOkin GmbH
Weststraße 1
32278 Kirchlegern
Tel.: 05223 979-0
Deutschland - Germany**



Kirchlegern, Germany 30 March 2020

Dr.-Ing. Josef G. Groß
Managing Director

EU Declaration of Conformity

In compliance with Appendix IV of the EMC-Directive 2014/30/EU

In compliance with Appendix IV of the LVD-Directive 2014/35/EU

In compliance with Appendix VI of the EU RoHS Directive 2011/65/EU (incl. Commission delegated Directive (EU) 2015/863)

The manufacturer:

**DewertOkin GmbH
Weststraße 1
32278 Kirchlingern
Deutschland - Germany**

declares that the following product

MULTIMAT B23 with DewertOkin Control Unit

meets the requirements of the following EU directives:

Electromagnetic Compatibility Directive 2014/30/EU

Low Voltage Directive 2014/35/EU

COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances.

Applied standards:

**EN 60335-1:2012/A11:2014
EN 55014-1:2006/A1:2009/A2:2011
EN 55014-2:1997/A1:2001/A2:2008
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 62233:2008**

This declaration of conformity is no longer valid if constructional changes are made which significantly change the drive system (i.e., which influence the technical specifications found in the instructions or the intended use)!



Kirchlingern, Germany 30 March 2020

Dr.-Ing. Josef G. Groß
Managing Director

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Additional information

MULTIMAT B23 drive system

The following standards and norms were used in the versions with at least IPX4 and higher in according to

- EN 60601-1:2006 + A1:2013, IEC 60601-1:2005 + A1:2012 (short description: Edition 3.1), Medical electrical equipment.
- EN 60601-1-2:2015, IEC 60601-2-2:2014 (short description: Edition 4.0), EMC

IEC/EN60601-1, Section 4	General requirements
IEC/EN60601-1, Section 6	Classification
IEC/EN60601-1, Section 7.1	Labelling – general
IEC/EN60601-1, Section 7.2	Labelling – inscriptions
IEC/EN60601-1, Section 8	Protection against electrical danger
IEC/EN60601-1, Section 11.1	Overheating protection
IEC/EN60601-1, Section 11.2	Fire prevention
IEC/EN60601-1, Section 11.3	Design requirements for fire - resistant housing
IEC/EN60601-1, Section 13	Dangerous situations and error conditions
IEC/EN60601-1, Section 16.6	Leakage current
IEC/EN60601-1, Section 17	Electromagnetic compatibility
IEC/EN60601-2-52, Section 201.11.6.5.101	Protection against water ingress: only applied for at least IPX4
IEC/EN60601-2-52, Section 201.9.8.3.2	Static load

Notes

Notes

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