EN ISO 13485 CE 1639

MK400L

USER MANUAL

- **Indications for safety use**

Read this manual carefully. This manual is for user's safety and previewing any property-loss. Before using our device, please read this manual inevitably.

- **Indicaciones para un uso seguro**

Lea detenidamente este manual para seguridad del usuario y prevenir un mal uso. Antes de la utilizacin de nuestro dispositivo, por favor lea sin falta este manual.

- **Indicazioni per un utilizzo sicuro**

Leggere con attenzione ii presente manuale per tutelare la sicurezza dell'utente ed evitare danni al dispositivo. Prima di utilizzare il dispositivo è necessario leggere il manuale.

www.dsmaref.com

DS MAREF
DAESUNG MAREF CO.,LTD.

ENGLISH

Contents

ESPAÑOL
Contenidos

ITALIANO

Indice dei Contenuti

1 Information

1-1. MK400L Introduction

Thanks for purchasing our product. This product is an compressible limb and circulation therapy system to improve the blood circulation of the human body.

This product is comprised of intermittent pneumatic device, sleeves with 6 air chambers, and connectable tubing. The operating principle is that the air from the device will be delivered to the sleeve with 6 air chambers and the air pressurizes sequentially the chambers from 1st to 6rd.

This user's manual contains the information how to use, keep this product. Please, be well informed of this manual to use this product correctly and to prevent the malfunction for the best effect. Please keep this manual with this system always and please carefully read it before using the system properly.

1-2. Intended use

A device intended to treat/prevent edema by increasing venous blood flow with a device and inflating sleeves.

1-3. Target treatment group of disease

- Lymphedema

1-4. Expected except group of treatment

- Acute Neuropathy and Plexopathy
- Acute Pulmonary Edema
- Acute Soft-tissue Trauma
- Acute Thrombophlebitis
- Uncompensated Cardiovascular Diseases
- Epilepsy
- Erysipelas
- Febrile Conditions
- Glaucoma
- Hepatic or Renal Insufficiency

- Infectious Diseases
- Known (or Suspected) Deep Vein Thrombosis
- Lymphangitis
- Occlusive Processes in Lymphatic Paths
- Osteosynthesis or Joint Replacement in Lymphatic Paths
- Pacemaker
- Obscure Pain in Abdominal Area
- Pathological Pregnancy
- Tumorous Diseases
- Inflammation

1-5. Side effect

- Temporary Increase of Pain
- Petechiae
- Capillary Rupture - if pressure exceeds the recommended level
- Hematoma
- Vegetative Reaction - in patients with a sensitive vegetative system
- Lymphatic Congestion - in untreated areas
- Inflammation
- Rash
- Muscle cramp
- Limb erythema
- Temporary increased swelling

2 Information on Safety and Handling

2-1. Operation of the device

- The device is for indoor use only. Do not use the device in highly humid places, e.g., sauna or, bathroom.
  (Humid environment may result in mechanical defect or physical damage caused by an electric shock or scald.)

- When using or transporting this product please take care not to shake or drop this device as it may cause the device to malfunction or fail to operate.

- Do not insert many plugs in an outlet.
  (Use an outlet that has a circuit breaker to prevent the risk of fire.)

- Insert the plug completely in an outlet to prevent the risk of fire.

- Do not fold or bend the wire by force or put any heavy objects on the wire.
  (Otherwise, it may lead to a risk of fire.)

- Do not put any objects on the device.
  (During operation, these objects may drop from the device and cause a fire or physical injury to the user.)

- Do not turn on the power switch before applying sleeve to a patient. Connect the tubings after the sleeve are applied to the patient. Turn the power on to the device after connecting the tubings to the air socket at front of device to ensure self check.

- Unplug out the device in case of thunder, lightning, or power failure.

- Stop using the device in case of smelling during using the device. In this case, turn off the electric power and pull out plug from outlet, and then inform it to service center.
  (Fire accidents & electric shocks possible.)

- Do not touch signal input, signal output or other connectors, and the patient simultaneously.

- To avoid the risk of electric shock, use the power supply with protective grounding.
  (There is a risk of fire and electric shock.)

- Please do not use this device for child.

- Install the power plug in a place where it can be easily removed.

- Remove the power plug immediately if a malfunction occurs.

- Do not put or pull out a power line from a socket with wet hands.
  (Fire or electric shock may occur.)

- Do not pull the wire to move the device.
  (If the wire is damaged, it may cause a fire or electric shock during use.)

- Grip the plug, not a wire, when plugging or unplugging the device.
  (It may result in physical damage caused by an electric shock or scald.)

- Do not use oil, benzene, alcohol, or any other chemicals to clean the device or sleeve. The device may be gently wiped with a dry towel or cloth.

- Be careful to not let dust, water or other fluids come in contact with or seep inside the main unit of this device. Do not place the main unit where it could fall into water or be pulled into water. Do not use this device while bathing or near water.

- Do not use the device in places with temperatures over 40°C or under 0°C.
  (Otherwise, it may cause mechanical problems, electric shock, fire physical damage, or property-loss.)

- Use the power connection in accordance with the power specification in each country.
  (Fire or electric shock may occur.)

- Be cautious to prevent water or other foreign substances from getting into the inside of device.
  (It may cause failure, electric shock or fire.)

- Do not use the device in the area with strong magnetic field or electromagnetic field. It may cause an error of motor or valve.

- The device shouldn't be used beside products around strong vector.

- The EMISSIONS characteristics of this device make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this device might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the device.

- Do not place any objects on the device.
  (During operation, these objects may drop from the device and cause a fire or physical injury to the user.)

- Do not attempt to open, repair, or modify this device.
  Doing so may lead to a risk of fire, electric shock, or injury to the user.

2-2. Indications for use

- Use the device according to a doctor's prescription definitely to a patient with any surgical operation, especially, internal organs, nerve or brain surgery or a patient within 1 year after surgery.
- Do not aim the pressurized air from the device towards the eyes, nose, mouth, or ears. Otherwise, it may lead to a serious injury.
- Do not fold or bend the tubing.
- Clothing, body hair, and skin may get caught in the zipper.
- A sleeve may cause rash or allergic reaction when it is used for the first time. In that case, remove a sleeve immediately and consult medical professional.
- Do not use the device in the area with dense oxygen or exposed to inflammable gas.
- If any pain, abnormal condition or edema occurs during use of the device, stop using it and let a physician evaluate the symptom.
- Consult with your doctor before using the device if you have any treatment from doctor.
- All the manual settings should be adjusted with a physician's indications or prescriptions.

- A beginner would be better to use the device with 20mmHg for 10minutes at the first time, and then increase the pressure intensity gradually according to the physical condition.
  If there is any trouble during the operation, turn it off, although device and sleeve are correctly connected.
- If a user does not get any effects after treatments with this device, stop using the device use and inform the medical professional.
- A user with diabetes or vascular disease is required to assess the skin frequently.

- Any item(s) should be removed from the pocket(s) or leg(s) of a user before wearing the sleeves.
  (Otherwise, it may result in damage to the items or the sleeves.)
- Do not use the device while intoxicated.
- Use the device only indoor, at the temperature of 0°C to 40°C. Any environment conditions exceeding the recommended temperature range may cause errors.

- A sleeve shall be the exclusive sleeve for the model of DAESUNG MAREF. Do not use any sleeve from other manufacturers or from other DAESUNG MAREF models.
- If the device malfunctions in any way, stop the device immediately with the Start/Stop button.
- Make sure to unplug the device after use, and store sleeve in a safe place.
- Do not use this device in the environment with the possibility of water penetration including when it rains or humid places.
- Use the sleeves with wearing thin cloths.
  (It can cause an allergy to a person with sensitive skin.)

2-3. Sleeve safekeeping and maintenance

- Check the device and its parts on a regular basis.
- Check cleanness and safe operation before using the device when the device is not used for a long time.
- Keep unused sleeves in a clean and dry place. Do not keep the sleeves at low temperature in the winter. Sleeves may get stiff.
- Keep in the safe place withe the stable operating temperature, humidity or atmospheric pressure.
- A sleeve may have mold if it is kept in the area with excessively high humidity for a long time.
- Do not keep sleeves near to stove, cigarettes, needles, or scissors to prevent damage to sleeves or accidental fire.
- Keep children away from this device due to the risk of electric shock or other serious injuries.

- Do not fold or bend sleeves by force and put any heavy object on it.
- Except testing the device, do not blow air into sleeve without wearing. Do not also use other products, except our device, to blow air into sleeve. It may cause damage to sleeve.
- Sleeve is not washable.
  (The durability of sleeve may be weaker if it is wet.)
- Except testing the device, do not inflated the sleeves without wearing them. Do not use other manufacturer's products, to the sleeves. It may cause damage to sleeves.

2-4. Device safekeeping and maintenance

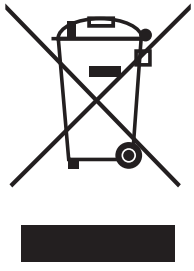
- Immediately request maintenance to a vendor or customer service center in case of any damage to the device.
- Check cleanness and safe operation before using the device when the device is not used for a long time.
- Store the device in the area where harmful conditions do not present, harmful conditions may include steam pressure, high/low temperature, humidity, ventilation, sunlight, dust, and salinity.
- When the device is installed or carried, be cautious about not shaking or dropping the device.
- Inspect the device and accessories on a regular basis.
- Prior to using the device, confirm that the device is clean and functions properly.
- Keep children away from this device due to the risk of electric shock or other serious injuries.
- Once a year, please check the maintenance by a service center agent or distributor.

- Do not attempt to open, repair, or modify this device.
  Doing so may lead to a risk of fire, electric shock, or injury to the user.

2-5. Miscellaneous

- Stop the device immediately when any of the following symptoms is observed and notify/consult the physician/medical professional.
  * Any abnormal symptom in a body including feet, calves or legs during the application.
  * Hyperventilating or dizziness during the application.
  * Excessive pressure caused by the device with air compression on a specific area or a body
  * Itching or paralysis while putting on a sleeve

2-6. WEEE marking



This symbol indicating separate collection for EEE is based on DIRECTIVE 2012/19/EU.

The purpose of this Directive is to contribute to sustainable production and consumption by, as a first priority, the prevention of WEEE and, in addition, by the re-use, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste and to contribute to the efficient use of resources and the retrieval of valuable secondary raw materials.

This Directive cover all EEE used by consumers and EEE internded for professional use.

Consumers have to actively contribute to the success of such collection and should be encouraged to return WEEE.

The Producer have to provide the information of re-usable, recyclable and recoverable rate. 75% shall be recovered, and 55% shall be prepared for re-use and recycled within category 5 (Small equipment) in DIRECTIVE 2012/19/EU ANNEX III .

MK400L is a recoverability rate of 87.86% and a recyclability rate of 81.25%.

Information for treatment facilities shall be made available to centres which prepare for re-use and treatment and recycling facilities by producers of EEE.
DAESUNG MAREF, whenever, is prepared to provide.

2-7. Cleaning

2-7-1. How to clean the device

- If any foreign materials get on the device, first turn off the device and use a soft cloth to wipe the device with a bit of water or a neutral detergent.
  (It may cause discoloration, damage or malfunction.)

- If you sanitize product, first turn off the device and wipe off with soft cotton using neutral detergent.
  (It may cause discoloration, damage or malfunction.)

- Please be careful, do not allow liquid to enter the AC socket on the back of the device or the air socket on the front of device.

- Do not wipe the device with benzene, thinner, alcohol, etc or spray water directly on the device.
  (It may cause discoloration, damage, electric shock or fire.)

  * Use neutral detergent or the alkalescence for cleaning.
    Dilute in water if it is Alkali undiluted state.
    Drug use: be careful not to enter into the skin or eyes.

2-7-2. How to clean the tubing

- If any foreign material gets on the tubing, use a soft cloth to wipe the tubing with a bit of water or a neutral detergent.

- Be careful of any liquid doesn't go into the tubing.
  (It may cause the durability of the tubing if water is inside of the tubing, it could also break and cause a fire if and when water goes into the device from the tubing.)

- Do not spray water directly on the tubing or put the tubing into the water.

- Do not wipe the device with benzene, thinner, alcohol, etc.

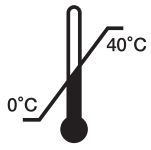
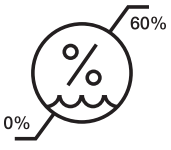
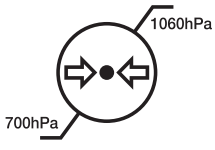
2-7-3. How to clean the sleeve

- If any foreign material on the sleeve, use dried cloth or tissue to wipe the sleeve.

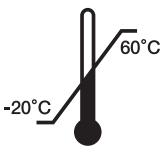
- Use little bit of neutral detergent or water on a soft cloth and completely dry the sleeve. (It may cause decline the durability or modify when the sleeve is wet.)

2-8. Operating, storage and cleaning conditions

2-8-1. Operating conditions

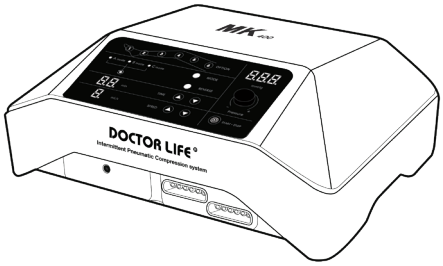
Temperature (°C)	Relative humidity (%)	Atmospheric Pressure (hPa)
		

2-8-2. Storage conditions

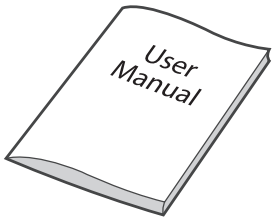
Temperature (°C)	Relative humidity (%)
	

3 Product package

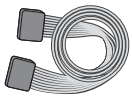
3-1. Device part



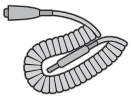
Main body



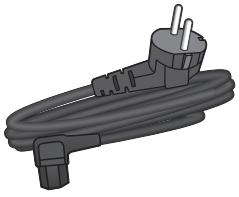
User manual



Air tubing (2EA)

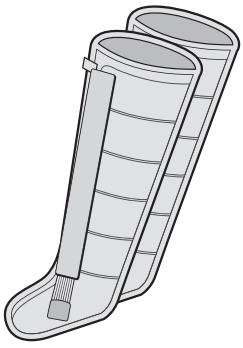


remote switch (1EA)

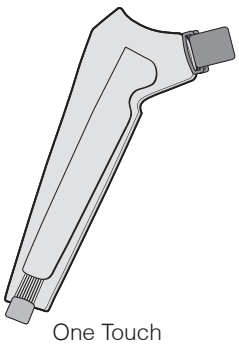


Power code

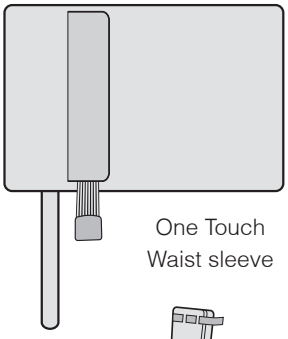
3-2. Accessories



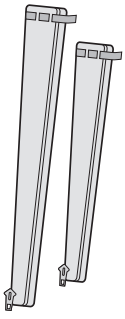
One Touch
Leg sleeve



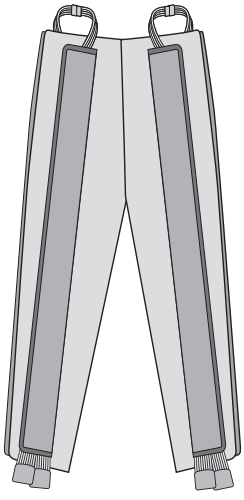
One Touch
Arm sleeve



One Touch
Waist sleeve



Leg & Arm
& Full body
Extension zipper



Full body sleeve

Ref.No	Part name
6LAGL20	LEG SLEEVE (L)
6LAGX30	LEG SLEEVE (XL)
6LAGY00	LEG SLEEVE (XXL)
6AAGF10	ARM SLEEVE
6WAGF10	WAIST SLEEVE
6PAGF00	FULL BODY SLEEVE

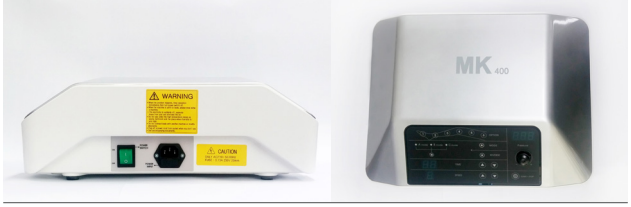
4 Product description

4-1. Device specifications

Items		Specification
Model		MK400L
Protection Type		Class I, BF-type Device
Rated Voltage		100-127Vac~,50/60Hz
		200-240Vac~,50/60Hz
Fuse capacity		F3.15AL/250V
Power Consumption		65VA
		75VA
Pressure Setting		10-200mmHg ± 20mmHg (Unit : 10mmHg)
Time range		1-90min (Unit : 1min)
Dimension		414(W) x 310(D) x 160(H)mm
Weight		5kg (Only body)
Certification	SAFETY	IEC60601-1
	EMC	IEC60601-1-2

Rx ONLY Setting pressure should be operated under doctor's instructions.

4-2. Device views



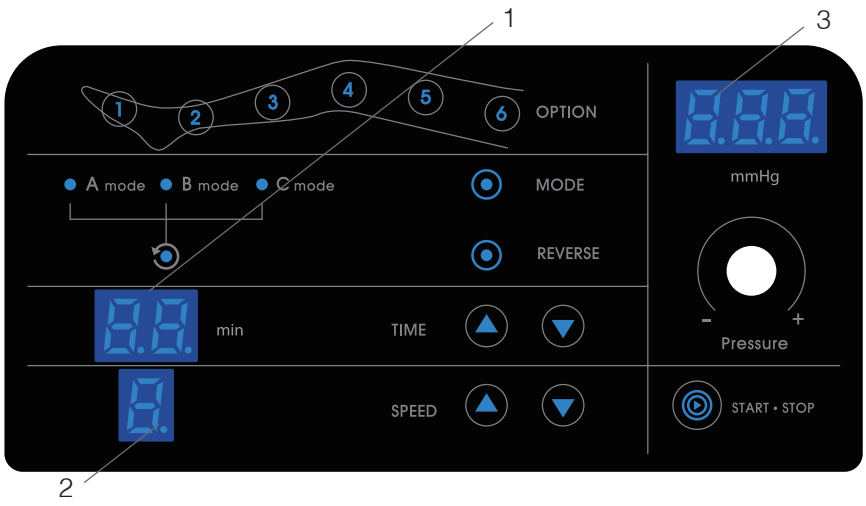
Back Top

Left side Front Right side

4-3. Names and Functions of Parts

No	Name	No	Name
1	OPTIONAL CARE BUTTON	6	OPERATING PRESSURE SET UP KNOB
2	MODE SELECT BUTTON	7	START/STOP BUTTON
3	TIME SET UP BUTTON	8	REVERSE BUTTON
4	SPEED SET UP BUTTON	9	AIR SOCKET
5	REMOTE SOCKET	10	HANDLE

4-4. Names and Functions of Display



No	Name	No	Name	No	Name
1	Time setting	2	Speed setting	3	Pressure setting

5 Product use and procedure

5-1. Before using a device

For a user during initial period, we recommend you to use this device from the lowest pressure intensity, and increase the pressure intensity gradually with checking the body conditions under a doctor's advice for more safe and effective use. Please check the condition of the sleeve and device before use. Please make yourself as a comfortable posture for best effects.

5-2. Setup and use

1) Set the device on a desk or flat place horizontally and connect the AC cord (plug) the device after checking local voltage.
2) Insert the plug of a connectable tubing into a socket of the device perfectly.
3) Connect a tubing to a sleeve.
4) Apply the selected sleeve to a patient. We recommend for a patient to sear thin cloths to protect skin and sweater during operation. (Please zip up perfectly. If unzipped sleeve can damage the skin or sleeve during operation)
5) Set the devices of MODE, TIME, PRESSURE, SPEED and REVERSE.
   Or press the START/STOP button without any setting for the previous setting use or factory recommended setting use.
6) Press START/STOP button to start operating.
7) If the timer does not end during use, please press the Start / Stop button again to deactivate the device.
8) After the air is completely deflated from the sleeve, disconnect the power cable and press the power button to completely shut off the power.

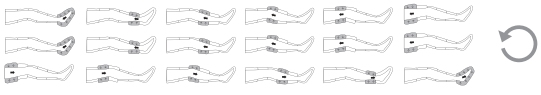
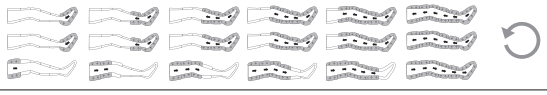
5-3. MODE setting

Touch the MODE button until you can select your wanted mode from A mode, B mode, C mode. If you touch "⦿"of MODE, MODE indicator LED is displayed to the selected mode in order of A mode > B mode > C mode > A mode

A mode (Wave mode by 1 chamber)	The selected air chamber(s) inflate(s) and deflates by one chamber sequentially up to thigh from foot. 
B mode (Squeezing mode)	After all the selected air chamber(s) inflate(s) sequentially up to thigh from foot, the inflated chambers deflates at once. 
C mode (Wave mode by 2 chambers)	The selected air chamber(s) inflate(s) and deflates by two chambers sequentially up to thigh from foot. 

5-4. REVERSE setting

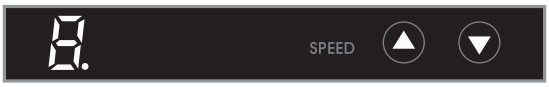
If "⦿" button of REVERSE is touched, after LED of "↺" is displayed, the selected mode is changed to REVERSE mode automatically. Press "⦿" button of REVERSE to change one mode of from A mode, B mode, C mode to Reverse mode as the pictures.

A mode (+ reverse mode)	It repeats that A mode is operated reversely after two normal operations of A mode. 
B mode (+ reverse mode)	It repeats that B mode is operated reversely after two normal operations of B mode. 
C mode (+ reverse mode)	It repeats that C mode is operated reversely after two normal operations of C mode. 

5-5. TIME setting

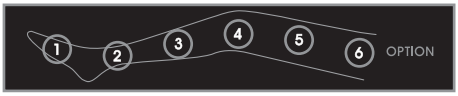
- If the ▲ button is touched to increase use time, time indicator increases by 1 minutes unit.
- If the ▲ button is touched for a long time, time indicator increases quickly.
- If the ▼ button is touched to decrease use time, time indicator decreases by 1 minutes unit.
- If the ▼ button is touched for a long time, time indicator decreases quickly.
- Time range is 1~90 minutes.

5-6. SPEED setting



- If the ▲ button is touched to increase the speed to faster level, speed indicator increases by 1 level unit.
- If the ▲ button is touched for a long time, speed indicator increases quickly.
- If the ▼ button is touched to decrease speed, speed indicator decreases by 1 level unit.
- If the ▼ button is touched for a long time, time indicator decreases quickly.
- Speed level range is 1 ~ 6 level

5-7. OPTIONAL CARE setting



- If you touch the number matched each chamber position, blue light is displayed on LED of the number and the selected chamber is inflated.

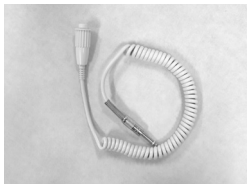
5-8. PRESSURE setting

- If Pressure button is turned to "-" direction, pressure is decreased by 10mmHg and to "+" direction, it is increased by 10mmHg.
- Pressure indicator displays the set pressure value.
- Pressure range is 10~200mmHg.

5-9. START/STOP

- If "◎" of START/STOP is touched and green LED is changed to blue LED, it starts operating. If "◎" of START/STOP is to stop operating and blue LED is changed to green LED, it stops operating.

5-10. Remote switch



- Press the remote switch to start and stop the product.

5-11. Sleeve connection

5-11-1. How to connect tubing to the device

- After connecting a connectable tubing plug to air socket of the device, connect the other remained plug of the tubing to air socket of sleeve.
- There's a hole next to the air socket which user can connect the remote switch.
- Press the remote switch button, stop the operation.

5-11-2. How to use one sleeve



- Apply the selected sleeve from leg sleeve, arm sleeve, waist sleeve to a patient.
- Connect one sleeve and one connectable tubing.
- Insert a tubing plug into air socket of a machine.
- Put the tubing plug into socket of a sleeve and a device perfectly to prevent air leaking during operation.

5-11-3. How to use two sleeve

- Apply two selected sleeves from leg sleeve, arm sleeve, waist sleeve, full body sleeve to a patient.
- Connect two sleeves and two connectable tubings.
- Insert two tubing plugs into two air sockets of a machine.
- Put the tubing plug into socket of a sleeve and a device perfectly to prevent air leaking during operation.

※ Caution : In the case of two arm sleeves use, as arm sleeve is applied near to a heart, please keep a protector near a patient or under a doctor's indications.

5-11-4. How to use extension zipper


- Use an extension zipper if the sleeve does not fit you.
- Zip down completely and put the extension zipper between the sleeve and zip up.

6 Troubleshooting

6-1. General Troubleshooting

No	Condition	Cause	Solution
1	No electric power	Power connection error	Is the plug correctly inserted into outlet?
2	Power on but not operating	Power supply error.	Turn off and on the power to the device.
3	Noisy during operating	Setting condition	Horizontally installed?
			Is something laid on the device?
4	No air in the tubing	Tubing connection error	Is the tubing correctly inserted into the device?
		Tubing bent	Is there any bending place of the tubing?
5	Air is injecting in wrong order.	Connection condition	Is the plug correctly inserted into outlet?

6-2. Others related to defect

No	Condition	Cause	Solution
1	Weak air injection	Air tubing damage	Plug correctly inserted into outlet?
		Air tubing socket damage	
		Inner parts defect	
2	Power on but not operating	Inner parts defect	Contact the seller.

※ We can't be responsible for any defect occurred from user's careless use, even though warranty period.

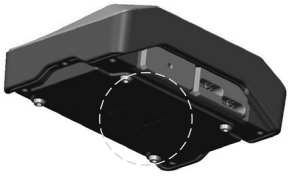
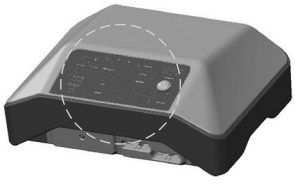
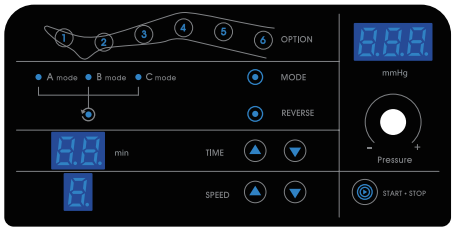
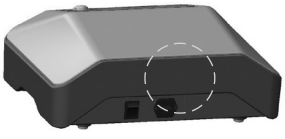
※ Please contact your dealer or the place where you purchased the product for repairs or repurchase.

※ If you can't solve the problem by this way, please contact our service center.

※ If you can't solve the problem by this way, please check the Service Manual (RND-R-MSM-104-02).

7 Labels

7-1. Label for main device

No	Label location and description	Label designs
1	 Lower of Device (Main Label)	DS MAREF DAESUNG MAREF CO.,LTD. 298-24, Gongdan-ro, Gunpo-si, Gyeonggi-do, Korea Tel : +82-31-459-7211 Fax : +82-31-459-7215 E-mail : info@dsmaref.com www.dsmaref.com EC REP KTR Europe GmbH Mergenthalerallee 77, Eschborn, Hessen, 65760, Germany Tel: +49(0) 6196 887170 Fax: + 49(0) 6196 887 1728 Product name: Intermittent Pneumatic Compression system Model name: MK400L Dimension: 414(W) x 310(D) x 160(H) mm Weight: 5kg (Only Body) Power source: AC200 - 240V, 50/60Hz Power consumption: 75VA Setting Pressure: 10~200mmHg ±20mmHg (Unit : 10mmHg) Setting Time: 1~90 min (Unit : 1 min) Ambient operating conditions: 0~40℃, 0~60%, 700~1060hPa Made in Korea CE 1639 RND-R-MUM-104-01-02 SN
2	 Top of Device (Window Sheet)	
3	 Back of Device (Warning sticker)	⚠ WARNING * When the problem happens, Stop operation immediately, then turn power switch off. * When the machine is unfit for body, please stop using a machine. * The electricity is suddenly off, seperate tubing from pad and eliminate the air. * Do not use under the high temperature places as sauna, bathroom and the place where humidity is very high. * Do not connect body with another machine or modify absolutely. * Plug off a power cord form socket when you don't use. * See accompanying documents.

8 Information on EMC

8-1. EMC (Electromagnetic Compatibility) Information

Phenomenon	Basic EMC standard or test method	Operating mode	Port tested	Test Voltage	Test level/ requirement
Mains terminal disturbance voltage	CISPR11:2015	Operating	AC Mains	120V , 60Hz 220V , 60Hz 230V , 50Hz	Group1, Class A
Radiated disturbance	CISPR11:2015	Operating	Enclosure	120V , 60Hz 220V , 60Hz 230V , 50Hz	Group1, Class A
Harmonic Current Emission	EN 61000-3-2:2014 IEC 61000-3-2:2014	Operating	AC Mains	230V , 50Hz	Class A
Voltage change, Voltage fluctuations and Flicker Emission	EN 61000-3-3:2013 IEC 61000-3-3:2013	Operating	AC Mains	230V , 50Hz	Pst: 1 Plt: 0.65 Tmax: 0.5 dmax: 4% dc: 3.3%
Electrostatic Discharge Immunity	EN 61000-4-2:2009 IEC 61000-4-2:2008	Operating Stand by	Enclosure	120V , 60Hz 220V , 60Hz 230V , 50Hz	± 8 kV/Contact ± 2, ± 4, ± 8, ± 15 kV/Air
Radiated RF Electromagnetic Field Immunity	EN 61000-4-3:2006+A2:2010 IEC 61000-4-3:2006+A2:2010	Operating Stand by	Enclosure	120V , 60Hz 220V , 60Hz 230V, 50Hz	3 V/m 80 MHz-2.7 GHz 80% AM at 1 kHz
Immunity to Proximity Fields from RF wireless Communications Equipment	EN 61000-4-3:2006+A2:2010 IEC 61000-4-3:2006+A2:2010	Operating Stand by	Enclosure	120V , 60Hz 220V , 60Hz 230V , 50Hz	Table 9 in IEC 60601-1-2: 2014
Electrical Fast Transient/Burst Immunity	EN 61000-4-4:2012 IEC 61000-4-4:2012	Operating Stand by	AC Mains	120V , 60Hz 220V , 60Hz 230V , 50Hz	± 2 kV, 100 kHz repetition frequency
Surge Immunity	EN 61000-4-5:2014 IEC 61000-4-5:2014	Operating Stand by	AC Mains	120V , 60Hz 220V , 60Hz 230V , 50Hz	Line to Line ± 0.5 kV, ± 1 kV Line to Ground ± 0.5 kV, ± 1 kV, ± 2 kV

Immunity to Conducted Disturbances Induced by RF fields	EN 61000-4-6:2014 IEC 61000-4-6:2013	Operating Stand by	AC Mains	120V , 60Hz 220V , 60Hz 230V , 50Hz	3 V 0.15-80 MHz 6 V in ISM bands Between 0.15 MHz and 80 MHz 80% AM at 1 kHz
Power Frequency Magnetic Field Immunity	EN 61000-4-8:2010 IEC 61000-4-8:2009	Operating Stand by	Enclosure	120V , 60Hz 220V , 60Hz 230V , 50Hz	30 A/m 50Hz & 60Hz
Voltage dips	EN 61000-4-11:2004 IEC 61000-4-11:2004	Operating Stand by	AC Mains	100V , 50Hz 100V , 60Hz 240V , 50Hz 240V , 60Hz	0 % U_T: 0.5 cycle At 0°, 45°, 90°, 135°,180°, 225°, 270° and315° 0 % U_T; 1 cycle and 70 % U_T; 25/30 cycles Single phase: at 0°
Voltage interruptions	EN 61000-4-11:2004 IEC 61000-4-11:2004	Operating Stand by	AC Mains	100V , 50Hz 100V , 60Hz 240V , 50Hz 240V , 60Hz	0 % U_T; 250/300 cycle

9 Symbols Information

9-1. Symbols Information (Device)

Symbols	Explanation	Reference
	Manufacturer	EN ISO 15223-1 5.1.1
	European Representative	EN ISO 15223-1 5.1.2
	Data of Manufacture	EN ISO 15223-1 5.1.3
	Serial Number	EN ISO 15223-1 5.1.7
	Symbol that indicates electrical and electronic components which must be collected separately.	EN 50419
	The official mark of Europe Certificate	CE logo
	Type BF applied part	IEC 60878 5333
	Refer to instruction manual	ISO 7010 M002
	General warning, Caution	ISO 7010 W001
	Alternating current	IEC 60878 5032
	Alarm off Button	IEC 60878 5007
	Alarm on Button	IEC 60878 5008
	START/STOP Button	Custom Symbol

	Decrease Button	Custom Symbol
	Increase Button	Custom Symbol

9-2. Symbols Information (EPS)

Symbols	Explanation	Reference
	Symbol recommending the recycling of polluting components	EN ISO 60878 1135

9-3. Symbols Information (Sleeve Box)

Symbols	Explanation	Reference
	Manufacturer	EN ISO 15223-1 5.1.1
	General warning, Caution	ISO 7010 W001
	The official mark of Europe Certificate	CE logo
	Temperature limitation	EN ISO 15223-1 5.3.7
	Humidity limitation	EN ISO 15223-1 5.3.8
	This way up	ISO7000 0623
	Do not hang on hooks in the box	ISO 7000 0622

	Fragile, handle with care	EN ISO 15223-1 5.3.1
	Keep dry	EN ISO 15223-1 5.3.4

9-4. Symbols Information (Sleeve)

Symbols	Explanation	Reference
	General warning, Caution	ISO 7010 W001
	The official mark of Europe Certificate	CE logo
	Batch code	EN ISO 15223-1 5.1.5
	Connected Direction	Custom Symbol

9-5. Symbols Information (Sleeve vinyl)

Symbols	Explanation	Reference
	Manufacturer	EN ISO 15223-1 5.1.1
	European Representative	EN ISO 15223-1 5.1.2
	The official mark of Europe Certificate	CE logo

	Symbol that indicates electrical and electronic components which must be collected separately.	EN 50419
	Consult instructions for use	EN ISO 15223-1 5.4.3

9-6. Symbols Information (Carton Box)

Symbols	Explanation	Reference
	Manufacturer	EN ISO 15223-1 5.1.1
	European Representative	EN ISO 15223-1 5.1.2
	Refer to instruction manual	ISO 7010 M002
	Type BF applied part	IEC 60878 5333
 1639	The official mark of Europe Certificate	CE logo
	Symbol that indicates electrical and electronic components which must be collected separately.	EN 50419
	Temperature limitation	EN ISO 15223-1 5.3.7
	Humidity limitation	EN ISO 15223-1 5.3.8
	Fragile, handle with care	EN ISO 15223-1 5.3.1

	Keep dry	EN ISO 15223-1 5.3.4
	Load Limitation	ISO 7000 2403
	This way up	ISO7000 0623
	Do not hang on hooks in the box	ISO 7000 0622

9-7. Symbols Information (User manual)

Symbols	Explanation	Reference
	General warning, Caution	ISO 7010 W001
	Manufacturer	EN ISO 15223-1 5.1.1
	General prohibition sign	ISO 7010 P001
	Do not take to pieces	Custom Symbol
	Symbol that indicates electrical and electronic components which must be collected separately.	EN 50419
	The official mark of Europe Certificate	CE logo

	European Representative	EN ISO 15223-1 5.1.2
	Temperature limitation	EN ISO 15223-1 5.3.7
	Humidity limitation	EN ISO 15223-1 5.3.8
	Atmospheric pressure limitation	EN ISO 15223-1 5.3.9

Warranty

Much appreciated on using our device. We, DAESUNG MAREF are doing our best to improve the quality of our products.

※ We can not be responsible for any defect occured from user's careless use or in case of followings, even though warranty period :

1. Disorder happened by strong impact.
2. In case user repair or reproduce internal part arbitrarily.
3. In case of using the device in prohibited place.
4. In case of against our <How To Use>
5. Sleeve is articles of consumption.

Device name	**Intermittent Pneumatic Compression system**
Model name	**MK400L**
Warranty	**Device : 1 year**

DS MAREF
DAESUNG MAREF CO.,LTD.