ST/508A

ChM®

DUAL ADJUSTABLE TOURNIQUET CONTROL UNIT 30.0021.300

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All comments should be addressed to

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Prior to first use, consult information on how to use the device

1. INDICATIONS FOR USE

Dual adjustable tourniquet control unit is intended to provide compressed air to tourniquets used to control blood flow in extremities in order to produce a bloodless surgical field. The unit is equipped with two independent terminals *(red and blue)*, so the device can work with one or two single tourniquets or one dual tourniquet.

2. TECHNICAL PARAMETERS AND EQUIPMENT

Work factor	Medical compressed air
Feed pressure	400kPa
Number of terminals to provide compressed air to tourniquets	2 independent terminals *(color-coded - red and blue)*
Output pressure (in tourniquets)	0÷500mmHg *(independent regulation for each terminal)*
Time measurement	1s ÷ 99min 59s with 1s increments
Dimensions (W/D/H)	20.5cm x 21cm x 16cm
Weight	3.2kg

The manufacturer reserves the right to introduce design changes.

Equipment supplied with tourniquet control unit

	Name	Pcs.
	Tourniquet control unit air hose - blue cat. no. 30.0035.010	1
	Tourniquet control unit air hose - red cat. no. 30.0035.020	1
	Compressed air spiral hose cat. no. 30.0037.xxx	1

The hose length and type of quick coupling for connection to the medical gases outlet point acc. to the customer's specification (table 1)

Table 1.

Quick coupling connector type *(acc. to ISO 9170-1)*	Hose cat. no.
SS 875 24 30 *(AGA Swedish Standard)*	30.0037.1xx*
DIN 13260-2 *(German Standard)*	30.0037.2xx*
ENV 737-6 *(European Standard)*	30.0037.3xx*
UNI 9507 *(Italian Standard)*	30.0037.4xx*
BS 5682-1998 *(British Standard)*	30.0037.5xx*
AS 2896 *(Australian Standard)*	30.0037.6xx*
AFNOR NF S 90-116 *(French Standard)*	30.0037.7xx*

* XX – length of the hose max 10m *(e.g. 25 - 2.5m; 05 - 0.5m for 10m - 00)*

3. ACCESSORIES

3.1. TOURNIQUETS

No	Product name	Scope of use *(limb circumference in cm)*	Dimensions	Cat. No
1	Single arm tourniquet	25÷40	64x13	30.0009
2	Single tourniquet for children	14÷20	50x6	30.0010
3	Dual tourniquet for children	14÷20	50x11	30.0011
4	Single femoral tourniquet	38÷58	85x14	30.0012
5	Single femoral tourniquet	38÷58	120x13.5	30.0013
6	Single femoral tourniquet	38÷58	140x13.5	30.0008
7	Conical single femoral tourniquet	40÷60	110x11	30.0014
8	Single arm tourniquet long	38÷58	82x8	30.0015
9	Single arm tourniquet	25÷40	62x7	30.0016
10	Single tourniquet for babies	10÷17	30x3	30.0017
11	Dual torniquet	38÷58	84x16	30.0018
12	Dual torniquet	25÷40	64x13	30.0019

Tourniquets are additional equipment of the control unit and are offered as separate devices.

3.2. MOBILE STAND FOR TOURNIQUET CONTROL UNITS

The stand **[30.0027.000]** serves as a mobile platform for the tourniquet control unit. It is equipped with a stable base provided with rubber wheels, basket for tourniquets, pneumatic hoses or other accessories as well as a mounting base for connecting the unit with the stand.

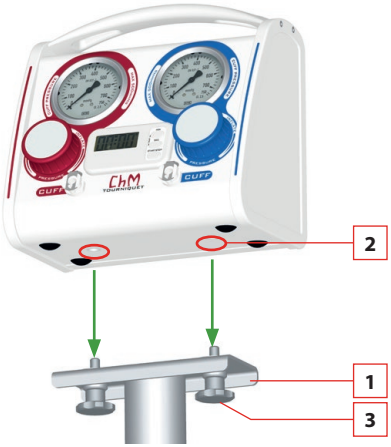
Mobile stand for tourniquet control units is additional equipment of the control unit and is offered as a separate device.

Technical parameters	
Dimensions *(W/D/H)*	85cm x 60cm x 60cm
Height with unit	105cm
Weight	5.2kg

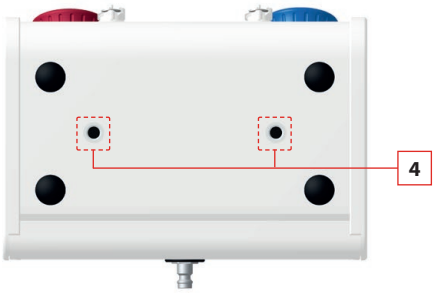
FIG. 1. Mobile stand for tourniquet control units *(with the unit mounted)*

Installation of the control unit on the stand

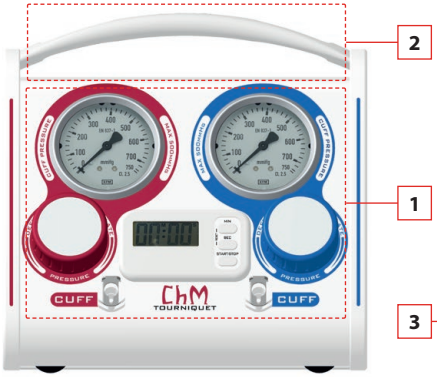
Position the unit on the stand support *(1)* so that the threaded holes *(2)* in the unit base are in line with fixing screws *(3)* of the stand. Tighten the fixing screws in the base of the stand.



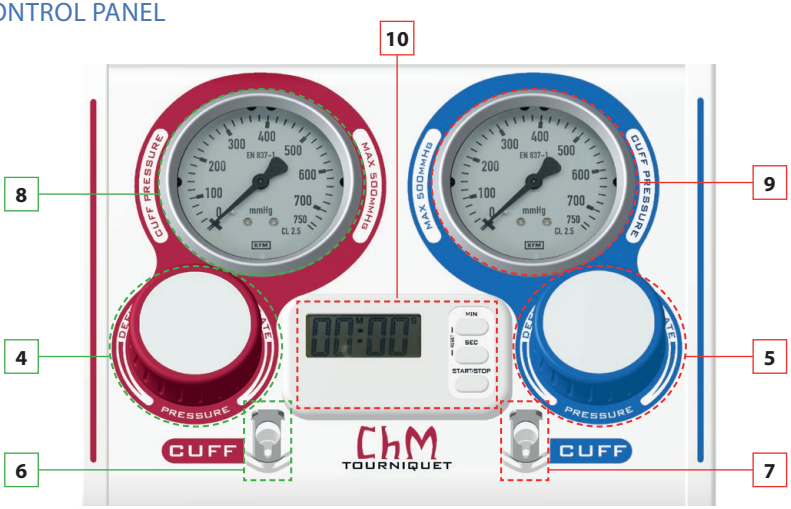
4. CONSTRUCTION



1 - Control panel **2** - Handle **3** - Medical compressed air 400kPa terminal **4** - Holes for mounting the unit on the mobile stand 30.0027.000



4.1. CONTROL PANEL



4 - Knob of pressure regulation - red terminal **5** - Knob of pressure regulation - blue terminal **6** - Spiral hose terminal to connect the tourniquet - red **7** - Spiral hose terminal to connect the tourniquet - blue **8** - Manometer of pressure measurements in tourniquet - red terminal **9** - Manometer of pressure measurements in tourniquet - blue terminal **10** - Timer

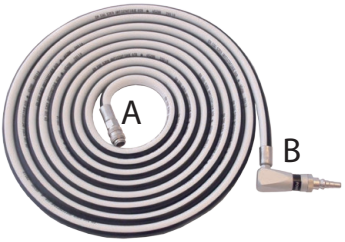
5. OPERATION

5.1. CONNECTION TO THE NETWORK OF MEDICAL GASES

To use the device, it must be supplied with the medical compressed air of a pressure of 400kPa from the hospital medical gases network. Use compressed air spiral hose **[30.0037]** to connect the unit with a network of medical gases.

NOTE:
There are several standards of medical gases network connections *(Table 1)*. Check the compliance of the quick coupling connector standard of the hose B **[30.0037]** with the standard of medical gases outlet point used in the hospital..

Place the device on a flat surface that will provide a good grip for the rubber feet, so the uncontrolled movements of the unit are eliminated. If the case of working with the unit attached to the mobile stand **[30.0027.000]**, use the brakes located at the wheels to immobilize the stand. Before connecting the tourniquet control unit, turn knobs of pressure regulation *(4)* and *(5)* fully counter-clockwise. Use quick coupling connector *(**A**)* to connect the compressed air spiral hose **[30.0037]** with the unit using a medical compressed air terminal located on the rear panel of the device. Connect quick coupling connector *(**B**)* with a network of medical gases – compressed air of 400kPa - the operating rooms are equipped with.



NOTE:
Keep the order of connections performed.

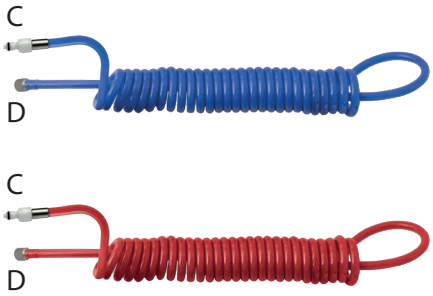
NOTE:
Quick coupling connector *(**B**)* may only be connected to the network of medical gases which is compressed air of 400kPa. Any attempt to connect the tourniquet control unit to the gas outlet other than medical compressed air of 400kPa may result in damage to the quick coupling connector and the device.

When not in use, disconnect the unit from the compressed air network following the procedure opposite to the connection procedure.

NOTE:
The unit when connected to the compressed air network and is not supplying the tourniquet with air, still consumes a small amount of air.

5.2. TOURNIQUET*(S)* CONNECTION

Use tourniquet control unit air hose – blue **[30.0035.010]** and/or tourniquet control unit air hose – red **[30.0035.020]** to connect the tourniquet control unit with tourniquet*(s)*. For easy identification, air hoses are color-coded in compliance with the colors of the unit terminals. Use quick coupling connectors *(**C**)* to connect air hoses with spiral hose terminals located on the unit front panel so that the colors of air hoses match the colors of the unit terminals. Connect threaded quick coupling connectors *(**D**)* of air hoses with two single or one dual tourniquet. In the case of using one single tourniquet, connect it with the red or blue terminal.



NOTE:
In the case of using only one of the terminals, set the pressure in the other one to 0mmHg (turn the knob of the pressure regulation of the unused terminal fully counter-clockwise)

5.3. TOURNIQUET INFLATION AND DEFLATION. PRESSURE REGULATION IN TOURNIQUETS

Use knobs of pressure regulation of red *(4)* and blue *(5)* terminals to inflate, deflate and regulate the pressure in the tourniquets.

NOTE:
Knobs are equipped with protection against accidental changing in the pressure. In order to change the pressure in the tourniquet, pull the knob and then by turning it clockwise or counter-clockwise, change the pressure.

In order to inflate and increase the pressure in tourniquets, turn the knob *(4)* or *(5)*, depending on the regulated terminal, clockwise and observe the corresponding monometer *(8)* or *(9)* where the increase in pressure will be indicated. End the regulation as soon as the desired pressure is achieved.

NOTE:
The maximum pressure for both terminals is 500mmHg.

In order to decrease the pressure in tourniquets, turn the knob *(4)* or *(5)* counter-clockwise. The decrease in pressure will be indicated on the corresponding monometer *(8)* or *(9)*. End the regulation as soon as the desired pressure is achieved. In order to empty the tourniquets, turn the knob *(4)* or *(5)* counter-clockwise fully. The corresponding monometer *(8)* or *(9)* should indicate 0mmHg.

5.4. SETTING TOURNIQUET OCCLUSION TIME

The tourniquet control unit has been equipped with a timer *(10)* which allows for controlling the tourniquet occlusion time. In order to set the time of occlusion, press MIN button to increase the number of minutes. Press SEC button to increase the number of seconds. Press START/STOP button to start the countdown. When the set time of occlusion has passed, sound signal is activated.

NOTE:
The countdown of the set time of occlusion does not start automatically upon inflating the tourniquet.

To reset the timer settings, press simultaneously both MIN and SEC buttons. Pressing START/STOP button at zeroed settings will cause the timer to start count up the time from 00:00 to the maximum of 99min 59sec. In this mode, the occlusion time cannot be set and the sound signal will not be activated when time has passed.

6. CLEANING AND DISINFECTION

The outer surfaces of the device should be cleaned with a soft, moistened *(not dripping)* cloth with a mild detergent solution then wiped dry. In the case of contaminating the housing of the device with infectious agents *(blood, body fluids, etc.)*, disinfection using disinfectants with a neutral pH is recommended. In such cases, soak a soft cloth in disinfectant, wipe the housing and allow it to dry. The mobile stand for tourniquet control units **[30.0027.000]** should be cleaned and disinfected in accordance with the above-mentioned recommendations.

NOTE:
Do not allow the detergents or disinfectants to enter inside the device housing. Should the detergents or disinfectants enter inside the device housing, send the product to the manufacturer for cleaning processes.

7. SERVICE

When servicing and repairing is concerned, please contact the manufacturer's representative or contact **ChM** directly

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It is forbidden to exchange components of the dual adjustable tourniquet control unit. The changes introduced will be the basis to invalidate the warranty.

It is recommended to carry out the battery exchange of the electronic timer at least once a year. Battery exchange can be performed only by the qualified service personnel.

The guarantee does not include product damage as a result of: neglect, improper not as intended use of the product, mechanical damage.
Accessories and spare parts are presented in the **ChM** catalogues. Warranty repairs and maintenance are performed only by the manufacturer of the product, **ChM** company.

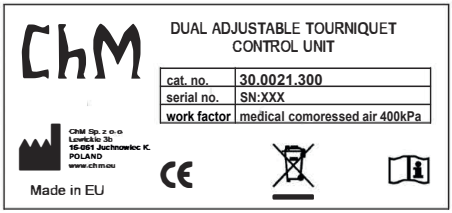
It is recommended to carry out technical maintenance and calibration of the device at least once a year by the manufacturer, **ChM** company.

8. LIFETIME AND DISPOSAL

The lifetime of the tourniquet control unit is assumed for 10 years. After this period, the product should be sent to the manufacturer in order to: determine the device further suitability for use, perform maintenance works, repairs or to recommend the user to purchase a new unit.

9. LABELS AND WARNINGS

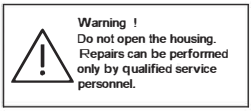
Nameplate

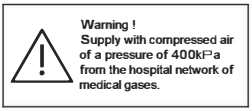


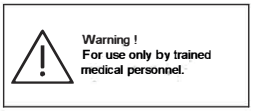
Explanation of symbols on the nameplate

SYMBOL	MEANING	EXPLANATION
	It is forbidden to throw this product away with household refuse	Worn out devices and other electronic and electrical products must be collected separately and disposed of in compliance with the Act on waste electrical and electronic equipment.
	European conformity mark	CE mark confirms that the design of the device is compliant with the guidelines of the European Community
	Instructions for Use	Prior to the first use of the device, consult Instructions for Use.

Warnings placed on the housing







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