DS MAREF is a leading company having the most selections in various pneumatic medical systems like DVT prevention, Lymph edema, Thermo therapy, Tourniquet, Rehabilitation, home care since 1986.

We are exporting our products in surgical, orthopedic, sports/rehabilitation, beauty and home fields world widely through international certificates. We are growing by highly annually with powerful competitiveness of the products in quality, design and price. We will do our best to provide high quality pneumatic medical systems through constant developing.

Marketing sectors of DS MAREF

Surgical  Physio  Rehab  Sports  Beauty  Health
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Pre & Intra Operative Products

DVT Prevention System
- DVT prevention system
- DVT-4000S
- DVT-2600
- DVT-pro

Pneumatic Tourniquet system
- DTS-3000
DVT- 4000S
Professional DVT Prevention System

Main features for DVT-4000S
- Simultaneous compression proven by the superior clinical results
- Silent operational sound
- Durable sleeve (spec in 2 months)
- Optional manual setting
- Safety system visually & audibly
- Full touch button and display for easy checking & setting
- Automatic maintenance checking and adjustment by a touch button.

DVT-4000S is designed to manage and monitor continually the status and progress of DVT prophylaxis in high risk patients, especially those requiring long-term prevention at home after leaving hospital as well as pre-operative. The recording functions checks and saves the date of use, the hours of use, a type of sleeves used and errors occurred during operation. The maintenance program makes it easy to check the product functions are operated appropriately and keep the quality through full touch screen and buttons. The exterior of the pump has the full-touch LCD display, high quality finish with IPX0 level, III and the rear design to clean easily. The tubing has a connector that is easy to connect to the pump and a flat and integral body that can be easily cleaned.
DVT- 2600
Professional DVT Prevention System

DVT-2600 is a professional DVT prevention system that works simultaneously, sequentially, and comfortably for patients and meets their satisfaction and effective results.

This device provides various optimized programs such as automatic one-stop operation, optional manual operation, visible LCD screen and the battery which can be used for 6~8 hours. This device detects the connected sleeves and supplies air into the sleeves suitably. Safety Alarm system goes off when it detects problems.

Sleeves for DVT-4000s and DVT-2600
We, DS MAREF uses eco-friendly materials for the sleeves. You can have options, disposable sleeves and reusable sleeves according to patients condition. All the sleeves are high quality products passed the pressure test of 60mmHg during 2 months. We have various sizes of thigh, calf, boot and foot type of sleeves.
DVT-pro is optimally designed to allow patients to go anywhere while wearing the pouch with an ultralight and subminiature DVT pump. It operates a simultaneous compression for more effective results. The wide screen is clearly visualized at night as well as during the day. DVT-Pro can collect the recorded time in each use. Its air sensor in the device can measure the pressure regardless of any condition change from outside. For safety use, it can be deflated automatically when the power is off suddenly or the machine is defective.

Product features
- Cryo therapy with Air compression
- Sequential Three Chamber Gradient, Simultaneous Compression (2 X - Venous Return)
- Simple one touch operation
- Digital LCD (Visible Day & Night)
- Adjustable locking settings
- Auto sleeve detection & system check
- Patient Compliance recorder
- Lithium ion battery (up to 8 hr.)
Clinical study of DVT-series

DVT-2600 Simultaneous compression was approved in our published clinical study.

That the protocol of simultaneous compression improves the peak velocity, mean velocity, total volume flow and peak volume flow compared with alternative compression of other brands.

The clinical comparison parameters between Simultaneous compression and Alternative compression

<table>
<thead>
<tr>
<th>Venous Hemodynamic</th>
<th>Group SF (N=54 Limbs) Right/Left</th>
<th>Group AA (N=54 Limbs) Right / Left</th>
<th>p²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycling rate, cycles/h</td>
<td>90</td>
<td>76.9 +/- 20.4</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Compression time, s</td>
<td>12</td>
<td>11</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Augmented PV, cm/s</td>
<td>62.8 +/- 17.8/57.1 +/- 20.2</td>
<td>56.2 +/- 19.5/68.5 +/- 18.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Augmented MV, cm/s</td>
<td>20.4 +/- 16.6/23.1 +/- 6.1</td>
<td>18.2 +/- 4.7/18.3 +/- 6.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Augmented PVF, mL/min</td>
<td>668.6 +/- 229.5/600.2 +/- 302.8</td>
<td>514.6 +/- 191.7/466.0 +/- 196.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Augmented TVF, mL/min</td>
<td>402.7 +/- 188.2/339.0 +/- 219.8</td>
<td>324.2 +/- 150.5/272.7 +/- 158.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ETN, mL/h</td>
<td>724.0 +/- 338.9/612.8 +/- 395.7</td>
<td>4242.0 +/- 2419.0/3584.5 +/- 1390.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ETN (ETN/BSA), mL/h/m²</td>
<td>4496.4 +/- 2157/2937.2 +/- 24036.1</td>
<td>2769.1 +/- 1449.9/2281.2 +/- 823.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>EPV, mL/h</td>
<td>999.8 +/- 344.3/904.0 +/- 454.2</td>
<td>633.1 +/- 321.4/625.5 +/- 196.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>EPV (EPV/BSA), mL/h/m²</td>
<td>625.9 +/- 222.7/561.9 +/- 269.5</td>
<td>406.8 +/- 207.3/362.2 +/- 121.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PV ratio</td>
<td>2.2 +/- 1.0/3.0 +/- 4.4</td>
<td>2.4 +/- 0.7/2.0 +/- 1.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>MV ratio</td>
<td>3.3 +/- 1.3/3.9 +/- 1.3</td>
<td>3.1 +/- 1.6/3.5 +/- 1.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PV ratio²</td>
<td>2.5 +/- 1.5/2.4 +/- 1.1</td>
<td>2.8 +/- 2.8 +/- 1.4</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Clinical and Applied Thrombosis/Hemostasis
http://cat.sagepub.com
DTS-3000
The Pneumatic Tourniquet System

DTS-3000 is a smart tourniquet system having advanced functions like automatic LOP sensor, recording function, max pressure, 700mmHg, 7” TFT LCD touch key screen, visible alarm system with sound for safety, and a built-in battery.

DTS-3000 has various specialized cuffs of full ranged sizes and kinds with patent in terms of completion of homeostasis.

Especially automatic LOP (Limb Occlusion Pressure) sensing function can suggest optimized LOP as oppose to face following cases.

Pressure setting by doctor’s experience or guidance can be inaccurate. Sometimes, stronger of insufficient pressure than actual LOP value can be a cause of skin damage or leakage problem.

By having LOP sensor DTS-3000 prevents misleading pressure setting and it assists doctors to find right pressure for each patients. Our DTS-3000 LOP sensor detects accurate pressure value without failure for safety based on our own technology.

Record function includes as oppose to medical dispute happens as it is getting increased in contemporary society. For this reason, as essential functions, it saves following objective information like operation time, pressure and error used during operation by real time clock.

At the end time, DTS-3000 alarm system goes off visibly with sound when operation time is finished, leakage error of cuffs or tubing is found or battery is insufficient. Each error can be solved by changing cuff, re-connecting tubing hoses after pressing the alarm button.
Product features

DTS-3000 is a smart tourniquet system having advanced functions like automatic LOP sensor, recording function, max pressure of 700 mmHg, LCD touch key screen, visible and sound alarm system and a built-in battery.

LOP (Limb Occlusion Pressure) sensing
The automatic LOP (Limb Occlusion Pressure) function can suggest optimized LOP to minimized pain or skin damage on the body part wrapped a tourniquet cuff.
The LOP sensor of DTS-3000 prevents misleading pressure setting and it assists doctors to find right pressure for each patients. Our DTS-3000 LOP sensor detects accurate pressure value without failure for safety based on our own technology.

Recording function
The device has the recording function saving objective information like operation time by real time clock, pressure change and any error happened during operation by real time clock.

Alarm system
DTS-3000 alarm system goes off visibly with sound when operation time is finished, the pressure is set over 300mmHg under LOP and 500mmHg under manual setting, any leakage in a cuff or tubing is found or battery is not insufficient for safety use.

No-pinches cuffs
The most tourniquet cuffs have generally a pinch inner of cuff.
The no-pinches cuffs have been developed to minimize any skin damage and blood leakage due to pinches inside of tourniquet cuff. The efficiency of the functions, it has been internationally recognized and proved as a comparative clinical study with the general cuffs was published in the intentional journal.
Post Operation Products

IPC
- Lymphedema
- Lympho-flow (LF400)
- DL 1200H
- MK400L / LX9
- Sleeve

Pain Relief
- CTC 7
- CTC Band
- ICE wrap

Rehabilitation
- REHA pro
Lymphedema

Swelling of the subcutaneous tissues caused by obstruction of the lymphatic drainage. It results from fluid accumulation and may arise from surgery, radiation or the presence of a tumor in the area of the lymph nodes.

Other indications
- Post - paralytic
- Limb convulsion
- Phlebosclerosis
- Diabetes
- Varicose
- Chronically venous insufficiency (CVI)
- Arterial insufficiency

Hypertension
- Post-mastectomy
- Post-traumatic
- Spinal cord injury
- Sciatica
- Sprains
Lymphaflow (LF400)  
Specialized Lymph Edema Therapy

Lymphaflow, LF400 is designed specifically for the effective drainage of the Lymphatic System. It features three treatment modes that are Pre-Therapy, Straight Sequential Mode, and Peristaltic (Massage/Circulation) mode. 
Pre-therapy mode prepares the lymph system for drainage by clearing the lymph noes. Straight Sequential mode with gradient gently and effectively moves excess fluid proximally towards the body. 
Peristaltic mode stimulates active blood flow to the limb. The two modes make sure LF400 delivers optimized lymphatic drainage in body.

The LF400 Vest sleeve is designed specially for the professional care of upper extremity edema. After the lymph node is incised or damaged by mastectomy due to breast cancer or breast plastic surgery, many patients suffer from swelling. The failure to drain the edema in near time after surgery can cause severe skin necrosis (Ulcer).

- Pre - treatment and gradient compression for effective lymphatic drainage. 
- LCD display with touch key control 
- Easy to clean wipe down design. 
- Self detection 
- Various specialized sleeves for lymph edema patients.

The LF400 Vest Sleeve is designed to ensure that the stagnant lymph fluid is well drained to the other normal lymph node as well as the friendly design, taking into account the aesthetic aspects of female patients.
DL1200H
Professional Circulation System (12 chambers)

DL 1200H has various sleeves as full body, leg and arm for effective drainage and minute treatment by 12 chambers. The full body sleeve can be combined with infrared heating system as 2 in 1 therapy. The solid case and stable inner parts are very quiet while running. Users can set customized protocol with 8 compression modes. Pressure, time, hold, and interval functions according to a client’s condition.
MK400L
Professional Circulation System (6 chambers)

The MK400L is a Sequential Intermittent Pneumatic Compression (SIPC) system. This model has the optimized functions for professional uses and the sleeves of 6 chambers compressing more minutely. Especially, the selection of reverse mode can help arterial circulation by sending blood from distal part to proximal part of a body as well as venous and lymphatic circulation.

LX9
Personal Circulation System (4 chamber)

LX9 is a semi-professional compression system with a compact design and effective therapy programs including four compression modes. The device provides automatic operation with an easy START/STOP button or you can select more tailored programs like time, pressure, chamber to be inflated and mode.
Sleeves

DOCTOR LIFE sleeves provide various such as the full body sleeve, the center body sleeve, the leg sleeve, the arm sleeve, the vest sleeve, the stretching mat and the waist sleeve. The sleeve can be selectable according to intended use.
CTC Series
Cyro Thermo Compression

CTC (Cryo Thermo Compression) is the representative brand of our pain relief which maximizes pain relief effect by applying pneumatic technology to cold treatment. The CTC-7 is capable of controlling a wide range of cold and heat by its own program without ice, and can be used effectively in professional medical facilities or fitness as pneumatic operation is carried out at the sure time. There is also a cold-pressing band that can be used easily by a refrigerator or a microwave at home by doctor’s prescription.

CTC 7
for professional use

The CTC 7 is capable of controlling a wide range of cold and heat by its own program without the use of external cooling equipment or ice, and can be used effectively in professional medical facilities or fitness as pneumatic operation is carried out at the sure time.
CTC Band
for personal use

If you have used a gel type of a cryo pack before, you can more conveniently use DOCTOR LIFE’s CTC band that can be fixed with Velcro on the affected area and is able to use with air compression system for more effective treatment of pain and lymphedema for personal use at home as well as hospital.

Features
- No leakage because of special gel and outside fabric packaging.
  (Semi - permanent use)
- Cryo and Thermo therapies are available because the use temperature is with in -15c to 60c.
- Wearing fit is good as the fabric quickly takes away the surface moisture from the condensation.
- The Cryo -Thermo therapy is more effective with the strong Velcro band for the pain areas.

Universal band  Joint band  Back band  Shoulder band
ICE wrap

ICE WRAP cooling and RF heating can be used for a wide range of conditions requiring pain relief.

Cyrotherapy
Acute pain relief, joint swelling, soft tissue inflammation.

Deep layer RF therapy
Non-invasive chronic pain, connective tissue issues, relief of dystonic spasm, lymphatic drainage.
- Power: 600W
- Frequency: 0.5MHz

Combination therapy
Broad pain relief therapy as indicated by a medical professional for acute or chronic pain, swelling, inflammation, musculoskeletal disorders and/or connective tissue disorders.
- Cooling: Max -20°C
- Heating: About 42-45°C
REHA pro
Pneumatic hand rehabilitation system

Reliever improves functional range of motion in the hand for a variety of neurological post-surgical conditions. Increasing range of motion can be addressed at the wrist and finger joints through repeated passive range.

- 4 exercise modes (finger, wrist, finger relax, finger and wrist)
- Adjustment of degree settings according to patient’s condition
- Applied to right or left hands
- Adjustable to hand size
- Easily and safely used in the home
- Auto checking available for patient’s condition
- Monitors patient’s applied resistance for safe use

‘Brain + Mind through visual + auditory stimulations’

There is a limit in improving the stiffness when passive repetitive movements are continued with general rehabilitation devices

Psychological induction of patient’s active involvement

Rehabilitation exercise system combined with Brain + Mind exercise.
For the carpal and wrist joints of the patients with chronic hemiplegia caused by stroke, (1) the improvement of movement ranges and (2) the amount of muscle tone relief were clinically compared between the experimental group that used Reha-pro as a cognitive rehabilitation device and the control group treated by manual methods of physical therapists.

(1) Comparison of the improvement of ROM (Range Of Motion)
The improvement of movement ranges before and after rehabilitation of the carpal and wrist joints was similar in both groups, as shown in the graph of Table (1) above. Therefore, the rehabilitation effects of the experimental group have been proved to be excellent.

(2) Comparison of the amount of muscle-tone relief
As shown in the graph (2) above, the amount of muscle-tone relief was significantly increased in the experimental group when compared to the control group. This clinical result demonstrates that Reha-pro of the experimental group is more effective than the manual method of the control group.