



# Instructions for use

*Z Field* Dual (MFG-03)

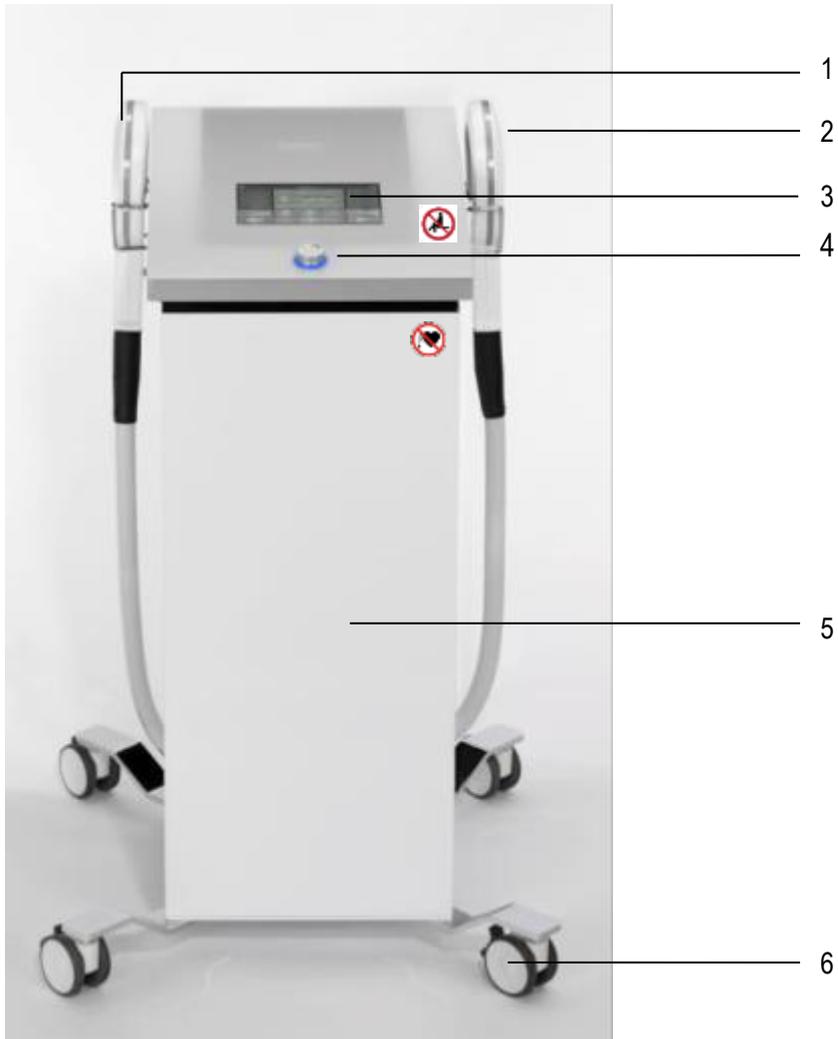


Zimmer

# Illustrations

Front of the device

Fig. 1 Front of the device

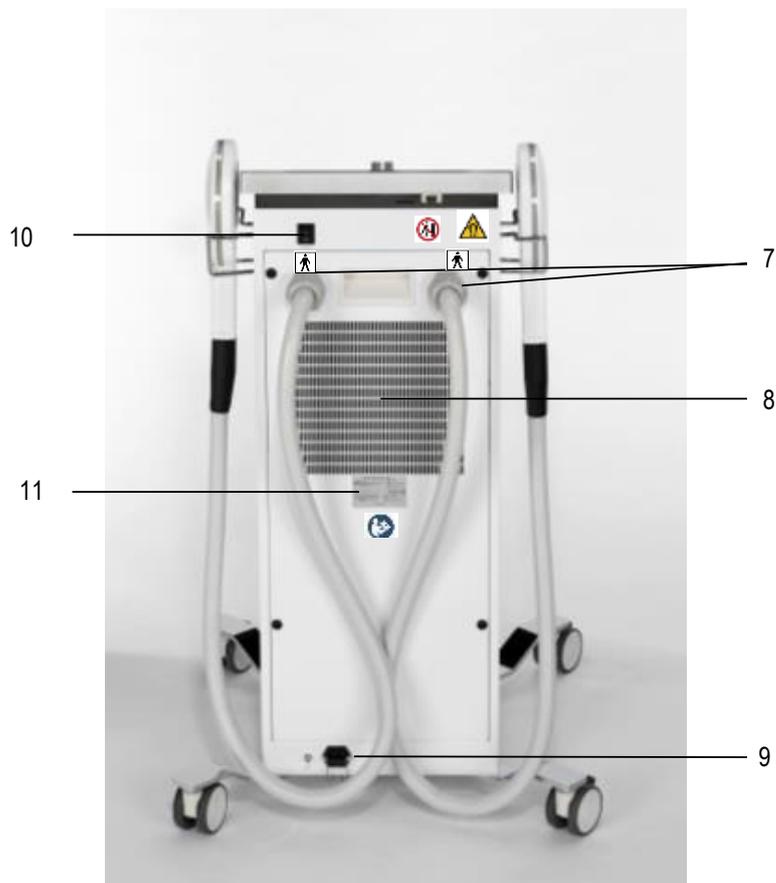


- 1 Applicator, left side
- 2 Applicator, right side
- 3 Display
- 4 Central control knob
- 5 Control unit
- 6 Swiveling castors

## Illustrations

### Rear of the device

Fig. 2 Rear of the device

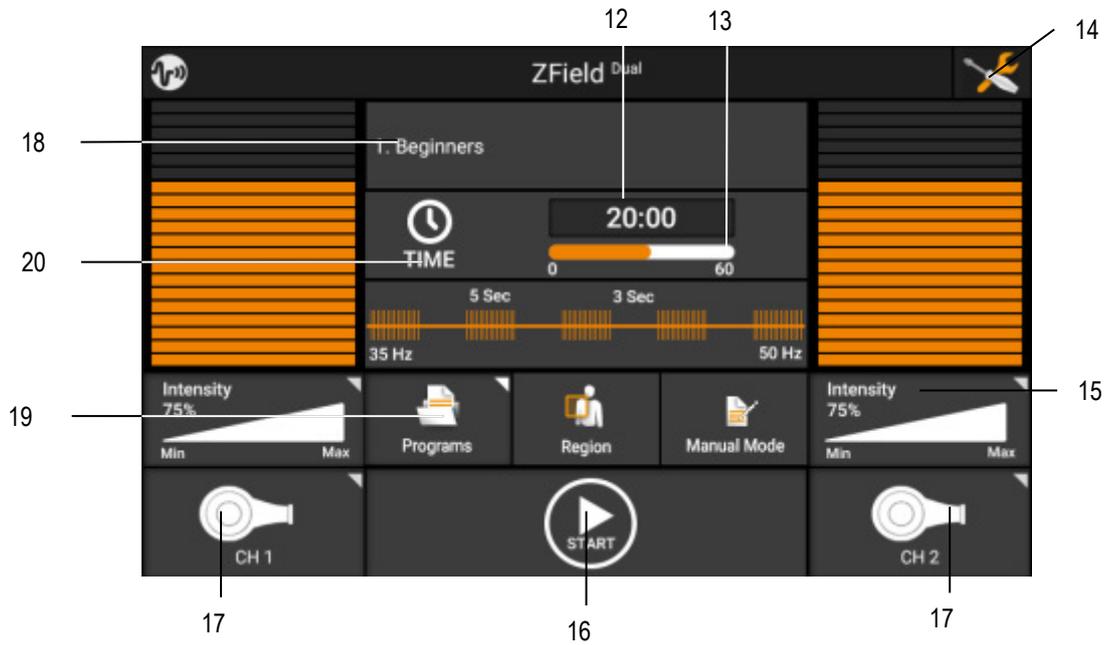


- 7 Connections for applicator hose
- 8 Ventilation grid
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# Illustrations

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Fig. 3 Screen and displays



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Fixingbelt

## Explanation of symbols



In the instructions for use, this symbol indicates "**Danger**".

**Caution!**

In the instructions for use, this symbol warns of "**caution**" regarding possible damage to the device.



Applied part of type BF



Consult instructions for use



Follow the instructions for use



No access for people with pacemakers



Do not push the device



Do not sit on the device



Warning, magnetic field



Protective earth



Serial number



Catalogue number



Manufacturer



Date of manufacture

## Explanation of symbols



Disposal of electrical and electronic equipment as well as used batteries and accumulators. This product must not be disposed of with household waste.



Washing, maximum 40°C



Do not bleach



Do not dry clean



Do not tumble dry



Do not iron



Do not stack



Keep dry



Fragile; handle with care



Temperature limit



Temperature limit



This way up



Danger or Warning - Systemic health hazards

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Rear of the device  
Screens and displays  
Accessories

## Explanation of symbols

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Valid for *Z Field Dual* (MFG-03) devices.

These operating instructions form part of the device. They must be stored together with the device and kept accessible at all times to all persons who are authorised to operate this device.

Information as of March 2021.

<b>Indication</b>	Muscular atrophy												
<b>Recommended application</b>	To strengthen and tighten the abdominal, gluteal and thigh muscles.												
<b>Operating environment</b>	<i>Z Field Dual</i> is only to be used in medical facilities. The device is intended for indoor use.												
<b>Contraindications</b>	<ul style="list-style-type: none"><li>• Placing an active applicator over implanted electrical devices like pacemakers, cochlear implants, intrathecal pumps, hearing aids etc.</li><li>• Be ensured that magnetic stimulation doesn't penetrate the heart region.</li><li>• <i>Z Field Dual</i> should be used with caution in persons with Grave's disease, active bleeding disorders or seizure disorders.</li><li>• Women who are close to menstruation may find that it comes sooner or cramping is increased / intensified with <i>Z Field Dual</i> treatments, therefore we recommend not undergoing treatment during this time of the month.</li></ul> <p>Other contraindications to treatment include the following:</p> <ul style="list-style-type: none"><li>• Fever</li><li>• Application over menstruating uterus</li><li>• Application over areas of the skin that lack normal sensation</li><li>• Metal or electronic implants in the treatment area</li><li>• Cardiac pacemakers</li><li>• Implanted defibrillators</li><li>• Implanted neurostimulators</li><li>• Drug pumps</li><li>• Malignant tumor</li><li>• Hemorrhagic conditions</li><li>• Epilepsy</li><li>• Recent surgical procedure</li><li>• Application in the area of growth plate</li><li>• Pulmonary insufficiency</li><li>• Application in the head area</li><li>• Pregnancy</li><li>• Sensitivity or allergy to latex</li></ul> <p>In persons with Graves' disease, active bleeding disorders or seizure disorders, the <i>Z Field Dual</i> should be used with caution.</p>												
<b>Intended patient group</b>	<table><tr><td><u>Age:</u></td><td>18+</td></tr><tr><td><u>Gender:</u></td><td>Male and female, diverse</td></tr><tr><td><u>Nationality:</u></td><td>no restriction</td></tr><tr><td><u>Ethnic affiliation:</u></td><td>no restriction</td></tr><tr><td><u>Skin colour:</u></td><td>Light and dark-skinned</td></tr><tr><td><u>Weight:</u></td><td>All weight classes</td></tr></table>	<u>Age:</u>	18+	<u>Gender:</u>	Male and female, diverse	<u>Nationality:</u>	no restriction	<u>Ethnic affiliation:</u>	no restriction	<u>Skin colour:</u>	Light and dark-skinned	<u>Weight:</u>	All weight classes
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<u>Weight:</u>	All weight classes												

**Side effects**

There are no reports of side effects. However, if the patient experiences abnormal symptoms, the operator must stop treatment immediately and contact the appropriate physician.

The adverse effects may include, but are not limited to:

- Muscular pain
- Temporary muscle spasm
- Temporary joint or tendon pain
- Local erythema or skin redness
- Premature menstruation and/or lower abdominal cramps



The users of the *Z Field Dual* must have read the instructions for use prior to the first use of the device, including the treatment methods, indications, contraindications, warnings and application information.



Do not place any ferromagnetic or metallic materials, data carriers (credit or debit cards, USB sticks, etc.) or electronic devices (mobile phones, tablets, watches, PCs, etc.) and other device applicators or accessories in the vicinity (less than 1 meter) of the applicators. Do not place the device near other devices that generate a strong electromagnetic field (diathermia, X-rays, mobile phones, high frequencies), in order to prevent mutual interference to functionality. If this happens, place the unit further away from the source of interference or contact an authorised member of service staff.



Make sure that people with pacemakers are not near the device when it is in use.



It is forbidden to push the device if castors are not in transport position.



Sitting on the device is prohibited.



Before use, make sure that the device is supplied with power via a properly earthed plug with a safety plug (electrical installation in accordance with DIN VDE 0100 Part 710). The device must only be operated with the supplied mains cable. The mains cable must be protected against mechanical stress.



Use of this device in the presence of strong electromagnetic fields (e.g., tomographs, X-ray or diathermia devices) may impair the operation of the device.



During use, the device should be placed so that direct access to the central power supply of the device is possible, so that it can be disconnected from the mains at any time.



To avoid the risk of electric shock, the mains plug of the device must be disconnected from the mains before maintenance and cleaning work.



The *Z Field Dual* is not suitable for use in explosive, inflammable or combustible environments.



Check the device before use. If damage can be seen on it, it must not be used.



Only accessories from Zimmer MedizinSysteme GmbH may be used.



The patient should not be left unattended during treatment.



The device is intended for use by medical professionals only.



All treatment instructions regarding treatment location, duration, and intensity require medical knowledge and should be issued by authorised physicians, therapists, and medical assistants. It is imperative that these instructions are followed.



Please refer to chapter 16, Material Safety Data Sheet, in case of leaking oil or contact your service engineer.



In case of leaking oil, please wear gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons, while cleaning.  
Ventilate the room in case of leaking oil.  
Disposal of the gloves and the oil-soaked cloth according to local regulations. Do not dispose of in domestic waste.



It is not permitted to use the device in a wet area; if this is disregarded, this may result in considerable damage to the device and endanger both the patient and the user.



Packaging materials must be disposed of properly. It is important to ensure that these are not accessible to children.

#### Intended Use

Z Field *Dual* is an electrically operated medical device and provides electromagnetic impulses. Z Field *Dual* generates an electromagnetic field and is able to contract/stimulate the muscles.

#### Intended Purpose

An electromagnetic field is generated by electricity. These impulses are delivered to the muscle tissue via the applicators.

The muscles respond to the non-invasive, pulsed electromagnetic impulses and cause repeated contractions of the muscle tissue. Based on the frequencies and intensities used, these contractions can be adjusted to different strengths. The effect is based on the principle that repeated contractions of muscles leads to muscle.

What are the advantages of the Z Field *Dual*?

- Non-invasive treatment
- Deep penetration of a pulsed electromagnetic field of 1.0 Tesla per applicator
- Touch screen display for easy operation
- Broad range of possible applications

What other advantages does the Z Field *Dual* offer?

- Safe application
- No downtime
- Virtually painless
- Short treatment times.
- Easy to operate

#### Note:

*The device is intended solely for use by specialist healthcare professionals (e.g., doctors, therapists, medical assistants).*

### Caution!

After transport and before switching on the device, make sure that the swivel wheels are in the "locked" position.

### Note:

*Make sure the Z Field Dual is on a stable and level surface.*

### Connecting the mains cable

Plug the mains cable (21) into the socket on the device (9) as shown below and connect it to the mains.



The device may only be connected to earthed sockets.

### Switching on the device

Switch on the device using the on/off switch (10).

### Caution!

Note that connecting the mains cable while the on/off switch is on may cause malfunctions.

### Caution!

If the applicator is used in a slanting position, the cooling oil does not reach all areas of the applicator and damage is caused due to overheating. For this reason, it is recommended to place the applicator in a horizontal position if possible.

### Switching the device off

The device is switched off using the on/off switch (10).

In order to completely disconnect the device (all-phase) from the mains, remove the mains cable.

**Home screen**

When the device is switched on, a self-test is carried out and the home screen opens.

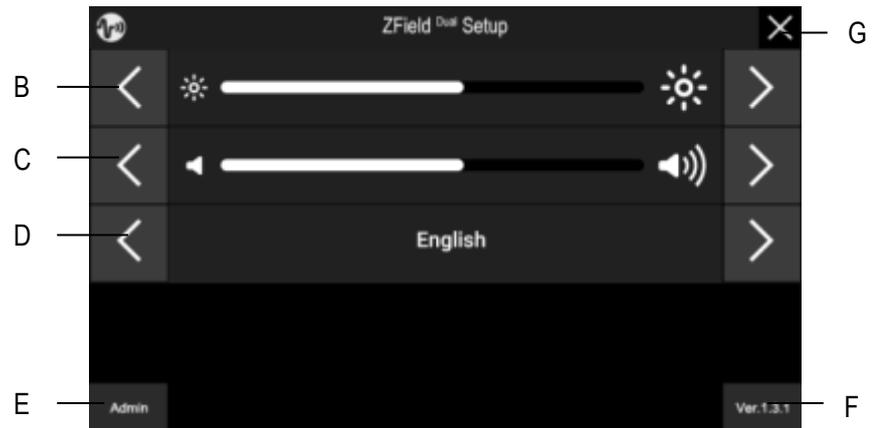
**Default screen**

After performing the self-test, the Z Field Dual will automatically switch to the default screen.

**Selecting the configuration**

By pressing the configuration button (A), you will immediately switch to the configuration menu.

## Configuration menu



- (B) Brightness** Adjust the brightness using the arrow keys to the left and right.
- (C) Volume** Adjust the volume using the arrow keys to the left and right.
- (D) Language** Select the language using the arrow keys to the left and right.
- (E) Administrator** Only for service partners
- (F) Version** Displays information about the current software version.
- (G) Close** Closes the configuration menu and saves changes.

**Description of the device** Z Field *Dual* consists of a main body and two equally sized applicators that are connected to it.



The input power for this device is 230 V AC.



The repair, enhancement and installation of the device may only be carried out by specialists who have been authorised by the manufacturer. Unauthorised disassembly/assembly of devices by the user is strictly prohibited.



Since a strong magnetic field is generated around the area of magnetic field generation, device operators, assistants and patients must not carry any objects on them that may be affected by the magnetic field.

**Note:**

*When operating the device, do not use objects such as wristwatches, mobile phones, radios, transmitters, or wireless toys as they can be damaged by magnetic fields. Please therefore be careful and keep these devices separated from one other.*

**Note:**

*While the device is in operation, the patient should not consume any drinks, water, etc., that may affect the device.*

Z Field *Dual* monitors the temperature of the applicator. In addition, the device checks the connection between the applicator and the main unit at regular intervals. If an error message appears, please refer to chapter 14.

## Placing the applicator

Place the applicators onto the treatment area so that the connection cables face the foot end. Secure the applicators using the fixingbelt supplied with the device.

The fixingbelt is available in *S* and *M* versions. The larger one is for the abdomen and buttocks area and the small one is for the legs.



The fixingbelt serves to fix the applicators and helps to minimize the movements of the applicators during the treatment.

The applicators should be placed into the pocket of the fixingbelt. The underside of the applicators should be in complete contact with the fixingbelt.

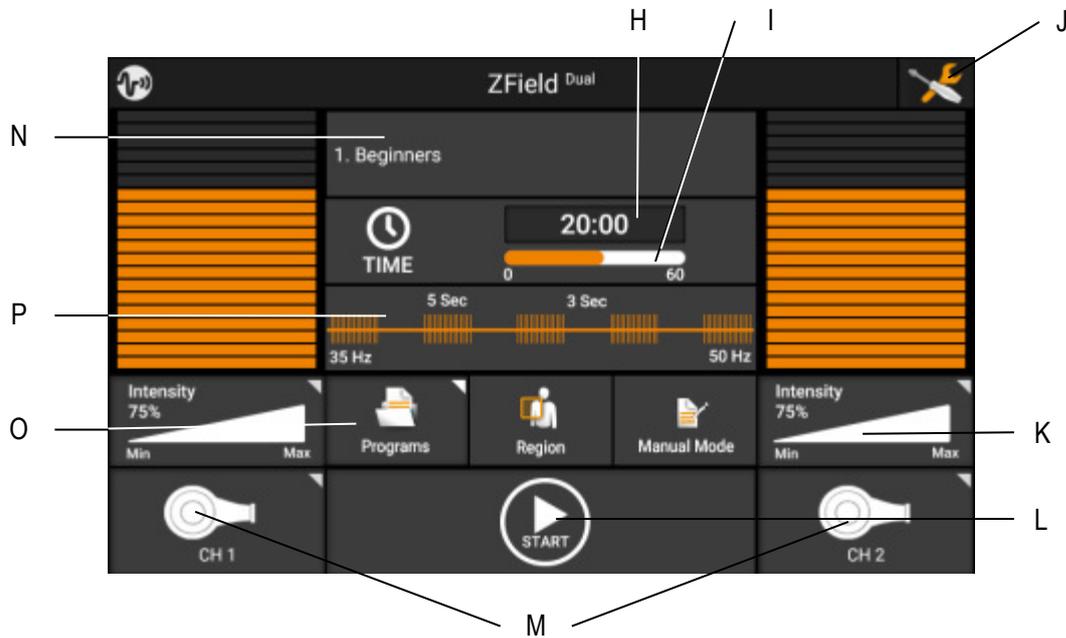


Before applying the fixingbelt, always check the Velcro™ closures are working!

It should be applied by an expert.



In case the fixingbelt has not been put on correctly, do not try to move the fixingbelt by tugging, as the elastic material might be damaged. So open the fixingbelt again and put on once more.



- (H) Time remaining**                      Shows the progress of the treatment time in a graphic representation.
  
- (I) Total operating time**                At the beginning: displays the total treatment time.  
During operation: counts down the treatment time.
  
- (J) Configuration menu**                See chapter 5, settings for setting options.
  
- (K) Intensity**                              After pressing the start button: displays the applied intensity in graphic form and as a percentage (0 – 100%).  
Set (adjust) intensity using the central control knob (4). To increase the intensity, turn to the right and/or to decrease the intensity, turn to the left.
  
- (L) Start/stop**                            After pressing the start button, the applied programme starts. The total treatment time will be counted down to 0. The text on the start button changes to STOP. Pressing this button again will stop the treatment and reset the treatment time as well as the applied energy.
  
- (M) Channel selection**                Selection of channel 1 and/or channel 2. Channels can be operated simultaneously or individually. The small triangle in the corner indicates that the channel is active.
  
- (N) Applied programme**                By pressing one of the programme buttons (O) and then selecting one of the stored programmes using the central control knob (4), the selected mode will be displayed in the mode selection window in the bottom left part of the display.
  
- (O) Mode selection**                      Programme and region modes are pre-set with parameter values. Manual mode has configurable programmes.
  
- Programms mode**                        Programms mode offers the user four pre-programmed recommended applications. The programmes are divided into the levels "Beginners", "Standard", "Professionals" and "High Intensity". These programmes are not adjustable.

## Region mode

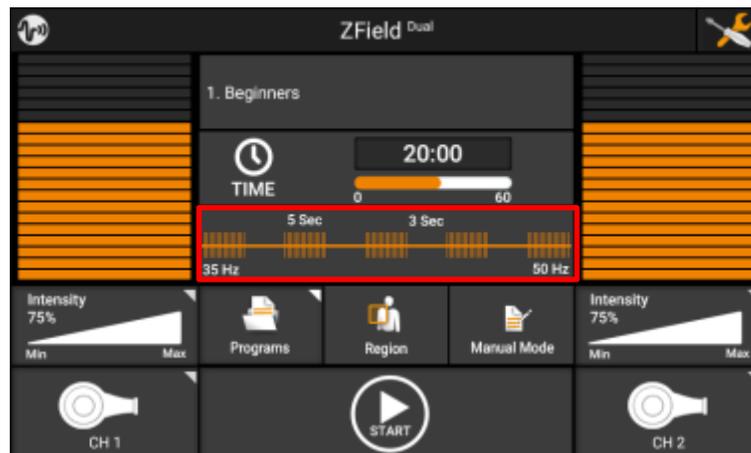
The region mode has four pre-programmed recommended applications. The regions are regions of the body: "buttocks", "abdomen", "legs". These programmes are not adjustable.

## Manual mode

The manual mode has five freely storable modes and allows one to create individual protocols for patients and treatment.

## (P) Programme information screen

If the *program* or *region mode* is selected, this screen displays an animation. When *manual mode* is selected, this screen displays a graph representing the selected parameters.

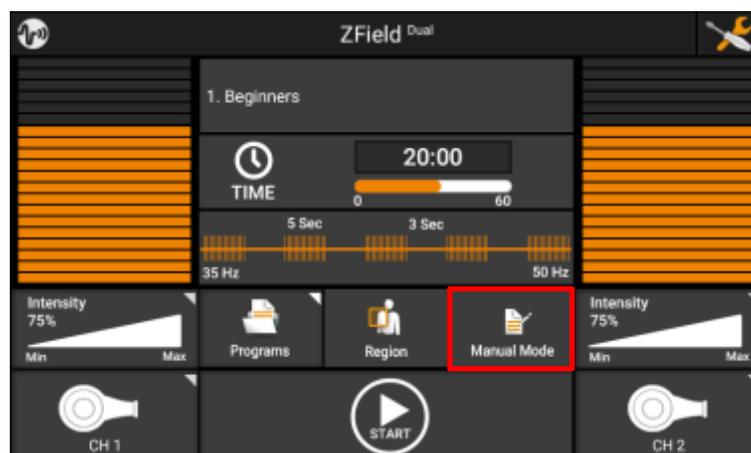


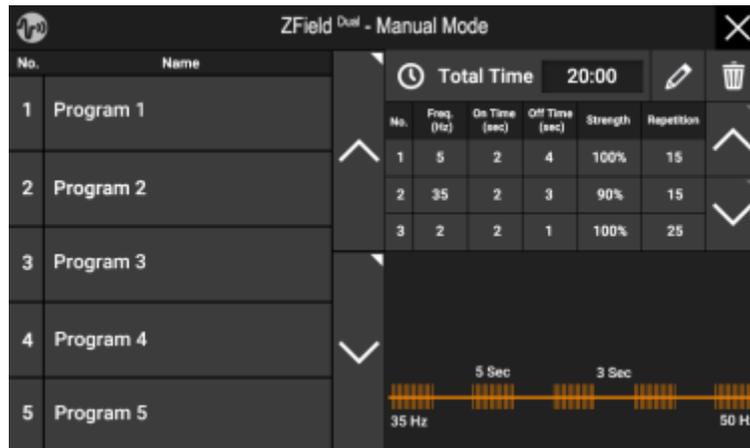
## Manual mode

The manual mode has five freely storable modes; the user can set the parameter values directly. The setting ranges for the parameters are as follows:

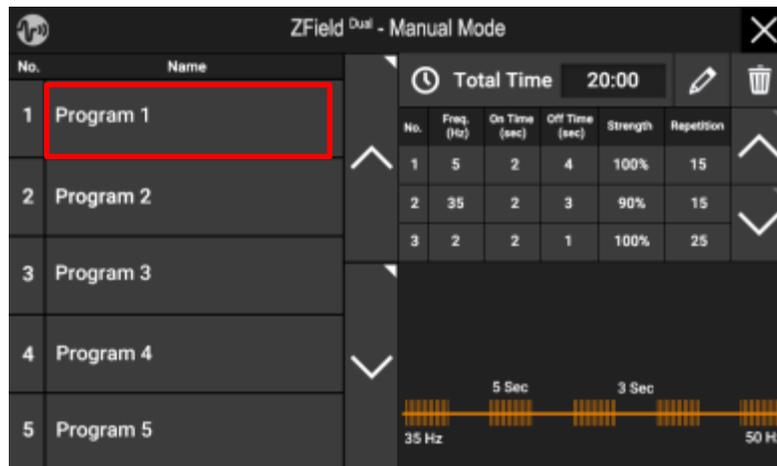
- Frequency: 1 – 150 Hz
- On time: 1 – 4 s (the setting ranges differ depending on the value of the frequency.)
- Off time: 0 – 10 s (the setting ranges differ depending on the value of the frequency)
- Strength: 1 – 100% (this is the multiplication factor of the main magnetic field strength.)
- Repeat: 1 – 100 cycles

To change the settings, press *manual mode* on the touch screen for 2–3 seconds. The parameter values can now be set

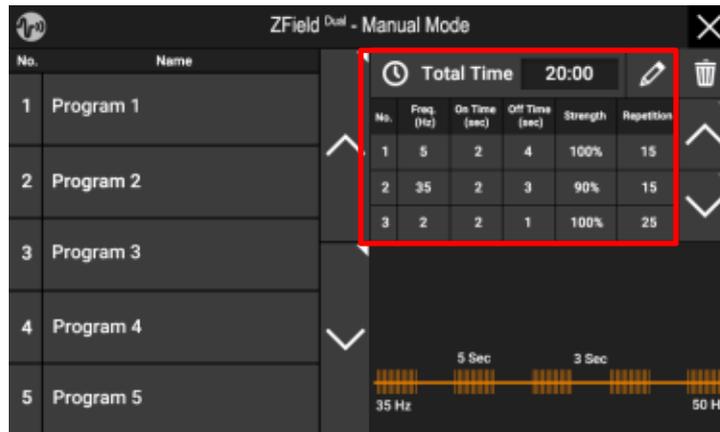




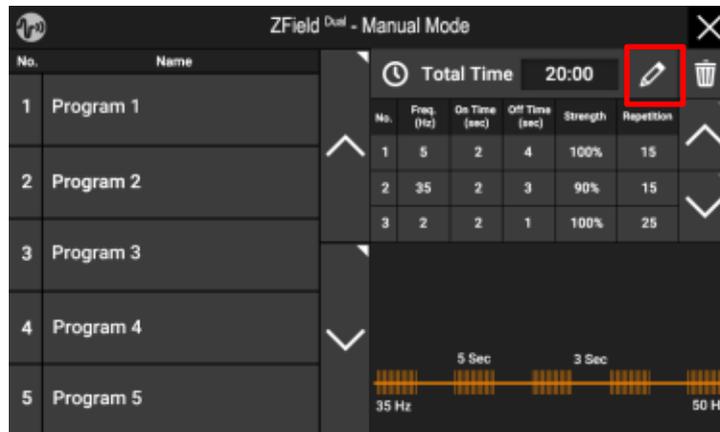
After the parameter setting screen appears, the user can set the parameter values. After pressing Name for about 2 seconds, an on-screen keyboard appears and the pre-programmed name can be changed.



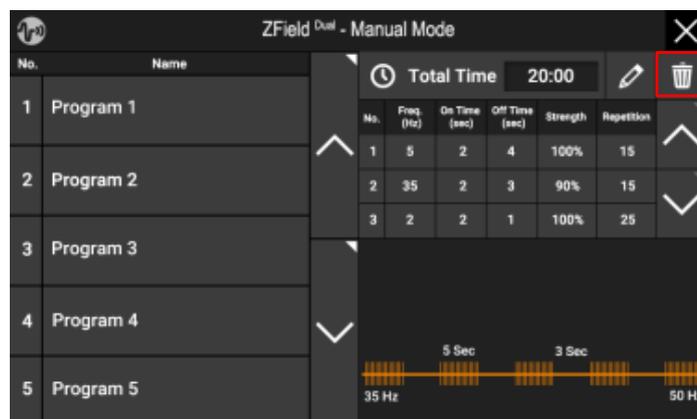
Pressing the Parameter section will display the settings screen and the parameter values will change.



Select the parameter to be modified. Freq1, on time, off time, strength and repetitions can be set in this mode by changing the parameter values on the central control knob (4).



Each mode has 5 sub-modes with different parameter sets. The manual mode works sequentially from sub-mode 1 up. Pressing the pen icon at the end of the parameter setting screen at the top right adds a sub-mode.



To remove a sub-mode, select the sub-mode in question and press the rubbish bin icon in the top right corner.

After entering the name and parameter values for the manual mode programme, click the close icon (X) at the top right to close the parameter settings screen.

<b>Power supply</b>	Input power: 220–240 V 50/60 Hz Power consumption: max. 2,2 KVA
<b>Mains fuse</b>	16 A circuit breaker in mains switch
<b>Protection class</b>	Class 1
<b>Applied part</b>	Type BF
<b>Dimensions</b>	542 (L) × 501 (W) × 993 (H) mm
<b>Weight</b>	About 60 kg
<b>Operation</b>	Magnetic field strength: <ul style="list-style-type: none"> <li>- Channel 1: 0.5-1.0 T ± 20%</li> <li>- Channel 2: 0.5-1.0 T ± 20%</li> </ul> <p>Modes:</p> <ul style="list-style-type: none"> <li>- Programme mode: A1–A20</li> <li>- Region mode: M1–M20</li> <li>- Manual Mode: U1–U20</li> </ul>
<b>Transport</b>	Transport the device in an upright position 1 unit of packaging, 1 device
<b>Environmental conditions for operation</b>	<ul style="list-style-type: none"> <li>- Temperature: 10 ° – 30 °C</li> <li>- Humidity: 30 % – 85 % RH</li> <li>- Air pressure: 700 hPa – 1060 hPa</li> </ul>
<b>Environmental conditions for Storage and transport</b>	<ul style="list-style-type: none"> <li>- Temperature: 0 ° – 60 °C</li> <li>- Humidity: 10% – 90% RH</li> <li>- Air pressure: 700 hPa – 1060 hPa</li> </ul>
<b>Sound Power Level</b>	<70 dB(A)

*Note:* Storage and transport in original packaging only.

**Subject to technical changes.**



Before starting cleaning work, always turn off the device at the main switch and unplug the mains cable.

Make sure that no liquids get into the device during cleaning and disinfection. Please do not use sprays.

If liquid gets into the device during cleaning or disinfection, please take the device out of operation, protect it from being reused, and contact your service partner.

When cleaning and disinfecting, make sure that the device labels (e.g., warnings, control unit sticker, identification plate) are not damaged.

The device and its applied part are considered to be "non-critical" in terms of hygiene when used on uninjured and healthy skin.

## Fixingbelt

Components of the fixingbelt:

- Cotton
- Rayon
- Perlon
- Elastane

Instructions for care:



Close Velcro™ fasteners before washing. Wash after each patient and at the end of the day.

## Mechanical cleaning of the fixingbelt

### Pre-treatment:

It is recommended to wash the fixingbelts with flowing lukewarm water to remove rough soiling to prevent it from drying.

### Needed aids:

- Washing machine for chemical disinfection
- Laundry net
- Disinfectant detergent which is compatible to the components of the fixingbelt (see above) and that has a validated disinfecting effect at 40°C (e.g. Eltra 40 Extra)

### Cleaning / Disinfection:

It is recommended to clean and disinfect the belt before each patient and at the end of the day.

1. Put the fixingbelts in a suitable laundry net. Do not stuff the belts so as not to impair the effectiveness of the laundry.
2. Wash the fixingbelts with a suitable combination of temperature (max. 40°C) and time according to the instruction of the detergent's manufacturer (e.g. Eltra 40 Extra for 20 minutes; load ratio: 1:5)
3. Rinse the fixingbelts in the machine (3 rinses at 3 minutes each)
4. Spin the fixingbelts for pre-drying (e.g. 3 minutes at 930 min<sup>-1</sup>)

## Caution!

If the rinsing time is shorter, residues of the disinfectant detergent may remain in the fixingbelts, which may lead to skin irritation in the patient.

### Drying:

Do not tumble dry as material will get brittle and the fixingbelts will get punctured. Dry the fixingbelts in a dust-free area on an absorbent textile underlay until touch-dry.

**Monitoring:**

1. Check whether the fixingbelts are free from punctures or other damaged areas.
2. Check whether the fixingbelts show uniform thickness over the entire surface.

**Packaging:**

Pack the fixingbelts in cloth or foil pouches or other suitable dust cover to protect them from dust and dirt.

**Reusability:**

Over time, it can – depending on use and treatment – come to the destruction of the material.

Once the fixingbelts are punctured, worn, have optical damages, have non-removable contaminations or the Velcro™ is not functional anymore, please do **not** reuse them. In case the label is torn off, please do not reuse the fixingbelt.

## Housing/applicator

**Cleaning:** if there is visible contamination, the housing, the applicator and all cables can be cleaned with commercially available, mild, non-alcoholic plastic cleaners. Wipe the surface with a soft cloth that has been soaked in the detergent according to the manufacturer's instructions, but is not dripping wet, until the dirt is removed.

**Disinfection:** we recommend disinfecting at a minimum after each patient and at the end of the day and whenever there is evidence of possible contamination. Contact your health expert on this topic. Always perform cleaning prior to disinfection.

The housing and applicator can be disinfected with disinfectant wipes. For metal and plastic, use a commercially available, non-alcoholic disinfectant with bactericidal, virucidal and fungicidal properties. Please observe manufacturer's instructions for use. Wipe all surfaces with a cloth soaked in the disinfectant according to the manufacturer's instructions, but not dripping wet, or with a cloth that is pre-impregnated with disinfectant.

If applicable, also observe the requirements for drying or subsequent cleaning.

**Caution:** If inflammable solutions are used for cleaning and disinfection, sufficient time must be allowed for the solutions to evaporate before using the device. Otherwise fires may be caused!

**Note:**

*Only use the device in a hygienic environment.*

The product Z *Field Dual* (MFG-03) bears the CE marking



in accordance with EC Directive 93/42/EEC concerning medical devices.

### Manufacturer

Zimmer MedizinSysteme GmbH  
Junkersstraße 9  
89231 Neu-Ulm, Germany  
[www.zimmer.de](http://www.zimmer.de)

## Scope of delivery Catalogue number

<b>5033</b>	1 Z <i>Field Dual</i> with:
10102932	1 instructions for use
67300124	1 mains cable
54209420	1 Fixingbelt S (50-70 cm)
54209430	1 Fixingbelt M (80-105 cm)

## Accessories Catalogue number

10102932	1 instructions for use
54209420	1 Fixingbelt S (50-70 cm)
54209430	1 Fixingbelt M (80-105 cm)

**Subject to technical changes.**

**Note:**

*The device may only be operated with original Zimmer MedizinSysteme GmbH accessories. Otherwise, the function and the safety of patients, users and others cannot be guaranteed.*

**Device combinations** No combination devices are offered by the manufacturer for the *Z Field Dual*. Anyone who combines devices in contravention of this guideline and thus operates a medical system does so at his or her own risk.

### Safety and maintenance

*Z Field Dual* is manufactured according to the safety regulations of standard IEC 60601-1 ed. 3.1.

As a manufacturer, Zimmer MedizinSysteme GmbH can only be held responsible for safety and reliability if:

- the device is operated at a properly earthed socket and the electrical installation complies with DIN VDE 0100 part 710,
- the device is operated in accordance with the instructions for use,
- enhancements, readjustments or changes are only made by persons authorised by Zimmer MedizinSysteme GmbH,
- before using the device, the user has satisfied himself that it functions safely, is in a proper condition and displays mechanical integrity,
- the device is operated only by personnel, who has read and understood the instructions for use,
- the device is not operated in dangerous places and/or in an explosive atmosphere,
- the device is immediately disconnected from the mains when liquid gets into it. The device contains no parts that can be serviced by the operator.

The device contains no parts that can be repaired by the operator.



Modification of this device is not permitted.

Maintenance and replacement of components may only be performed by service technicians from Zimmer MedizinSysteme GmbH.

### **Routine inspection of the system**

The sheathing of the device's power supply line, the applicator connection cable, etc., must not be allowed to come loose, and the inner wires must not be exposed or damaged by external impact.

The applicator should not show any traces of oil leaks.

Wipe the outside of the device so that there is no foreign matter.

The device operation button, etc., must not be loose.

The various parts attached to the device must not be loose.

If any of the above occur, please ask your service partner for help.

### **Safety check**

To ensure safe use, internal cleaning should be performed once a year by a person authorised by Zimmer MedizinSysteme GmbH.

To ensure safe use, have the system, including its internal components and output voltage, checked once a year by a person authorised by the company.

Please clean the applicator before storing it.

Check the device before use if you have had it in storage for a long time.

Please note the following directions concerning storage conditions:

- Protect against water
- Keep away from direct sunlight
- Do not store near heaters
- Avoid locations exposed to excessive impacts or vibrations, chemicals or explosive gases.

### **Troubleshooting**

If the device does not operate properly during use, please check the points listed in the table before requesting service. If none of the following problems has occurred or the subsequent actions do not help, turn off the device and contact your service partner.

The Z *Field Dual* is listed in attachment 1 of the MPBetreibV (Medical Devices Operator Ordinance). Please observe the measures which are necessary as a result.

The device is not listed in attachment 2 of the MPBetreibV.

In Germany, the German Social Accident Insurance (DGUV) Regulation 3 (Electrical systems and equipment), as amended, must also be observed.

**Note:**

*These requirements apply to operation of the device in Germany. Different regulations may apply in your country.*

## Error messages

Messages:

### Overheating

*Z Field Dual* is a device that generates a magnetic field by applying high current to an applicator. While the applicator generates heat due to the high current used to generate the magnetic field, it is cooled by means of cooling oil being circulating inside the *Z Field Dual* applicator. If the applicator is used in a slanting position, the cooling oil will not reach all areas of the applicator and this may result in injury or cause operation to be interrupted. For this reason, it is recommended to place the applicator in a horizontal position. If the applicator overheats, operation will be temporarily suspended and the *Overheating* message will be displayed (see 23). If this message appears, remove the applicator from the patient for a while (do not turn off the device) until the message disappears and the device returns to a normal state.



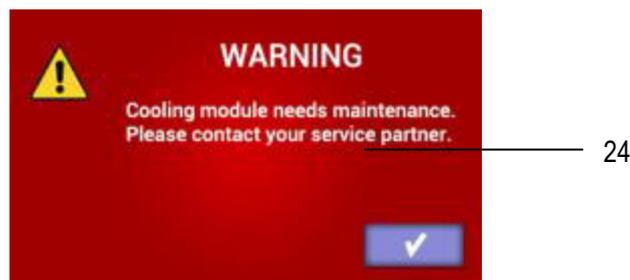
## Caution!

It is strongly recommended to place the applicator in a horizontal position.

### Lifespan of the cooling unit

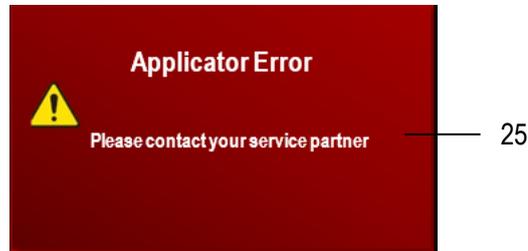
*Z Field Dual* uses an oil pump for cooling purposes. This component is a consumable component with a warranty of 5000 hours. After 5000 hours, the Cooling unit message will appear (see 24). This is not an error, but a maintenance notification. Touch the control panel and the device will return to a normal state.

By replacing the component by service personnel, unexpected failures can be avoided.



### Applicator error

The Z Field <sup>Dual</sup> always checks the connection of the applicator cable. If the cable is disconnected or damaged, the message shown in 25 will appear. In this case, the device may no longer be used. Please contact the authorised service staff of our local distributor.



**Note:**

The Z Field <sup>Dual</sup> always checks the connection status of the cable connected to the applicator.

### Self -help with troubleshooting

Symptom	What should I do?	Notes in the operating instructions
The device does not switch on.	Check that the device's mains cable is properly connected.	Chapter 4; Setting up the device
	Check whether the on/off switch of the device is switched on.	Fig. 2; Rear of the device
The device does not generate a magnetic field.	Check if an ERROR message appears on the LCD screen.	Chapter 14, Error messages and troubleshooting
	Check that the output level is set by pressing the start button and then turning the knob.	Chapter 6, Operating instructions
The message Overheating will be displayed.	When the applicator is in an upright position, the applicator overheats easily. If possible, place the transducer in a horizontal position.	Chapter 14, Error messages and troubleshooting
	If the room temperature is too high, this may cause cooling problems. If possible, keep the room temperature below 25°C	Chapter 14, Error messages and troubleshooting
<p><b>In the following cases, stop operation by disconnecting the device's power supply and contact the service centre.</b></p> <ul style="list-style-type: none"> <li>• The on/off switch switches off unprompted.</li> <li>• The LCD screen of the control panel does not light up when the device is turned off and then on again.</li> <li>• The applicator does not generate any stimulation, even if the intensity is increased.</li> <li>• The temperature icon on the screen flashes and the device is not in operation.</li> </ul>		
<p><b>Regular inspection to maintain performance</b></p> <p>To ensure safe use, have them inspected regularly by an authorized person, at least once a year once a year.</p>		



- Customer service** It is essential that you notify technical support / customer service of any problems that occur frequently or cannot be resolved.  
Technical support / customer service can be reached via the head office in Neu-Ulm.
- Head office** Zimmer MedizinSysteme GmbH  
Junkersstraße 9  
89231 Neu-Ulm  
Germany  
Tel. +49 731 / 9761-291  
Fax +49 731 / 9761-299  
export@zimmer.de  
www.zimmer.de
- Device Disposal** The device must be returned to the factory.  
It must be disposed of by Zimmer MedizinSysteme GmbH.
- In (European) foreign countries, please observe the national disposal regulations.  
If necessary, contact the distributor.

The MFG-03 is developed according to the recognized standards of technology; the information on the intended use of the components is taken into account.



The MFG-03 must not be operated near active HF surgery devices or magnetic resonance tomography that can cause high levels of electromagnetic interference.



The MFG-03 is exclusively for professional health care facilities such as hospitals provided and tested.



The MFG-03 has no essential performance features that could be caused by electromagnetic interference.



**WARNING:** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

The electromagnetic compatibility of the MFG-03 device has been tested on the original device with handpiece



**WARNING:** Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emission or decreased electromagnetic immunity of this equipment and result in improper operation.

The device MFG-03 contains no interchangeable components, cables or other that leads to a deterioration of the EMC.



**WARNING:** Portable RF communication equipment (including peripherals such as antennas) should be used no closer than 30 cm (12 inches) to any part of the device MFG-03 including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.



The device was tested for RF immunity only at selected frequencies. Nearby transients at other frequencies may result in degraded operation. The frequencies tested are listed in Table 4.

The MFG-03 is developed according to the recognized standards of technology; the information on the intended use of the components is taken into account.

The device MFG-03 does not contain any components which age over the course of the device life time and could lead to a deterioration of the electromagnetic compatibility. Thus, no maintenance is required during the life of the device to ensure basic safety. All tests according to standard IEC 60601-1-2 Ed. 4.0 were performed. No other standards and regulations for electromagnetic compatibility have been applied.

Table 1

<b>Guidance and Manufacturing Declaration- Electromagnetic Emissions</b>		
<b>The device MFG-03 is intended for use in the electromagnetic environment specified below. The customer or user of the device MFG-03 should ensure that it is used in such environment.</b>		
<b>Emission Measurement</b>	<b>Compliance</b>	<b>Electromagnetic Environment-Guidelines</b>
RF Emissions in accordance with CISPR 11	Group 1	The device MFG-03 must emit electromagnetic energy in order to ensure its intended function. Nearby electronic equipment may be affected.
RF Emissions in accordance with CISPR 11	Class A	The quality of the supply should correspond to that of a typical business or hospital environment. If the user of the MFG-03 requires continued function even if interruptions in the power supply occur, it is recommended to power MFG-03 from an uninterruptible power supply or a battery.
Emissions of Harmonics in accordance with IEC 61000-3-2	Class A	
Emissions of voltage fluctuations/ flickers in accordance with IEC 61000-3-3	Not performed	

Table 2

<b>Guidance and Manufacturing Declaration- Electromagnetic Immunity</b>			
<b>The device MFG-03 is intended for use in the electromagnetic environment specified below. The customer or user of the device MFG-03 should ensure that it is used in such environment.</b>			
<b>Immunity Tests</b>	<b>IEC 60601- Test Level</b>	<b>Compliance Level</b>	<b>Electromagnetic Environment - Guidelines</b>
<b>Electrostatic Discharge (ESD) in accordance with IEC 61000-4-2</b>	± 8 kV Contact Discharge ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV Air Discharge	± 8 kV Contact Discharge ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV Air Discharge	<b>Floors should be made from wood, concrete or ceramic tiles. If floors are covered with synthetic material, the relative humidity must be at least 30 %</b>
<b>Electrical fast transient/ burst in accordance with IEC 61000-4-4</b>	± 2 kV 100 kHz repetition frequency	± 2 kV 100 kHz repetition frequency	
<b>Surges in accordance with IEC 61000-4-5 -Line-to-Line-</b>	± 0,5 kV, ± 1 kV	± 0,5 kV, ± 1 kV	<b>The supply voltage quality must correspond to that of a typical commercial or hospital environment.</b>
<b>Surges in accordance with IEC 61000-4-5 -Line-to-Earth-</b>	± 0,5 kV, ± 1 kV, ± 2 kV	± 0,5 kV, ± 1 kV, ± 2 kV	

# Manufacturer's Declaration on Electromagnetic Compatibility (EMC)

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Guidance and Manufacturing Declaration- Electromagnetic Immunity			
The device MFG-03 is intended for use in the electromagnetic environment specified below. The customer or user of the device MFG-03 should ensure that it is used in such environment.			
Immunity Tests	IEC 60601- Test Level	Compliance Level	Electromagnetic Environment - Guidelines
Voltage dips in accordance with IEC 61000-4-11	0 % $U_T$ ; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	0 % $U_T$ ; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	The supply voltage quality must correspond to that of a typical commercial or hospital environment. If the user of the device MFG-03 requires continued operation, even in the case of interruptions in the power supply, it is recommended that the device MFG-03 be powered from an uninterrupted power supply or a battery.
	0 % $U_T$ ; 1 cycle and 70% $U_T$ ; 25/30 cycles Single phase: at 0°	0 % $U_T$ ; 1 cycle and 70% $U_T$ ; 25 cycles Single phase: at 0°	
Voltage interruptions in accordance with IEC 61000-4-11	0% $U_T$ ; 250/300 cycles	0% $U_T$ ; 250 cycles	
Magnetic field of supply frequency (50/60 Hz) in accordance with IEC 61000-4-8	30 A/m 50 Hz oder 60 Hz	30 A/m 50 Hz	Magnetic fields at mains frequency should have the typical values found in a business or hospital environment.
Note: $U_T$ is the mains AC Voltage before application of the test level			

Table 3

Guidance and Manufacturing Declaration- Electromagnetic Immunity			
The device MFG-03 is intended for use in the electromagnetic environment specified below. The customer or user of the device MFG-03 should ensure that it is used in such environment.			
Immunity Test	IEC 60601-Test Level	Compliance Level	Electromagnetic Environment - Guideline
Conducted Disturbances induced by RF fields according IEC 61000-4-6	3 V 0,15 MHz to 80 MHz 6 V in ISM Band between 0,15 MHz and 80 MHz 80% AM at 1 kHz	3 V 0,15 MHz to 80 MHz 6 V in ISM Band between 0,15 MHz and 80 MHz 80% AM at 1 kHz	In the vicinity of devices, bearing the following symbol, interference is possible:  
Radiated RF EM fields according IEC 61000-4-3	3 V/m 80 MHz-2,7 GHz 80% AM to 1 kHz	3 V/m 80 MHz-2,7 GHz 80% AM to 1 kHz	

Table 4

Electromagnetic immunity to HF radio communication equipment						
Test Frequency (MHz)	Band (MHz)	Service	Modulation	Maximum Energy (W)	Distance (m)	Immunity Test Level (V/m)
385	380-390	TETRA 400	Pulse Modulation 18 Hz	1,8	3	27
450	430-470	GMRS 460, FRS 460	Pulse Modulation 18 Hz	2	3	28
710	704-787	LTE Band 13, 17	Pulse Modulation 217Hz	0,2	3	9
745						
780						
810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse Modulation 217Hz	2	3	28
870						
930						
1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1,3, 4, 25; UMTS	Pulse Modulation 217 Hz	2	3	28
1845						
1970						
2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse Modulation 217 Hz	2	3	28
5240	5100-5800	WLAN 802.11 a/n	Pulse Modulation 18 Hz	0,2	3	9
5500						
5785						

Product Name: MICTRANS 1-2 (KS C 2301, 1-2)



## Material Safety Data Sheet

MSDS No.

### Section 1. Product & Company Identification

- A. Product Name MICTRANS 1-2 (KS C 2301,1-2)
- B. Recommended use of the chemical and restriction on use  
Insulating oil, transformer oil
- C. Information of manufacturer, Supplier
- Company MICHANG OIL IND. CO., LTD.
  - Address 241, HAEYANG-RO, YEONGDO-GU, BUSAN, KOREA  
91, CHEOYONG-RO 616 BEON-GIL, NAM-GU, ULSAN, KOREA
  - Emergency Telephone No +82-51-409-5049 / +82-52-256-7851  
Quality Assurance Team

### Section 2. Hazards Identification

- A. Classification
- Physical-Chemical Hazards Not classified
  - Health and Environmental Hazards  
Aspiration Category 1
- B. Label element, including precautionary statements
- Hazard Pictogram (Symbols)
- 
- Signal word(s)  
Danger
  - Hazard statements(s)  
H304 May be fatal if swallowed and enters airways.
  - Precautionary statements(s)  
Prevention  
Not applicable  
Response  
P301+P310 : IF SWALLOWED : Immediately call a POISON CENTER or doctor/physician.  
P331 : Do NOT induce vomiting.
  - Store statements(s)  
P405 : Store locked up.
  - Abandon statements(s)  
P501 : Dispose of contents/container to (in accordance with local/regional/national/international regulation).
- C. Other hazard which do not result in classification
- | NFPA Hazard ID   | Health | Flammability | Reactivity |
|--|--------|--------------|------------|
| Distillates (petroleum)<br>hydrotreated light paraffinic | 1      | 1            | 0          |
| Distillates (Petroleum)<br>Hydrotreated light naphthenic | 1      | 1            | 0          |

### Section 3. Composition / Information on Ingredients

Chemical identity	Common name, synonym	CAS No.	Percentages(%)	EINECS No.	ECL serial No
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Distillates (petroleum), hydrotreated light paraffinic)	Distillates (petroleum), hydrotreated light paraffinic)	64742-55-8	>90	265-158-7	KE-12553
Distillates (Petroleum)	Distillates (Petroleum)	64742-53-6	<10	265-156-6	KE-12552
Hydrotreated light naphthenic	Hydrotreated light naphthenic				

## Section 4. First Aid Measures

### A. Eye contact

Symptoms: slight irritation (unspecific). May cause burn in case of contact with product at high temperature.  
 Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.  
 If irritation, blurred vision or swelling occurs and persists, obtain medical attention.  
 If hot product is splashed into the eye, it should be cooled immediatly and treatment for the casualty.

### B. Skin contact

Symptoms: dry skin, irritation may arise in case of repeated or prolonged exposure.  
 May cause burn in case of contact with product at high temperature.  
 Remove contaminated clothing and footwear, and dispose of safely.  
 Wash affected area with soap and water.  
 Seek medical attention if skin irritation, swelling or redness develops and persists.  
 (if applicable) When using high-pressure equipment, injection of product can occur.  
 If high-pressure injuries occur, immediately seek professional medical attention.  
 Do not wait for symptoms to develop.  
 For minor thermal burns: Cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides.  
 However, body hypothermia must be avoided.  
 Do not put ice on the burn: Remove non-sticking garments carefully.  
 DO NOT attempt to remove portions of clothing glued to burnt skin but cut round them.  
 Seek medical attention in all cases of serious burns.

### C. Inhalation

Inhalation at ambient temperature is unlikely because of the low vapour pressure of the substance.  
 Symptoms: irritation of the respiratory tract due to excess fume, mists or vapour exposure.  
 In case of symptoms arising from inhalation of fumes, mists or vapour: Remove casualty to a quiet and well ventilated place if safe to do so if the casualty is unconscious and:  
 - Not breathing - ensure that there is no obstruction to breathing and give artificial respiration by trained personnel.  
 If necessary, give external cardiac massage and obtain medical assistance.  
 - Breathing: place in recovery position. Administer oxygen if necessary.  
 Obtain medical assistance if breathing remains difficult.

### D. Ingestion

Symptoms: few or no symptoms expected. If any, nausea and diarrhea might occur.  
 (if applicable) Always assume that aspiration has occurred. Seek professional medical attention or send the casualty to a hospital. Do not wait for symptoms to develop. Do not induce vomiting as there is a risk of aspiration.  
 Do not give anything by mouth to an unconscious person.

### E. Most important symptoms/effect, acute and delayed

May cause slight eye and skin irritation. Not expected to be a sensitizer.

### F. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

## Section 5. Fire-Fighting Measures

### A. Extinguishing media

Foam (Specifically trained personnel only.)  
 Water fog (Specifically trained personnel only.)  
 Dry chemical powder.  
 Carbon dioxide.  
 Other inert gases (subject to regulations.)  
 Sand or earth.

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**B. Unsuitable extinguishing media**

Do not use direct water jets on the burning product: they could cause splattering and spread the fire.  
Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

**C. Combustion products**

Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.

**D. Protective equipment for firefighters**

In case of a large fire or in confined or poorly ventilated spaces wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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**Section 6. Accidental Release Measured**

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**A. General information**

Stop or contain leak at the source if safe to do so. Avoid direct contact with released material. Stay upwind.  
Keep non-involved personnel away from the area of spillage. Alert emergency personnel.  
Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency.  
It is recommended to eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares).  
If required, notify relevant authorities according to all applicable regulation.

**B. Personal protection equipment for emergency responders**

Small spillages: normal antistatic working clothes are usually adequate.  
Large spillages: full body suit of chemically resistant and antistatic material.  
Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.  
Note: gloves made of PVA are not water-resistant, and are not suitable for emergency use. Work helmet.  
Antistatic non-skid safety shoes or boots. Goggles or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection will be necessary only in special case (e.g. formation of mists).  
A half or full-face respirator with combined dust/organic vapour filter(s), or a Self-Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

**C. Land spillage**

Prevent product from entering sewers, rivers, waterways or other bodies of water.  
If necessary dike the product with dry earth, sand or similar non-combustible materials.  
Large spillages may be cautiously covered with foam, if available, to limit fire risk. Do not use direct jets.  
When inside buildings or confined space, ensure adequate ventilation.  
Absorb spilled product with suitable non-combustible materials. Collect free product with suitable means.  
Transfer collected product and other contaminated materials to suitable tanks or containers for recycle, recovery or safe disposal. In case of soil contamination, remove contaminated soil for remediation or disposal according to local regulations.

**D. Spillages in water or at sea**

In case of small spillages in closed water (i.e. ports), contain product with floating barriers or other equipment.  
Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open water should be contained with floating barriers or other mechanical means. If this not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means.  
The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recovery or safe disposal.

**E. Additional information**

Recommended measures are based on the most likely spillage scenarios for this material: however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also proscribe or limit actions to be taken.

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**Section 7. Handling and Storage**

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**A. General information**

Ensure that all relevant regulations regarding handling and storage facilities of combustible products are followed.  
It is recommended to keep away from sparks/open flames/hot surface. No smoking. Use and store only outdoors

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or in a well-ventilated area. Avoid contact with the product. Avoid release to the environment.

**B. Handling**

Take precautionary measure against static electricity. Avoid splash filling of bulk volumes when handling hot liquid product. Avoid contact with skin. Avoid breathing fume/mist. Prevent the risk of slipping. Use personal protective equipment as required. For more information regarding protective equipment and operational conditions for a substance which is classified according to classification notes, see exposure scenarios. These risk management measures represent a worst case. For a non-classified substance proportionate information may be found in the Safety Data Sheet.

**B. Storage**

Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage in stallions should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Store separately from oxidizing agents.

**C. Recommended and unsuitable materials for storage**

Recommended materials: For containers, or container linings use mild steel, stainless steel.  
 Unsuitable materials: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

**D. Container advice**

If the product is supplied in containers:  
 Keep only in the original container or in a suitable container for this kind of product.  
 Keep containers tightly closed and properly labeled.  
 Empty containers may contain combustible product residues.  
 Do not weld, solder, drill, cut or perform similar operations unless they have been properly cleaned.

**E. Hygiene measures**

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Keep away from food and beverages. Do not eat, drink or smoke when using this product. Wash the hands thoroughly after handling. Change contaminated clothes at the end of working shift.

**F. Load/ Unload temperature**

°C Ambient

**G. Storage temperature**

°C Ambient

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**Section 8. Exposure Controls / Personal Protection**

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**A. Exposure limit**

TLV/TWA	TLV/STEL
5 mg/m <sup>3</sup> mist	10 mg/m <sup>3</sup> mist

**B. Engineering controls**

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**C. Respiratory protection**

No special respiratory protection is normally required. Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Eye protection

Normal industrial eye protection practices should be employed.

Skin protection

Wear suitable gloves to avoid direct skin contact.

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**Section 9. Physical and Chemical Properties**

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A. Appearance (physical state, color etc)	Clear yellow liquid
B. Odor	Mild petroleum odor
C. Odor threshold	Not established

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D. pH	Not applicable
E. Melting point / freezing point	-42.0°C (ASTM D 97)
F. Initial boiling point and boiling range	290–390°C
G. Flash point	158°C (COC)
H. Evaporation rate	Not established
I. Flammability (solid, gas)	Not applicable
J. Upper/Lower flammability or explosive limits	0.9 – 7 Vol%
K. Vapor pressure	< 0.1 $\bar{m}$ at 20°C
L. Solubility	Negligible (in Water)
M. Vapor density	> 5 (Air=1)
N. Specific gravity	0.8251 at 15/4°C
O. Partition coefficient : n-octanol / water	log Pow = 3.9–6
P. Auto-ignition temperature	> 260°C
Q. Decomposition temperature	Not established
R. Viscosity	7.677 $\bar{m}$ /s (cSt) at 40°C
S. Molecular weight	278

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**Section 10. Stability and Reactivity**


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- A. Stability (Thermal, Light, etc)  
Stable under normal temperature & pressure
- B. Condition to avoid  
Extreme heat
- C. Incompatibility (Materials to avoid)  
Strong oxidizers
- D. Hazardous decomposition products  
Carbon monoxide
- E. Hazardous polymerization  
Will not occur.

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**Section 11. Toxicological Information**


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- A. Information on the likely routes of exposures
- Inhalation exposure  
May cause slight irritation.
  - Ingestion exposure  
May cause diarrhea.
  - Skin / Eye exposure  
May cause slight skin irritation.
- B. Delayed and immediate effects and also chronic effects from short and long term exposure
- Acute oral toxicity  
Not classified                      LD<sub>50</sub> > 5,000 mg/kg Practically non-toxic.
  - Acute dermal toxicity  
Not classified                      LD<sub>50</sub> > 5,000 mg/kg Practically non-toxic.
  - Acute inhalation toxicity  
Not classified                      LC<sub>50</sub> > 5.0 mg/l Practically non-toxic.
  - Skin Corrosion/ irritation  
Not classified                      Either only weakly irritating or not irritating to the skin of rabbits and humans.
  - Serious eye damage / eye irritation  
Not classified                      Practically non-irritating.
  - Respiratory sensitization  
Not classified                      This substance is not expected to cause respiratory sensitization.
  - Skin sensitization  
Not classified                      This substance is not considered to be dermal sensitizer.
  - Germ Cell Mutagenicity  
Not classified                      This substance was found to be non-mutagenic.

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TSCA (US, Toxic Substances Control Act), December, 2006  
 AICS (Australian Inventory of Chemical Substances), June, 1996  
 DSL (Canadian Domestic Substances List), January 26, 1991  
 IECSC (Chinese Chemical Inventory)  
 ENCS (Japanese Existing and New Chemical Substances)  
 ECL (Korea Existing Chemical Number), January, 1997  
 PICCS (Philippine Inventory of chemicals and Chemical Substances), 2000  
 NZIoC (New Zealand Inventory of Chemicals), 2006  
 SWISS (Swiss Giftliste 1 and Inventory of Notified New Substances)

**B. US INFORMATION**

OSHA (29 CFR1910.119)	Not regulated
CERCLA 103(40 CFR302.4)	Not regulated
EPCRA302(40 CFR355.30)	Not regulated
EPCRA304(40 CFR355.40)	Not regulated
EPCRA313(40 CFR372.65)	Not regulated

C. Rotterdam agreement substances(PIC) Not regulated

D. Stockholm agreement substances(POPs) Not regulated

E. Montreal protocol substances Not regulated

**F. EU INFORMATION**

Directive 67/548/EEC, REGULATION(EC)No 1272/2008

Classification

Hazard Class and Category Code Carc.1B

Hazard statement H350

Note L - The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

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**Section 16. Other Information**

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**A. Sources of key data**

The recommendations presented in this Material Safety Data Sheet were compiled from actual test data when available, comparison with similar products, component information from suppliers and from recognized codes of good practice.

The data and recommendation presented herein are based on our research and the research of others, and are believed to be accurate. No guarantee of their accuracy is made: however, and the products discussed are distributed without warranty, express or implied, and the person receiving them shall make his own determination of the suitability thereof for his particular purpose.

B. Originated date 2008/3/10

C. Revision number and date

3<sup>rd</sup> revision 2014/4/4

D. Remark



field

Instructions for use

Zimmer MedizinSysteme GmbH  
Junkersstraße 9  
89231 Neu-Ulm, Germany  
Tel. +49 7 31. 97 61-291  
Fax +49 7 31. 97 61-299  
export@zimmer.de  
www.zimmer-aesthetics.com

**Zimmer**  
AestheticDivision

