field

Instructions for use

Z Field Dual (MFG-03)

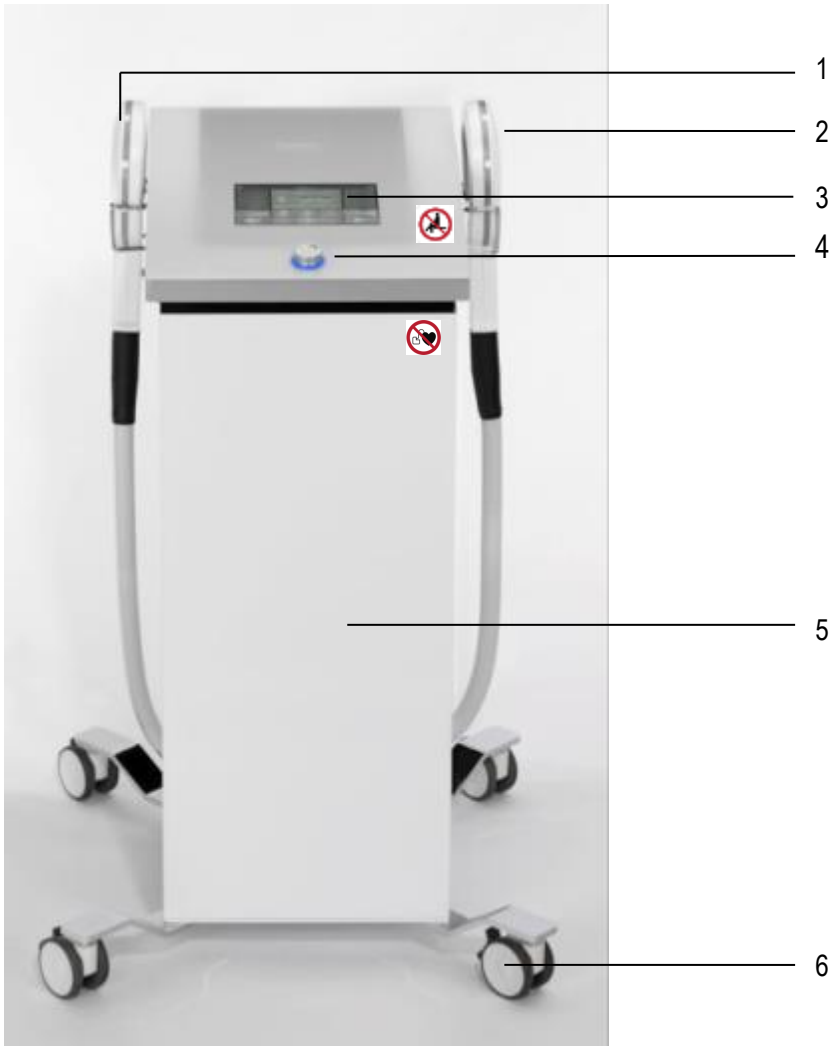
zimmer

EN

Illustrations

Front of the device

Fig. 1 Front of the device

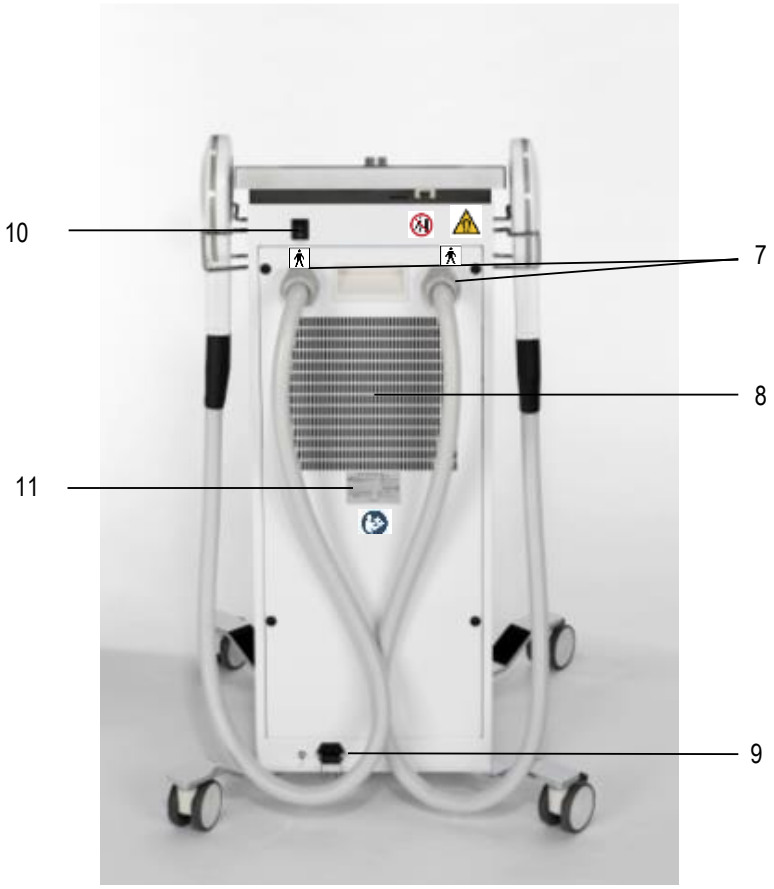


1	Applicator, left side
2	Applicator, right side
3	Display
4	Central control knob
5	Control unit
6	Swivelling castors

Illustrations

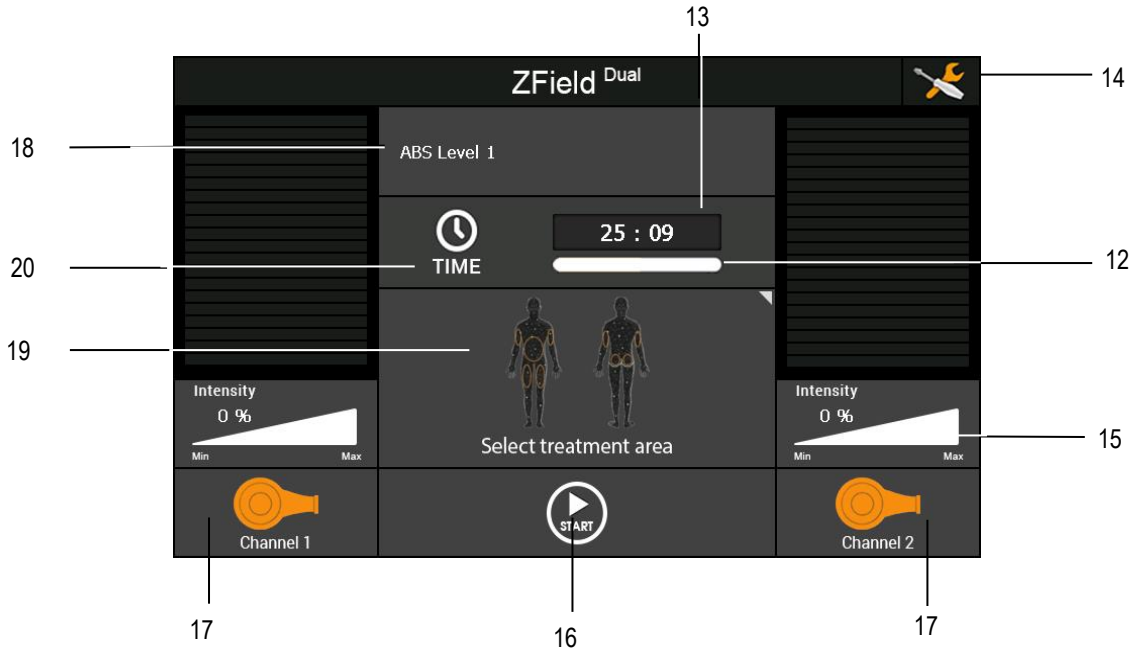
Rear of the device

Fig. 2 Rear of the device



7	Connections for applicator hose
8	Ventilation grid
9	Mains connection
10	On/off switch
11	Identification plate

Fig. 3 Screen and displays



12	Remaining time
13	Total operating time
14	Configuration icon
15	Intensity in %
16	Start/stop
17	Channel selection (channel 1 and/or channel 2)
18	Applied program
19	Back to select treatment area screen
20	Program information screen

Fig. 4 and Fig. 5

21 Mains cable

22 Fixing belt

Contents

This symbol indicates “Danger” with regard to possible risks to people.

This symbol indicates “Caution” with regard to possible material damage.

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

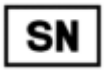
Do not sit on the device

Warning, magnetic field

Warning, electricity

Protective earth

Equipotentiality, to identify the terminals which, when connected together, bring the various parts of an equipment or of a system to the same potential, not necessarily being the earth (ground) potential, e.g. for local bonding.



Serial number

Catalogue number

Contents

Manufacturer

Date of manufacture

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

The device emits energy in the form of non-ionizing electromagnetic radiation.

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

This way up

Danger or Warning - Systemic health hazards

CE marking with number of the notified body

Contents

Contents

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 November 2021.

If the instructions for use have become illegible, damaged, or are not accessible for the user for other reasons, a replacement is to be requested from the manufacturer for the safe use of Z *Field* ^{Dual} and made available to the user. This also includes the information on the labels on the device. The instructions for use can also be downloaded from our website.

We reserve the right to revise this document at any time or change product specifications described. There is no obligation to provide information about the changes to the customer.

Indications / Contraindications / Side Effects

1

Indication

Muscular atrophy

Recommended application

To strengthen and tighten the abdominal, gluteal and thigh muscles.

Operating environment

Z *Field* [Dual] is only to be used in medical facilities. The device is intended for indoor use.

Contraindications

- Placing an active applicator over implanted electrical devices like cardiac pacemakers, cochlear implants, intrathecal pumps, hearing aids etc.
- Be ensured that magnetic stimulation doesn't penetrate the heart region.
- Z *Field* [Dual] should be used with caution in persons with Grave's disease, active bleeding disorders or seizure disorders.
- Women who are close to menstruation may find that it comes sooner or cramping is increased / intensified with Z *Field* [Dual] treatments, therefore we recommend not undergoing treatment during this time of the month.

Other contraindications to treatment include the following:

- Fever
- Application over menstruating uterus
- Application over areas of the skin that lack normal sensation
- Metal or electronic implants in the treatment area
- Patients with suspected status of epilepsy on the basis of electroencephalograph
- Patients with evidence of external wound at brain and neck
- Patients with cranial implants
- Implanted defibrillators
- Implanted neurostimulators
- Drug pumps
- Malignant tumor
- Hemorrhagic conditions
- Epilepsy
- Recent surgical procedure
- Application in the area of growth plate
- Pulmonary insufficiency
- Application in the head area
- Pregnancy

Intended patient group

Age:	18+
Gender:	Male and female, diverse
Nationality:	no restriction
Ethnic affiliation:	no restriction
Skin colour:	Light and dark-skinned
Weight:	All weight classes

Indications / Contraindications / Side Effects

1

Side effects

Common side effects reported after treatment generally mild in nature. They may include but are not limited to:

- Skin damage, for instance:
    - Local erythema
    - Skin redness
- Abdominal discomfort, such as
    - Menstrual irregularities and abdominal cramping
    - Constipation, diarrhea, or abdominal bloating
- Aches and pain, such as
    - Muscular pain, myalgia
    - Temporary pain, e.g in back, extremities, joints, tendons
- Systemic symptoms, such as
    - Lightheadedness, nausea, headache or migraine
    - Muscle weakness, asthenia, malaise, or somnolence

Adverse events that are seldom seen are

- Dyspigmentation (hyper / hypopigmentation)
- Hair growth
- Infection
- Scarring
- Nerve pain, pinching

If the patient experiences any symptoms, the operator must stop treatment immediately and contact the appropriate physician.

Residual risks

If the device is used within its intended purpose, no other unacceptable residual risks are known besides the side effects and the warnings already mentioned.

Warnings

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.

Ensure that persons with pacemakers are not present in vicinity of the device in operation less than 1.2 meters or approx. 4 feet.

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.

Warnings

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.

Z Field ^{Dual} – overview
Intended purpose

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 growth.

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).

Setting up the device

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).

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

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

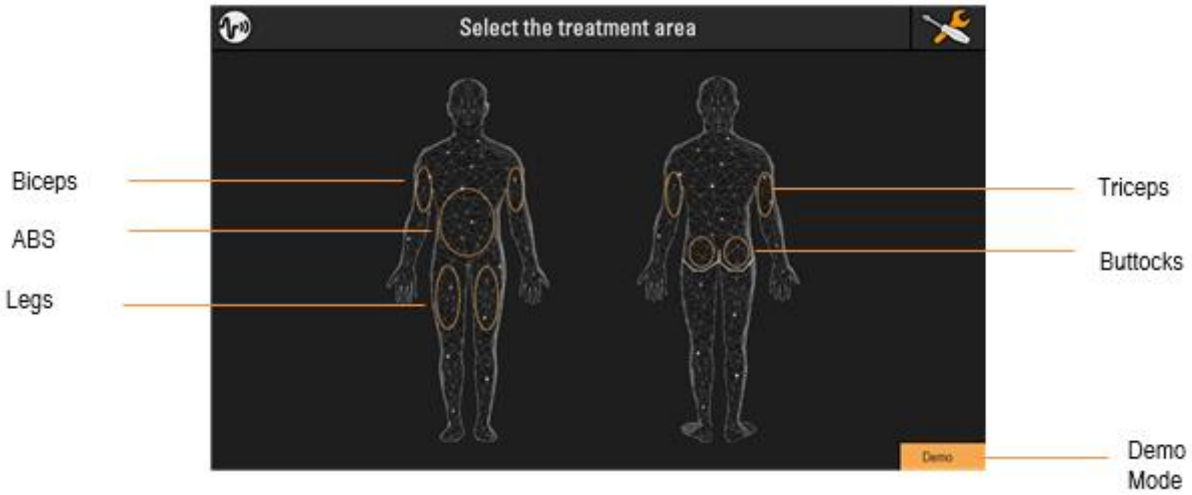
The device is switched off using the on/off switch (10).
In order to completely disconnect the device (all-phase) from the mains, remove the mains cable.

Home screen

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

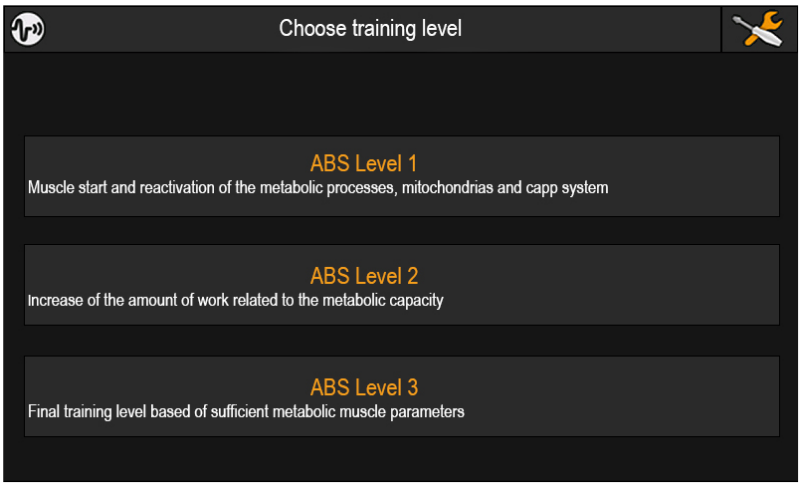
Select Treatment Area

After performing the self-test, the Z *Field* *Dual* will automatically switch to the" select treatment area "screen



Choose training level

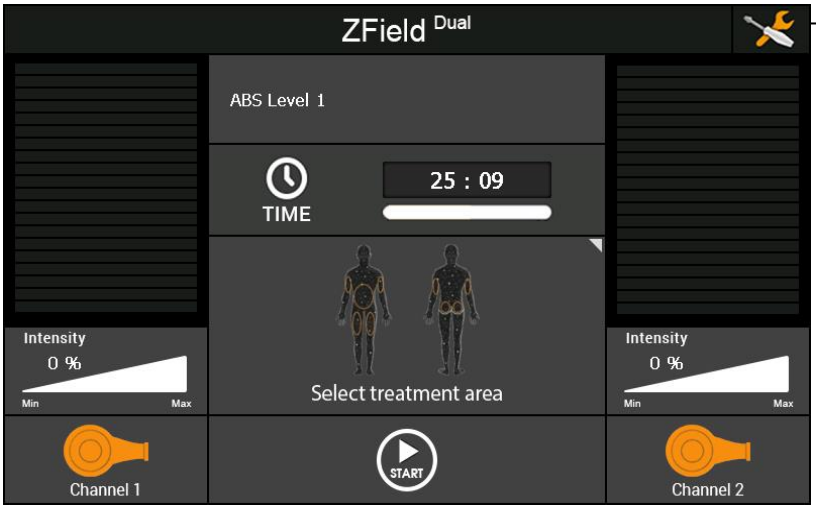
By pressing one of the treatment areas (Biceps, Triceps, ABS, Buttocks or Thighs) the user switches to the "choose training level screen" for the selected treatment area.



By pressing the training level for the selected treatment area, you will immediately switch to general treatment screen.

General treatment screen

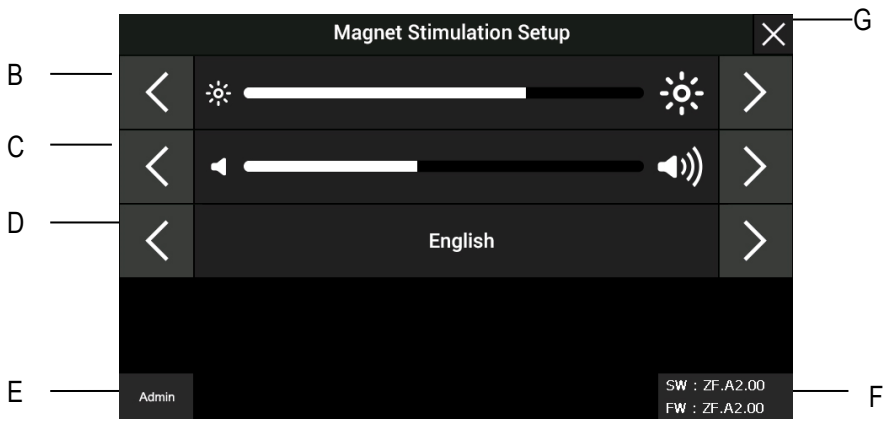
After performing the self-test, the Z *Field* *Dual* will automatically switch to the default screen.



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.

Operating instructions

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

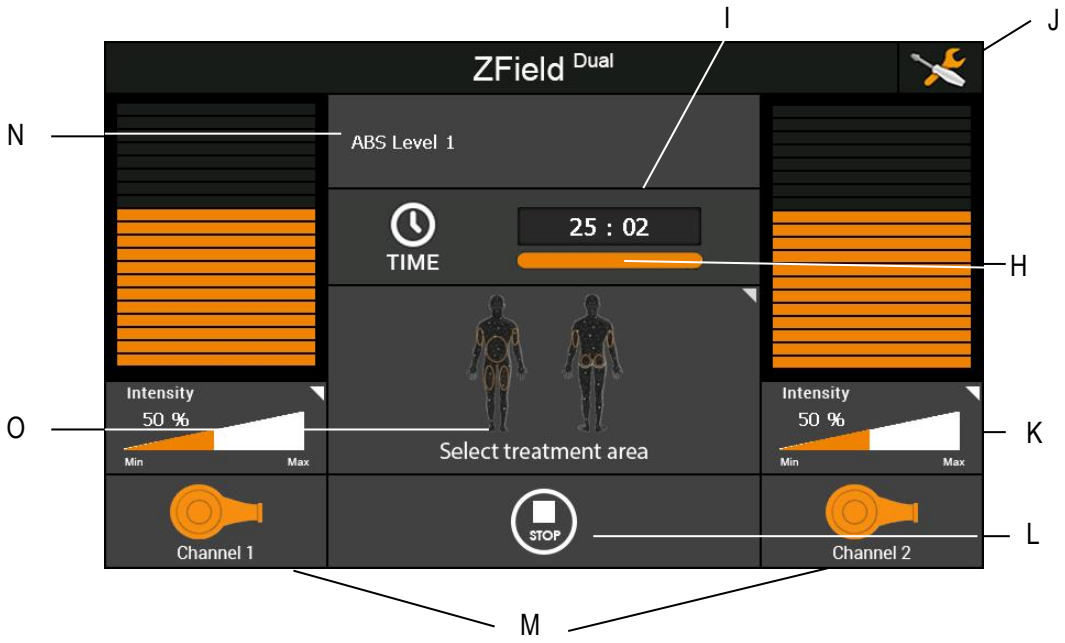
Place the applicators onto the treatment area so that the connection cables face the foot end. Secure the applicators using the fixing belt supplied with the device.
The fixing belt is available in *S* and *M* versions. The larger one is for the abdomen and buttocks area and the small one is for the legs.

The fixing belt 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 fixing belt. The underside of the applicators should be in complete contact with the fixing belt.

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

It should be applied by an expert.

In case the fixing belt has not been put on correctly, do not try to move the fixing belt by tugging, as the elastic material might be damaged. So open the fixing belt 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 program — By pressing the button (O) the select treatment area screen is displayed and the treatment region can be selected. The selected treatment region and the selected training level is shown in (N).

(O) Treatment region — Back to select treatment area screen.

Technical information

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Power supply	Input power: 220–240 V 50/60 Hz Power consumption: max. 2,2 KVA
Mains fuse	16 A circuit breaker in mains switch
Protection class	Class 1
Applied part	Type BF
Dimensions	542 (L) × 501 (W) × 993 (H) mm
Weight	About 60 kg
Operation	Magnetic field strength: - Channel 1: 0.5-1.0 T ± 20% - Channel 2: 0.5-1.0 T ± 20% Modes: - Buttocks - ABS - Legs - Arms Triceps - Arms Biceps
Transport	Transport the device in an upright position 1 unit of packaging, 1 device
Environmental conditions for operation	- Temperature: 10 °– 30 °C - Humidity: 30 % – 85 % RH - Air pressure: 700 hPa – 1060 hPa
Environmental conditions for Storage and transport	- Temperature: 0 ° – 60 °C - Humidity: 10% – 90% RH - Air pressure: 700 hPa – 1060 hPa
Sound Power Level	<70 dB(A)
Note:	*Storage and transport in original packaging only.*

Subject to technical changes.

Cleaning
Disinfection

8

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 fixing belt:

- 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 fixing belts 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 fixing belt (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 fixing belts in a suitable laundry net. Do not stuff the belts so as not to impair the effectiveness of the laundry.
2. Wash the fixing belts 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 fixing belts in the machine (3 rinses at 3 minutes each)
4. Spin the fixing belts for pre-drying (e.g. 3 minutes at 930 min^{-1})

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

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

Cleaning
Disinfection

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Monitoring:

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

Packaging:
Pack the fixing belts 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 fixing belts 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 fixing belt.

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.*

CE marking

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

CE 0123

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

Manufacturer

Zimmer MedizinSysteme GmbH
Junkersstraße 9
89231 Neu-Ulm, Germany
www.zimmer.de

Scope of delivery and accessories

Scope of delivery
Catalogue number

5033	1 Z *Field* *Dual* 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
Safety and maintenance

11

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.

Reporting

All serious incidents associated with the product are to be reported to the manufacturer and the competent authority of the state in which the user and/or the patient is located

Function check

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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.

Legal notice

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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.

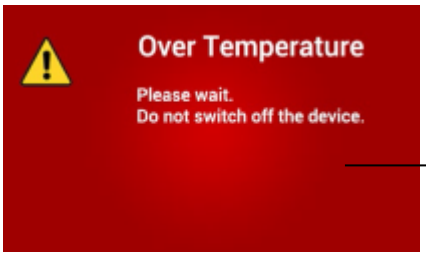
Note: *These requirements apply to operation of the device in Germany. Different regulations may apply in your country.*

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.



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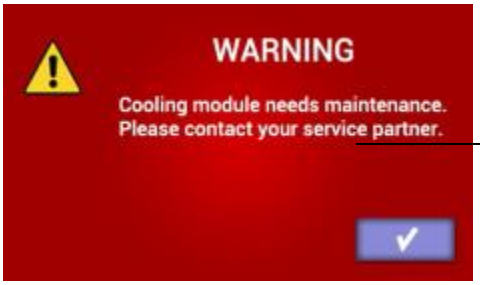
It is strongly recommended to place the applicator in a horizontal position.

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.



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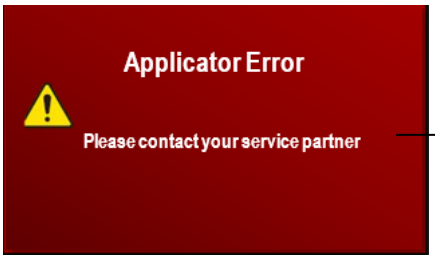
Error messages/troubleshooting Disposal

14

Applicator error
The *Z Field* ^{Dual} 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.



25

Note: *The Z Field* ^{Dual} *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

In the following cases, stop operation by disconnecting the device's power supply and contact the service centre.

- The on/off switch switches off unprompted.
- The LCD screen of the control panel does not light up when the device is turned off and then on again.
- The applicator does not generate any stimulation, even if the intensity is increased.
- The temperature icon on the screen flashes and the device is not in operation.

Regular inspection to maintain performance
To ensure safe use, have them inspected regularly by an authorized person, at least once a year once a year.

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.

Manufacturer's Declaration on Electromagnetic Compatibility (EMC)

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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 affected 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.

Manufacturer's Declaration on Electromagnetic Compatibility (EMC)

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Table 1

Guidance and Manufacturing Declaration- Electromagnetic Emissions		
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.		
Emission Measurement	**Compliance**	**Electromagnetic Environment-Guidelines**
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

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**
Electrostatic Discharge (ESD) in accordance with IEC 61000-4-2	± 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	**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 %**
Electrical fast transient/ burst in accordance with IEC 61000-4-4	± 2 kV 100 kHz repetition frequency	± 2 kV 100 kHz repetition frequency	**The supply voltage quality must correspond to that of a typical commercial or hospital environment.**
Surges in accordance with IEC 61000-4-5 -Line-to-Line-	± 0,5 kV, ± 1 kV	± 0,5 kV, ± 1 kV	
Surges in accordance with IEC 61000-4-5 -Line-to-Earth-	± 0,5 kV, ± 1 kV, ± 2 kV	± 0,5 kV, ± 1 kV, ± 2 kV	

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 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						

MICHANG OIL

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) hydrotreated light paraffinic)	1	1	0
Distillates (Petroleum) 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

Distillates (petroleum), hydrotreated light paraffinic)	Distillates (petroleum), hydrotreated light paraffinic)	64742-55-8	>90	265-158-7	KE-12553
Distillates (Petroleum) Hydrotreated light naphthenic	Distillates (Petroleum) Hydrotreated light naphthenic	64742-53-6	<10	265-156-6	KE-12552

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

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 protecive clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measured

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 aways 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. Presonal protection equipment for emergency responders

Small spillages: normal antistatic working clothes are ususlly adequate.
Large spillages: full body suit of chemically resistant and antistatic materrial.
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 coveded with foam, if avaiable, 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.

Section 7. Handling and Storage

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

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

B. Handling

Take precautionary measuree 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 stallations should be designed with adequate bunds so as to prevent ground and water pollution an 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

℃ Ambient

G. Storage temperature

℃ Ambient

Section 8. Exposure Controls / Personal Protection

A. Exposure limit

TLV/TWA	TLV/STEL
5 ㎎/㎥ mist	10 ㎎/㎥ 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.

Section 9. Physical and Chemical Properties

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

D. pH	Not applicable
E. Melting point / freezing point	-42.0℃ (ASTM D 97)
F. Initial boiling point and boiling range	290~390℃
G. Flash point	158℃ (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 ㎪ at 20℃
L. Solubility	Negligible (in Water)
M. Vapor density	> 5 (Air=1)
N. Specific gravity	0.8251 at 15/4℃
O. Partition coefficient : n-octanol / water	log Pow = 3.9~6
P. Auto-ignition temperature	> 260℃
Q. Decomposition temperature	Not established
R. Viscosity	7.677 ㎟/s (cSt) at 40℃
S. Molecular weight	278

Section 10. Stability and Reactivity

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.

Section 11. Toxicological Information

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 shout and long term exposure

○ Acute oral toxicity	
Not classified	LD_{50} > 5,000 ㎎/㎏ Practically non-toxic.
○ Acute dermal toxicity	
Not classified	LD_{50} > 5,000 ㎎/㎏ Practically non-toxic.
○ Acute inhalation toxicity	
Not classified	LC_{50} > 5.0 ㎎/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.

○ Carcinogenicity

Not classified — The DMSO extract by IP346 of this substance is less than 3%. (Typical <1%)
Consequently it is not classified as a carcinogen.

○ Toxic to reproduction

Not classified — Reproductive toxicity dermal NOAEL (development) > 2,000 ㎎/㎏.
This substance showed no effects on reproductive parameters.

○ Specfic target organ systemic toxicity (Single exposure)

Not classified — No data available.

○ Specfic target organ systemic toxicity (Repeated exposure)

Not classified — Sub-chronic repeat dose dermal : NOAEL 1,000 ㎎/㎏
Sub-chronic repeat dose inhalation : NOAEL (local effects) > 220 ㎎/㎏
and NOAEL (systemic effects) > 980 ㎎/㎥
This substance is not classified for repeat-dose toxicity.

○ Aspiration hazard :

Category 1 — As the hydrocarbon the case where the dynamic viscosity is below 20.5㎟/s from 40 degrees.

C. Numerical measures of toxicity (such as acute toxicity estimate)

No data available.

Section 12. Ecological Information

A. Ecotoxicity

No data is available on the product itself.

B. Persistence and degradability

No data is available on the product itself.

C. Bioaccumulative potential

No data is available on the product itself.

D. Mobility in soil

No data is available on the product itself.

E. Environmental fates

This material is not expexted to present any environmental problems other than those associated with oil spills.

Section 13. Disposal Considerations

This product is a controlled waste. Collect and dispose of waste product at an authorized facility, in conformance with national and local regulations, and in accordance with EEC Directives on the disposal of waste oil.

Section 14. Transport Information

A. UN number	Not applicable. Not classified as dangerous for transport.
B. Proper shipping name	Not applicable. Not classified as dangerous for transport.
C. Proper shipping name and description	Not applicable. Not classified as dangerous for transport.
D. Chemical name	Not applicable. Not classified as dangerous for transport.
E. Class	Not applicable. Not classified as dangerous for transport.
F. Classification code	Not applicable. Not classified as dangerous for transport.
G. Packaging group	Not applicable. Not classified as dangerous for transport.
H. EmS number	Not applicable. Not classified as dangerous for transport.
I. Labels	Not applicable. Not classified as dangerous for transport.
J. Marine pollutant	No
K. Remark	None

Section 15. Regulatory Information

A. Governmental inventory status

All the components of this material are listed is listed on the following inventories:
EINECSS (European Inventory of Existing Commercial Chemical Substances), June 15, 1991

TSCA (US, Toxic Substances Control Act), December, 2006
AICS (Australian Inventory of Chemical Substances), June, 1996
DSL (Canadian Domestic Substanes 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.

Section 16. Other Information

A. Sources of key data

The recommendations presented in this Material Safety Data Sheet were complied 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 small make his own determination of the suitability there of for his particular purpose.

B. Originated date	2008/3/10
C. Revision number and date	
3rd revision	2014/4/4

D. Remark

field

Instructions for use

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Zimmer
AestheticDivision

EN 10 102 932 | 1121 I MFG 03 | Version 7 | Subject to change