EC Declarations

EC Declaration of Conformity

according to appendix I of the EC Directive on Electromagnetic Compatibility 89/336/EWG,

according to appendix III of EC Low-Voltage Directive 73/23/EWG

The Manufacturer:

DEWERT
Antriebs- und Systemtechnik GmbH & Co. KG
Westr. 1
32278 Kirchlengern
Germany

hereby declares that the drive system described below

MONOMAT 5/6
DUOMAT 5/6
TRIOMAT 5/6
QUADROMAT 5/6

meets the following EC Directives:

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

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

Applied Standards:

EN 50335-1
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 change the drive system in a considerable way, make this Declaration of Conformity null and void!

Kirchlengern, 08th April 2003
Herbert Stumpe
Management
EC Manufacturer’s Declaration

According to Appendix II B of the EC Machines Directive (98/37/EG)

The Manufacturer:

DEWERT
Antriebs- und Systemtechnik
GmbH & Co. KG
Weststr. 1
32278 Kirchlengern
Germany

hereby declares that the drive system described below

MONOMAT 5/6
DUOMAT 5/6
TRIOMAT 5/6
QUADROMAT 5/6

is not a ready-to-use machine in keeping with the EC Machines 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:

EN 292-1 Safety of Machines, Basic Terminology, Methods
EN 292-2 Safety of Machines, Guiding Technical Principles

Kirchlengern, 09th April 2003
Herbert Stumpe
Management

1. Designated Use

The DUOMAT 5/6 drive system is designed for installation in beds ...

- for domestic use,
- for the motorized adjustment of moveable bed parts using original DEWERT fittings and accessories.

The DUOMAT 5/6 drive system is not intended for use ...

- in an environment where inflammable or explosive gases or vapours (e.g. anesthetics) are likely to occur,
- in a damp environment or outdoors,
- with a medical product or for installing in a medical product.

Attention!

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

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 according to EC Directives

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

The drive system meets the safety objectives of the EC Directives concerning "Low voltage" and "Electromagnetic Compatibility (EMV)".
9. Cleaning

The DUOMAT 5/6 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 DUOMAT 5/6 Drive System should be cleaned with a proprietary cleaning agent suitable for polyamide 6 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!

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

When cleaning take care not to damage the drive system’s mains connection lead!

⚠️ The drive is not waterproof.

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

10. Disposal

The DUOMAT 5/6 Drive System contains electronic components, cables, metal, plastic etc. The DUOMAT 5/6 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 Köln
Germany
Phone: +49(0)2 21/9 34 70 0-0

For drives offering emergency lowering, the batteries involved must be disposed of in accordance with the ‘AltBattVO’ (ordinance on the disposal of old batteries). Batteries may not be disposed of with the normal household waste!
8. Trouble-shooter's Guide to Detect and Eliminate Faults/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 inspected and rectified by specialists holding the qualifications as described on page 3.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handset or drive system</td>
<td>- Handset or drive system defective</td>
<td>- Contact your supplier/dealer</td>
</tr>
<tr>
<td>without function</td>
<td>- No supply voltage</td>
<td></td>
</tr>
<tr>
<td>Drives suddenly no</td>
<td>- Thermostat on transformer or in the control unit</td>
<td>- Leave the drive system in rest position</td>
</tr>
<tr>
<td>longer respond, no movement</td>
<td>has been triggered</td>
<td>for approx. 20 - 30 minutes</td>
</tr>
<tr>
<td>takes place</td>
<td>- Temperature fuse in transformer defective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Miniature fuse defective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Feeder cable (main and/or handset / slave drives)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>interrupted</td>
<td></td>
</tr>
<tr>
<td>Emergency lowering</td>
<td>- Block battery is flat</td>
<td>- Check the block battery and, if necessary,</td>
</tr>
<tr>
<td>cannot be carried out (option)</td>
<td>- Check the block battery and, if necessary, replace</td>
<td></td>
</tr>
</tbody>
</table>

3. Getting to Know the System

The DUOMAT 5/6 Drive System is intended for the German market and complies with the Law applicable in Germany in implementation of relevant EC Directives.

a) Product versions

The drive system is supplied ex factory for the power-adjustment of the head and foot ends of a bearing surface (DUOMAT 5/6). This version is also available with just one motor (MONOMAT 5/6).

Slaves drives can be connected as optional extras, e.g. in order to allow power-adjustment of further bed elements.

A Duomat 5/6 with connection facility for one or two slave drives is given the designation Triomat 5/6 or Quadromat 5/6. All the information contained in these installation Instructions apply to this product accordingly.

<table>
<thead>
<tr>
<th>Version</th>
<th>DUOMAT 5 TRIO/QUADRO 5</th>
<th>DUOMAT 6 TRIO/QUADRO 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slave drives</td>
<td>all DEWERT-slave drives¹</td>
<td>all DEWERT-slave drives¹</td>
</tr>
<tr>
<td>Handsets</td>
<td>Classic Style Balance additional Handsets²</td>
<td>Classic Style Balance additional Handsets³</td>
</tr>
<tr>
<td>optional Functions</td>
<td>NFS²/NAS³ Massage IR-Transmitter IR-Receiver</td>
<td>NFS²/NAS³ Massage IR-Transmitter IR-Receiver</td>
</tr>
</tbody>
</table>

¹ Consult your DEWERT customer contact
² Cut-off plug
³ Emergency lowering
b) Technical data

Power supply: ........................................... 24 / 100 / 110 / 115 / 230 / 240 VAC 50-60 Hz
Power consumption with rated load: max. 9, 2, 2 / 1, 9 / 1 / 0,9 A AC depending on the input voltage
Max. permissible compressive force: 3500 N per side (Optional 4500N)
Operating mode at max. rated load: intermittent duty AB 2 min / 18 min
Protection classification: I or II
Noise level: ............................................ \( \leq 65 \text{ dB(A)} \)
Current input of all slave drives: max. 8,5 A DC
Drive type: ............................................. dual drive
Drive options: ........................................ Monomat / Duomat / Triomat / Quadromat
Stroke \( * \) (other strokes on request): 87 – 69 (standard) / 74 / 64 / 48
Adjustment speed \( * \): up to 5,4 mm/s
Protection category: ................................... IP20
Colours: .................................................. see sales brochure

Dimensions and weights

Length x width of the drives: .......................................
Duomat 5: 751 x 175 mm
Duomat 6: 751 x 180 mm
Axle base: .................................................. 581 mm
Weight: .................................................... approx. 7,5 kg

Technical data of Emergency lowering

Voltage: ................................................... 1 or 2 block batteries, 9 V each depending on the version

Ambient and storage conditions

Room temperature: ...................................... from +10°C to +40°C
Rel. humidity: ......................................... from 30% to 75%
Barometric pressure: .................................... From 700 hPa to 1080 hPa

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1) Operating mode = intermittent duty AB 2 min / 18 min, i.e. run for 2 Min, max. under rated load, then a rest period of 18 min. must be observed, otherwise operational failure could occur!
2) According to regulations, no more than two drives may be run simultaneously at the rated load!
3) Stroke = maximum distance that the push block travels from the starting position in the retracted state to the end position in the extended state.
4) Adjustment speed = speed at which the push block travels without load (speed varies according to the load)

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**Duomat 6 (Example)**

(Figure: Duomat 6)

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**Only connect the components as shown!**

**Table:**

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dewert handset</td>
<td>e.g. Style, Balance</td>
</tr>
<tr>
<td>2</td>
<td>Duomat 6 dual drive</td>
<td>Duomat version</td>
</tr>
<tr>
<td>3</td>
<td>Emergency lowering (NAS)</td>
<td>optional (see page 10)</td>
</tr>
<tr>
<td>4</td>
<td>Cut-off plug (NFS)</td>
<td>optional (see page 10)</td>
</tr>
</tbody>
</table>
7. Design of the Drive System

a) Duomat 5 (Example)
(Figure: Duomat 7 as Quadramat 7 with 2 slave drives)

Only connect the components as shown!

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dewert slave drive</td>
<td>e.g. Megamat, Dymat</td>
</tr>
<tr>
<td>2</td>
<td>Dewert handset</td>
<td>e.g. Style, Balance</td>
</tr>
<tr>
<td>3</td>
<td>Dewert slave drive</td>
<td>e.g. Megamat, Dymat</td>
</tr>
<tr>
<td>4</td>
<td>Duomat 5 dual drive</td>
<td>Quadramat version</td>
</tr>
<tr>
<td>5</td>
<td>Emergency lowering</td>
<td>optional (see page 10)</td>
</tr>
<tr>
<td>6</td>
<td>Cut-off plug (NFS)</td>
<td>optional (see page 10)</td>
</tr>
</tbody>
</table>

4. Fitting

Included in the supply package is the Duomat 5/6, if necessary an auxiliary transformer and depending on the order a handset and one or two slave drives. The components are prewired and receive plugs ready to plug in.

With emergency lowering (NAS) one or two block batteries are attached externally to the drive.

When carrying out installation, make sure that the block batteries are not connected, as they could otherwise run down and as a result fail to supply the necessary power in an emergency situation.

a) Installation

Applying slight force, pull out engaged closer (1) until receivers (2) for the linkage levers are exposed.

Push the DUOMAT 5/6 with the receivers (2) onto the mounting (3). Note: this is only possible, however provided the application and the drive has travelled to the starting (home) position (see page 9).

Application

Slide the closers (1) back again until they engage.
b) Electrical connection

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

When routing the cables make sure that they
- cannot get entangled or trapped,
- are not subjected to mechanical loads (i.e., do not pull, apply pressure or bend),
- cannot get damaged in any other way.

Make sure that the cables, in particular the mains connection lead, are fastened to the bed with adequate strain relief and kink protection and that suitable constructional measures prevent the mains connection lead from trailing on the floor when the bed is being moved.

First connect the slave drives and controls, as shown (see page 14 and 15).

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Caution!
For your own safety!

Removing the mechanical connections between the mounting and drive system before the bed has been allowed to travel back to the horizontal starting position, presents a trap risk and hence a potential injury hazard.

Before opening the closers, it is therefore essential to allow the bed to first travel back to the horizontal starting position.

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6. Type Plate

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

Type designation

Item number

Intermittent duty 2 minutes/18 minutes

Stroke specification for hub and foot ends

Dewert logo

Graphical Symbols

- CE: Conformity marks
- Protection classification II
- IP20: Protection category
- Do not dispose of with the normal household waste
- Dual system
- 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.
e) 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

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 mains 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.

- Regular checks of the protective conductor resistance and leakage currents (by a specialist)

c) Dismantling

Operate the application to travel to the starting (home) position. Remove the leads from the respective plug sockets.

Support the drive (Duomat 5/6) before opening the closers (1) - once these are open, the drive is released immediately!

After dismantling, you should re-engage the closers (1) so as not to lose them.
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 nonprofessional operator of the end product.

a) Intermitent duty

Intermitent duty defines the maximum length of time that a drive can be operated without interruption. Following operation a specified rest period must be observed. In specifying the intermitent duty (AB), both values are stated as a ratio, 2 minutes continuous operation must be followed by a rest period of 18 minutes. If the operation time is shorter, the rest period is correspondingly shorter. It is essential that these instructions are observed, as any possible overloading could trigger the protective safety device.

b) Cut-off plug (optional)

Automatic bipolar isolation of the mains transformer from the mains is achieved via a switching element. Connection to the mains is not made until a drive movement is initiated by pressing a key on the handset. This technology is used with slatted bed frame drives and in the case of standard transformers considerably reduces electromagnetic interference fields and the standby power absorption. This kind of mains cut-off is not to be understood as a "main command device" as defined by DIN (German Industrial Standards) and VDE regulations. To disconnect the drive system, you must therefore always unplug from the mains. Before carrying out any work on this equipment, the working current to the drive system must always be cut off. Unplug from the mains (safe switch-off as defined by DIN VDE 0105 and BGVA2 (formerly VBG 4)).

c) Emergency lowering (optional)

The emergency lowering facility allows a drive system to be operated in the event of a power failure. Depending on the version involved, the Duomat 5/6 is powered via one or two 9V block batteries. Due to the greatly limited capacity of the power source, drive movement via emergency operation is only possible once. Afterwards the block batteries must be replaced in order to guarantee emergency lowering the next time it is needed. Particularly attention must be paid to the fact that in many cases drive movement under load is not possible. Take care to ensure that the batteries are only connected just before the application is put into service.

d) Handset (example)

The Handset of the Duomat 5/6 can be equipped with up to 12 adjustment keys. The keys are explained as follows:

![Handset Diagram]

Some handset types feature a function LED. This lights up when a key is pressed. Depending on the optional extras included with the drive or the connection possibilities for slave drives (Triomat 5/6, Quadromat 5/6), the keypad is equipped with more keys accordingly.