



MAR 19 1999

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Mr. J. James Britton  
President  
Britt Corporation, Inc.  
P.O. Box 547  
Freehold, NJ 07728

Re: K974393  
Vaso Press System  
Regulatory Class: II (Two)  
Product Code: 74 JOW  
Dated: December 17, 1998  
Received: December 21, 1998

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the Current Good Manufacturing Practice requirements, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic QS inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

Page 2 - Mr. J. James Britton

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4648. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "<http://www.fda.gov/cdrh/dsma/dsmamain.html>". "

Sincerely yours,

**Thi,**

Director  
Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure



## DEPARTMENT OF HEALTH &amp; HUMAN SERVICES

Public Health Service

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

MAR 19 1999

Mr. J. James Britton  
President  
Britt Corporation, Inc.  
P.O. Box 547  
Freehold, NJ 07728

Re: K974393  
Vaso Press System  
Regulatory Class: II (Two)  
Product Code: 74 JOW  
Dated: December 17, 1998  
Received: December 21, 1998

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.


If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the Current Good Manufacturing Practice requirements, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic QS inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

Page 2 - Mr. J. James Britton

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4648. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, nMisbranding by reference to premarket notificationn (21CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "<http://www.fda.gov/cdrh/dsma/dsmamain.html>."

Sincerely yours,

**T**   
Director

Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

510(k) Number (if known): K.9.i7.4"393,

Device Name: vAsoPREssSsYsTEM

Indications For Use: Treatment of lymphatic and venous disorders.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

*c;? . / / 7*  
- "-----" I:  
(Division Sign-Of)  
D\visiot' o' Cardiovascular, Respiratory,  
and Neurological Devices  
SIO(k) Number **b cfi-4**

Prescription Use **J**,  
(Per 21 CFR 801.109)

OR

Over-The-Counter Use\_\_\_\_\_

(Optional Format 1-2-96)

**Appendix J. 510(k) Statement**

**The following section is included as required by  
the Safe Medical Device Act (SMDA) of 1990.**

Name: J. James Britton  
Address: **Britt** Medical Products  
PO Box 547  
45 East Main Street, Suite 204  
Freehold, NJ 07728

Contact Person: J. James Britton  
Phone Number: (732) 863-1400  
Fax Number: (732) 863-1603

This statement regarding 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR 807.93.

I certify that in my capacity as PRESIDENT OF BRITT MEDICAL PRODUCTS I will make available all information included in this premarket notification on safety and effectiveness within 30 days of request by any person if the device described in the premarket notification is determined to be substantially equivalent. The information I agree to make available will be a duplicate of the premarket notification submission, including any adverse safety and effectiveness information, but excluding all patient identifiers, and trade secret and confidential commercial information, as defined in 21 CFR 20.61.

**Sign**  
Name: . "tton

Position: President



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service.....  
Food And Drug Administration

Memorandum

Date:

From: Reviewer(s) - Name(s)

510(k) Number: \_\_\_\_\_

Subject: 71.f.....

To: The Record - It is my recommendation that the subject 510(k) Notification:

dis substantially equivalent to marketed devices.

D Requires premarket approval. NOT substantially equivalent to marketed devices.

D Requires more data.

D Accepted for review \_\_\_\_\_  
(date)

D Other (e.g., exempt by regulation, not a device, duplicate, etc.)

Is this device subject to Postmarket Surveillance?	· DYES	rnt\fo
Is this device subject to the Tracking Regulation?	DYES	o
as clinical data necessary to support the review of this 510(k)?	DYES	rnNO
Is this a prescription device?	S	ONO

This 510(k) contains:

Truthful and Accurate Statement DRequested 10'Enclosed  
(required for originals receJYed 3-14-95 and after)

DA 510(k) summary OR r1A 510(k) statement

D The required certification and summary for class ID devices

The indication for use form (required for originals received 1-1-96 and after)

The submitter requests under :2iCFR 807.95 (doesn't apply for SEs):

&No Confidentiality o Confidentiality for 90 days o Continued Confidentiality exceeding 90 days

Predicate ProdCode with panel and class: Additional Product Code(s) with panel {optional):

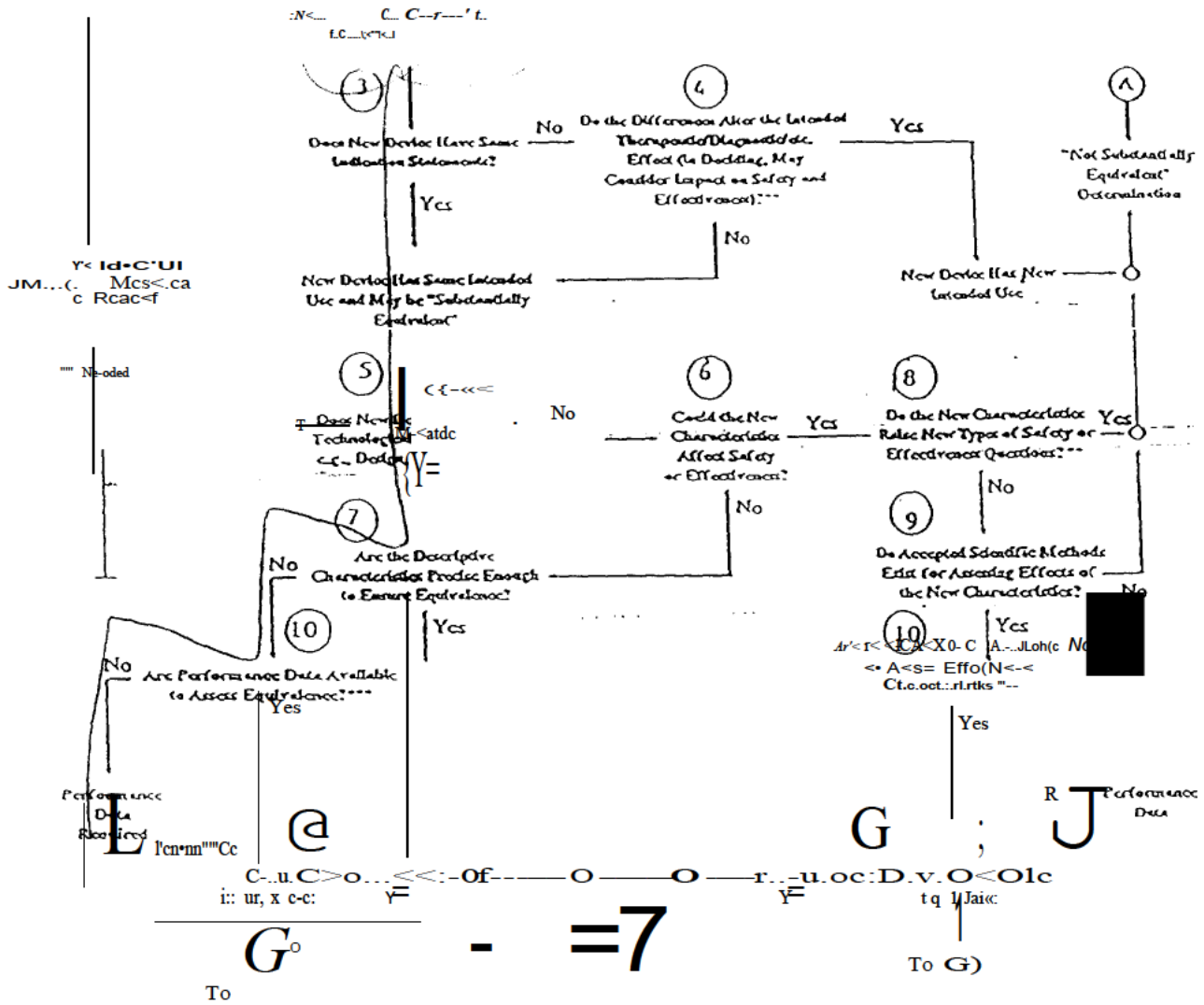
JON !J -;0.S1r!P

iew:--"\_:---:"-:-:--- "'''''''' --' \_\_\_\_\_ L.....(.....:---:---J...L.....L.....J1--1S411...J...J...  
(BranchLhie!), . \_\_\_\_\_ ) !''''''''-4 Cnbranch O ), r ' (Dtj " ,, 1

Final Review: \_\_\_\_\_  
(Division Director) \_\_\_\_\_ (Date)



510(k) SUBSTANTIAL EQUIVALENCE  
DECISION-MAKING PROCESS (OPTIONAL)



510(k) "b:nworu c.)<nrare new dC\%:..s (o a: ul:ctc<1 OC'=- FD...rquac.s ""ddcciocu.! 4o<atncj| <!U:; <ch.t'9usrup between :nHL:C(c<1 :ud "pcc.lie.tc(p<c-Amcdmnc<;; 0=n:r.fusd:cd po.st-Amcn.<Ira.:n<s;j ca ti uo.dc:U.

... This decision is normally based on descriptive information; but limited testing information is sometimes required. OTO may be in the 510(k)...

510(k) Number (if known): K 974393

Device Name: VASO PRESS SYSTEM

Indications For Use: Treatment of lymphatic and venous disorders.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

\_\_\_\_\_  
Concurrence of CDRH, Office of Device Evaluation (ODE)

*[Handwritten Signature]*  
\_\_\_\_\_  
(Division Sign-Off)  
Division of Cardiovascular, Respiratory,  
and Neurological Devices  
510(k) Number K 974393

Prescription Use \_\_\_\_\_  
(Per 21 CFR 801.109)

OR

Over-The-Counter Use \_\_\_\_\_

(Optional Format 1-2-96)

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Services  
Food and Drug Administration  
CENTER FOR DEVICES AND RADIOLOGICAL HEALTH  
Office of Device Evaluation

---

**MEMORANDUM**

Date: 3 February, 1999

From: Joydeb Roy  
Physicist  
DCRND/CSPG

To: File: K974393/S2

Sponsor: Britt Corp.

Subject: Additional Review

Action: Substantial Equivalence (SE)

*TXR 15 March 99*  
*BF*  
*13 Mar 99*

---

**SUMMARY OF FINDING:**

The company has provided additional information dated December 17, 1998 in response to FDA's letter of August 26, 1998. The response addresses the issues raised in the FDA letter. The submitter has responded satisfactorily to the issues. Details are provided in the next page.

Based on the information provided and our review of that information, the submission is judged to be substantially equivalent to the predicate (s).

**RESPONSE TO AUGUST 26, 1998 LETTER**

**QUESTION 1:** With regard to electromagnetic compatibility (EMC) testing, please address the following concerns:

- a. Section 4 of the test report indicated that conducted and radiated emission testing are not performed because the device does not contain "any component that is generating interference above the specified limits" in the frequency ranges 150 kHz to 30 MHz (conducted emission) and 30 MHz to 1 GHz (radiated emission). Please provide scientific justification for your claim or perform the appropriate test and provide the test results.

**RESPONSE:** (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4) Commercial  
Confidential Data / Trade  
Secret (s) / Proprietary Data

FDA: The response is satisfactory.

- b. Electrostatic discharge (ESD) testing was performed in accordance with IEC 60601-1-2 clause 36.202.1. This clause required ESD testing to be performed using the test method specified in IEC 801-2. A test severity level of 3kV contact discharge shall be applied to conductive accessible parts and coupling planes. In addition, IEC 801-2 requires the following:
- (i) if a test severity level is selected, all lower levels must be satisfied;
  - (ii) discharges to the horizontal and vertical coupling planes should be performed; and
  - (iii) discharges shall be applied in the most sensitive polarity.

Therefore please address the following concerns:

- i. Please clarify whether all lower levels were tested (+/- 2 and 4 kV for air discharge and +/- 2 kV for contact discharge). If the device was not subjected to these test levels, please perform the additional tests and provide the results.
- (ii) Please perform indirect ESD testing or provide a rationale for not performing this test.
- (iii) Please provide a rationale for only subjecting the device to positive discharge.

**RESPONSE:** (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4)  
Commercial

FDA: The response is satisfactory.

**QUESTION 2:** In the original submission, you indicated that your device is substantially equivalent to the Flowtron HC, Model Number AC200HC and associated garments manufactured by Huntleigh Healthcare. This device was cleared for marketing via 510(k), K874688. An evaluation of this 510(k) reveals that the AC200HC is a single chamber intermittent compression pump and thus, the sleeves to be used with the pump are all single chamber device. In contrast with the AC200HC, your device can be used with either the single chamber sleeves (i.e., uniform) or the multi-chamber sleeves (i.e., segmental, and gradient). In order to find your device substantially equivalent to the predicate device(s), please provide one of the following:

- a. remove any reference to the multi-chamber sleeves from your submission;
- b. provide a predicate device that can be used with both single and multi-chamber sleeves and produces the same inflation/deflation waveforms as those generated by your device; or
- c. provide additional predicate devices that have the same characteristics as your device when used with the multi-chamber sleeves.

**RESPONSE:** (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

*FDA:* The response is satisfactory.

*QUESTION 3:* Your response to question 1, part c, in the Jetter dated February 18, 1998 is inadequate. You were asked to perform tests on sleeve of all types and sizes you intend to market. However, you have only provided test results showing the waveforms that can be generated when the pump is used with uniform, segmental, or gradient sleeves. For those sleeves that you request clearance for marketing, please provide test results demonstrating that each sleeve (VP 101, VP 102, VP 120, VP 201, VP 202, VP 220, VP 301, VP 302, VP 320) inflates/deflates as designed (i.e., generate the appropriate waveforms ) or provide justification why these tests are not necessary.

**RESPONSE:** (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

*FDA:* The response is satisfactory.

*QUESTION 4:* It appears that the proposed pump has only two outputs, one for each side. Without the description of the multi-chamber sleeves, it is difficult to comprehend how these sleeves are being inflated/deflated with the proposed pump. If applicable, please provide a detailed description of these sleeves and explain the mechanism for inflating and deflating the sleeves.

**RESPONSE:** (b)(4)

*FDA:* The response is satisfactory.

*QUESTION 5:* The promotional material for the VasoPress device contains the following phrase: "Promotes Increased Circulation by Stimulating Natural Muscle Contractions". The manufacturer of the predicate device, Huntleigh, was asked to remove this claim from their labeling prior to FDA clearance of the device. Therefore, please provide data to substantiate your claim or remove it from the device labeling.

**RESPONSE:** (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

*FDA:* The response is satisfactory.

*RECOMMENDATION:* The responses to all questions are satisfactory. There are no more issues to be resolved. The device is judged to be substantially equivalent to the predicate device(s).

December 22, 1998

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

BRITT CORP. , INC.  
PO BOX 547  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510 (k) Number: K974393  
Product: VASO PRESS  
SYSTEM

The additional information you have submitted has been received.

We will notify you when the processing of this submission has been completed or if any additional information is required. Please remember that all correspondence concerning your submission MUST be sent to the Document Mail Center (HFZ-401) at the above letterhead address. Correspondence sent to any address other than the one above will not be considered as part of your official premarket notification submission. Because of equipment and personnel limitations we cannot accept telefaxed material as part of your official premarket notification submission, unless specifically requested of you by an FDA official.

The Safe Medical Devices Act of 1990, signed on November 28, states that you may not place this device into commercial distribution until you receive a letter from FDA allowing you to do so. As in the past, we intend to complete our review as quickly as possible. Generally we do so 90 days. However, the complexity of a submission or a requirement for additional information may occasionally cause the review to extend beyond 90 days. Thus, if you have not received a written decision or been contacted within 90 days of our receipt date you may want to check with FDA to determine the status of your submission.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

REVIEWER: <sup>4</sup> J. «9L

DIVISION/BRANCH: fu u flt[

TRADE NAME: V&,tJ f CoMoN NAME: CrFNf 'tie ,f/e.ev;

PRODUCT TO WHICH COMPARED = -I J.L. ZY(o.!:J. f. C L;...!f>M 'J0..E;7]-

(510(k) NUMBER IF KNOWN)

YES 021

1. IS PRODUCT A DEVICE?

- IF NO STOP

2. DEVICE SUBJECT TO SIO(k)?

- IF NO STOP

3. SAME INDICATION STATEMENT?

- IF YES GO TO 5

DO DIFFERENCES ALTER THE EFFECT OR RAISE NEW ISSUES OF SAFETY OR EFFECTIVENESS?

IF YES STOP - NE

5. SAME TECHNOLOGICAL CHARACTERISTICS?

- IF YES GO TO 7

frO J. COULD THE NEW CHARACTERISTICS AFFECT SAFETY OR EFFECTIVENESS?

- IF YES GO TO 8

7. DESCRIPTIVE CHARACTERISTICS PRECISE ENOUGH?

- IF NO GO TO 10  
- IF YES STOP

NEW TYPES OF SAFETY OR EFFECTIVENESS QUESTIONS?

IF YES STOP -M

9. ACCEPTED SCIENTIFIC METHODS EXIST?

- IF NO STOP - NE

PERFORMANCE DATA AVAILABLE?

1-TT-  - IF NO STOP

DATA DEMONSTRATE EQUIVALENCE?

!SA

NOTE: IN ADDITION TO COMPLETING PAGE 11. "YES" RESPONSES TO QUESTIONS 4, 6, 8, AND 11. AN "NG" RESPONSE REQUIRES AN EXPLANATION ON PAGE THREE AND/OR FOUR

NARRATIVE DEVICE DESCRIPTION

1- INTENDED USE: Treatment lymphatic and venous disorders

2. DEVICE DESCRIPTION: Provide a statement of how the device is either similar to and/or different from other marketed devices, plus data (if necessary) to support the statement. The following should be considered when preparing the summary of the statement. Is the device life-supporting or life sustaining? Is the device implanted (short-term or long-term)? Does the device design use software? Is the device sterile? Is the device for single use? Is the device for home use or prescription use? Does the device contain drug or biological product as a component? Is this device a kit? Provide a summary about the devices design, materials, physical properties and toxicology profile if important.

SUMMARY: &4 1/c\_ s/ru\_ v &frdj/rJ/

1g 1 . Jhe PP r <<  
Inflate & deflate to increase the blood flow  
in the extremities.



EXPLANATIONS TO "YES" AND "NO" ANSWERS TO QUESTIONS ON PAGE 1 AS NEEDED

1. EXPLAIN WHY NOT A DEVICE : \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. EXPLAIN WHY NOT SUBJECT TO SIO(k) = \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. HOW DOES THE NEW INDICATION DIFFER FROM THE PREDICATE DEVICE'S INDICATION :

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. EXPLAIN WHY THERE IS OR IS NOT A NEW EFFECT OR SAFETY OR EFFECTIVENESS ISSUE :

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. DESCRIBE THE NEW TECHNOLOGICAL CHARACTERISTICS : \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. EXPLAIN HOW NEW CHARACTERISTICS COULD OR COULD NOT AFFECT SAFETY OR EFFECTIVENESS : \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. EXPLAIN HOW DESCRIPTIVE CHARACTERISTICS ARE NOT PRECISE ENOUGH: Incomplete

8. EXPLAIN NEW TYPES OF SAFETY OR EFFECTIVENESS QUESTIONS RAISED OR WHY THE QUESTIONS ARE NOT NEW:

9. EXPLAIN WHY EXISTING SCIENTIFIC METHODS CAN NOT BE USED:

10. EXPLAIN WHAT PERFORMANCE DATA IS NEEDED: pressure waveforms for the sleepers, EMC test data, labeling

11. EXPLAIN HOW THE PERFORMANCE DATA DEMONSTRATES THAT THE DEVICE IS OR IS NOT SUBSTANTIALLY EQUIVALENT:

t., CL?1 u-- -to k\_ ccrf t1 H 11  
hQ It=tci=-1pJ r

ATTACH ADDITIONAL SUPPORTING INFORMATION

5

Record processed under FOIA Request # 2018-1307; Released by CDRH on 04-15-2018

# **BRITTCORP**

K974393/52

P.O. Box 547 Freehold, NJ 07728  
Phone (732) 817-1122 Fax (732) 817-1123

December 17, 1998

Food and Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
200 Corporate Boulevard  
Rockville, MD 20850

Re: K974393 u,  
Product: Vasa Pres SysterfP

Attn: Document Control Clerk  
Re: Response to August 26, 1998 Letter

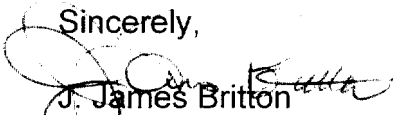
This is in response to the request dated August 26, 1998 for additional information on the subject device.

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



Should you have any questions regarding the submission of this additional data please do not hesitate to contact me at 732-817-1122.

Sincerely,

  
J. James Britton  
President

JK-61

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

Ref No. (b)(4) Commercial Confidential Data / Trade

DATE: 11/11/1998

1. Applicant

Caremed Supply Inc.

B 1, No. 1 L Pao Hon Rd., Hsin Tien,  
Taipei Hsien 23 I, Taiwan, R.O.C.

2. Manufacturer

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

3. Description of Device

PUMP

A) Model

8050

B) Serial No.

/;\

C) Test Item

(1) Conduction (2) Clamp (3) ESD

D) Power Supply

AC 120V, 60Hz

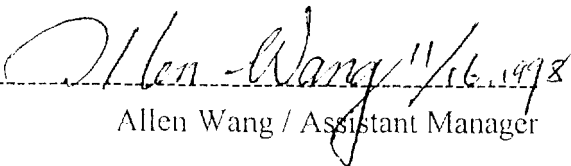
4. Date of Measurement

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

5. Place of Measurement

6. Measurement Results

The results obtained from the measuring of the above mentioned device are as shown in the attached sheets.

  
Allen Wang / Assistant Manager

# 1. Tested Instrumentation Used

## 1.1. For Conducted Measurement

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



## 2. Test Results

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data































## *Electrostatic Discharge Measurement Results*

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data































DEPARTMENT OF HEALTH AND HUMAN SERVICES

PUBLIC HEALTH SERVICE

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

November 03, 1998

BRITT CORP., INC.  
PO BOX 547  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510(k) Number: K974393  
Product: VASO PRESS  
SYSTEM

Extended Until:

(b)(4) Commercial  
Confidential Data /  
Trade Secret (s) /

Based on your recent request, an extension of time has been granted for you to submit the additional information we requested.

If the additional information is not received by the "Extended Until" date shown above your premarket notification will be considered withdrawn.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

41

K974393

# **BRITT CORP**

---

.0. Box 547 • 45 E. Main St. Suite 204 • Freehold, NJ 07728  
Phone (908) 863 • 1400 Fax (908) 863 • 1603

October 28, 1998

CDRH  
Document Mail Center (HFZ-401)  
9200 Corporate Boulevard  
Rockville, MD 20850

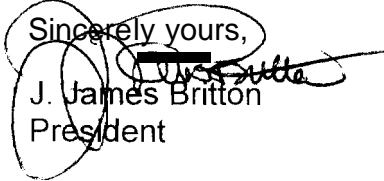
Re: 51O(k) #K97439,\_)

To Whom It May:

I am requesting a further extension to December 15 in order to comply with the request for additional information.

Thank you in advance for your assistance.

Sincerely yours,

  
J. James Britton  
President

SK-24

42

September 25, 1998

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

BRITT CORP. , INC.  
PO BOX 547  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510(k) Number: K974393  
Product: VASO PRESS  
SYSTEM

Extended Until:

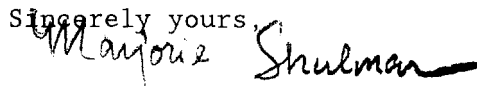
(b)(4) Commercial  
Confidential Data /  
Trade Secret (s) /

Based on your recent request, an extension of time has been granted for you to submit the additional information we requested.

If the additional information is not received by the "Extended Until" date shown above your premarket notification will be considered withdrawn.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,



Marjorie Shulman...,  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

September 25, 1998

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Hail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

BRITT CORP. , INC.  
PO BOX 547  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510 (k) Number: K974393  
Product: VASO PRESS  
SYSTEM

Extended Until:

(b)(4) Commercial  
Confidential Data /  
Trade Secret (s) /

Based on your recent request , an extension of time has been granted for you to submit the additional information we requested.

If the additional information is not received by the "Extended Until" date shown above your premarket notification will be considered withdrawn.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

# BRITT CORP

P.O. Box 547 • 111 Freehold, NJ 07728  
Phone (908) 863-1400 Fax (908) 863-1603

11/1  
C  
V  
OJ  
45

September 22, 1998

In reply to: 510(k) # K974393

CDRH  
Document Mail Center (HFZ-401)  
9200 Corporate Boulevard  
Rockville, MD 20850


To Whom It May Concern:

We have recently received a request for additional information on our 510K application and request additional time to comply.

It will take an additional 4 weeks to obtain the information and request an extension to November 1st in order to submit all the information

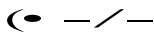
Thank you in advance for your cooperation

Sincerely yours,

  
J. James Britton  
President

SK-70

45



DEPARTMENT OF HEALTH &amp; HUMAN SERVICES

Public Health Service



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Mr. J. James Britton  
President  
Britt Corp., Inc.  
45 East Main Street, Suite 204  
Freehold, NJ 07728

**AUG 26 1998**

Re: K974393  
Trade Name: Vaso Press System  
Dated: May 28, 1998  
Received: June 1, 1998

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above. We cannot determine if the device is substantially equivalent to a legally marketed predicate device based solely on the information you provided. To complete the review of your submission, we require the following:

1. With regard to electromagnetic compatibility testing, please address the following concerns:

**(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data**



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



We believe that this information is necessary for us to determine whether or not this device is substantially equivalent to a legally marketed predicate device with regard to its safety and effectiveness.

You may not market this device until you have provided adequate information described above and required by 21 CFR 807.87(k), and you have received a letter from FDA allowing you to do so. If you market the device without conforming to these requirements, you will be in violation of the Federal Food, Drug, and Cosmetic Act (Act). You may, however, distribute this device for investigational purposes to obtain clinical data if needed to establish substantial equivalence. Clinical investigations of this device must be conducted in accordance with the investigational device exemption (IDE) regulations.

If the information, or a request for an extension of time, is not received within 30 days, we will consider your premarket notification to be withdrawn and your submission will be deleted from our system. If you submit the requested information after 30 days it will be considered and processed as a new 510(k); therefore, all information previously submitted must be resubmitted so that your new 510(k) is complete.

The requested information, or a request for an extension of time, should reference your above 510(k) number and should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
9200 Corporate Boulevard  
Rockville, Maryland 20850

49



If you have any questions concerning the contents of this letter, please contact Joydeb Roy at (301) 443-8262. If you need information or assistance concerning the IDE regulations, please contact the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or at (301) 443-6597, or at its internet address "dsmo@fdadr.cdrh.fda.gov".

Sincerely yours,

*[Handwritten signature]*  
Thomas J. Callahan, Ph.D.

Director  
Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices  
and Radiological Health

*DEPARTMENT OF HEALTH & HUMAN SERVICES*

Prepared by: Jroy:jsy:B/25/98

cc: HFZ-401 DMC  
 HFZ-404 510(k) Staff  
 HFZ- Division  
 D.O.

AUG 26 1998

FILE COPY

OFFICE	SURNAME	DATE	OFFICE	SURNAME	DATE	OFFICE	SURNAME	DATE
It'1-'fJ^?		lo/'						
..ts/;	-v#2k!-t-ii	2v::: ; :v::+ ;:v:						
	" .1	( )						

U.S.GPO 1986-169-089

Mr. J. James Britton  
President  
Britt Corp., Inc.  
45 East Main Street, Suite 204  
Freehold, NJ 07728

Re: K974393  
Trade Name: Vaso Press System  
Dated: May 28, 1998  
Received: June 1, 1998

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above. We cannot determine if the device is substantially equivalent to a legally marketed predicate device based solely on the information you provided. To complete the review of your submission, we require the following:

1. With regard to electromagnetic compatibility testing, please address

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



We believe that this information is necessary for us to determine whether or not this device is substantially equivalent to a legally marketed predicate device with regard to its safety and effectiveness.

You may not market this device until you have provided adequate information described above and required by 21 CFR 807.87(k), and you have received a letter from FDA allowing you to do so. If you market the device without conforming to these requirements, you will be in violation of the Federal Food, Drug, and Cosmetic Act (Act). You may, however, distribute this device for investigational purposes to obtain clinical data if needed to establish substantial equivalence. Clinical investigations of this device must be conducted in accordance with the investigational device exemption (IDE) regulations.

If the information, or a request for an extension of time, is not received within 30 days, we will consider your premarket notification to be withdrawn and your submission will be deleted from our system. If you submit the requested information after 30 days it will be considered and processed as a new 510(k); therefore, all information previously submitted must be resubmitted so that your new 510(k) is complete.

The requested information, or a request for an extension of time, should reference your above 510(k) number and should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
9200 Corporate Boulevard  
Rockville, Maryland 20850

M  
10

If you have any questions concerning the contents of this letter, please contact Joydeb Roy at (301) 443-8262. If you need information or assistance concerning the IDE regulations, please contact the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or at (301) 443-6597, or at its internet address "dsmo@fdadr.cdrh.fda.gov".

Sincerely yours,

Thomas J. Callahan, Ph.D.  
Director  
Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices  
and Radiological Health

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service  
Food And Drug Administration



Memorandum

Reviewer(s) - Name(s), \_\_\_\_\_

Subject: 510(k) Number K-14L-13-S

To: The Record - It is my recommendation that the subject 510(k) Notification:

Refused to accept.

requires additional information (other than refuse to accept).

Accepted for review \_\_\_\_\_

is substantially equivalent to marketed devices.

NOT substantially equivalent to marketed devices.

De Novo Classification Candidate?  YES  NO

Other (e.g., exempt by regulation, not a device, duplicate, etc.)

Is this device subject to Postmarket Surveillance?	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Is this device subject to the Tracking Regulation?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Was clinical data necessary to support the review of this 510(k)?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Is this a prescription device?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Was this 510(k) reviewed by a Third Party?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Special 510(k)?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Abbreviated 510(k)?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

This 510(k) contains:

Truthful and Accurate Statement requested Enclosed  
(required for originals received 3-14-95 and after)

A 510(k) summary OR  A 510(k) statement

The required certification and summary for class III devices

The indication for use form (required for originals received 1-1-96 and after)

Material of Biological Origin  YES  NO

The submitter requests under 21 CFR 807.95 (doesn't apply for SEs):

No Confidentiality  Confidentiality for 90 days  Continued Confidentiality exceeding 90 days

Predicate Product Code with class: \_\_\_\_\_ Additional Product Code(s) with panel (optional): \_\_\_\_\_

Reviewed: \_\_\_\_\_  
(Branch Chief) (Branch Code) (Date)

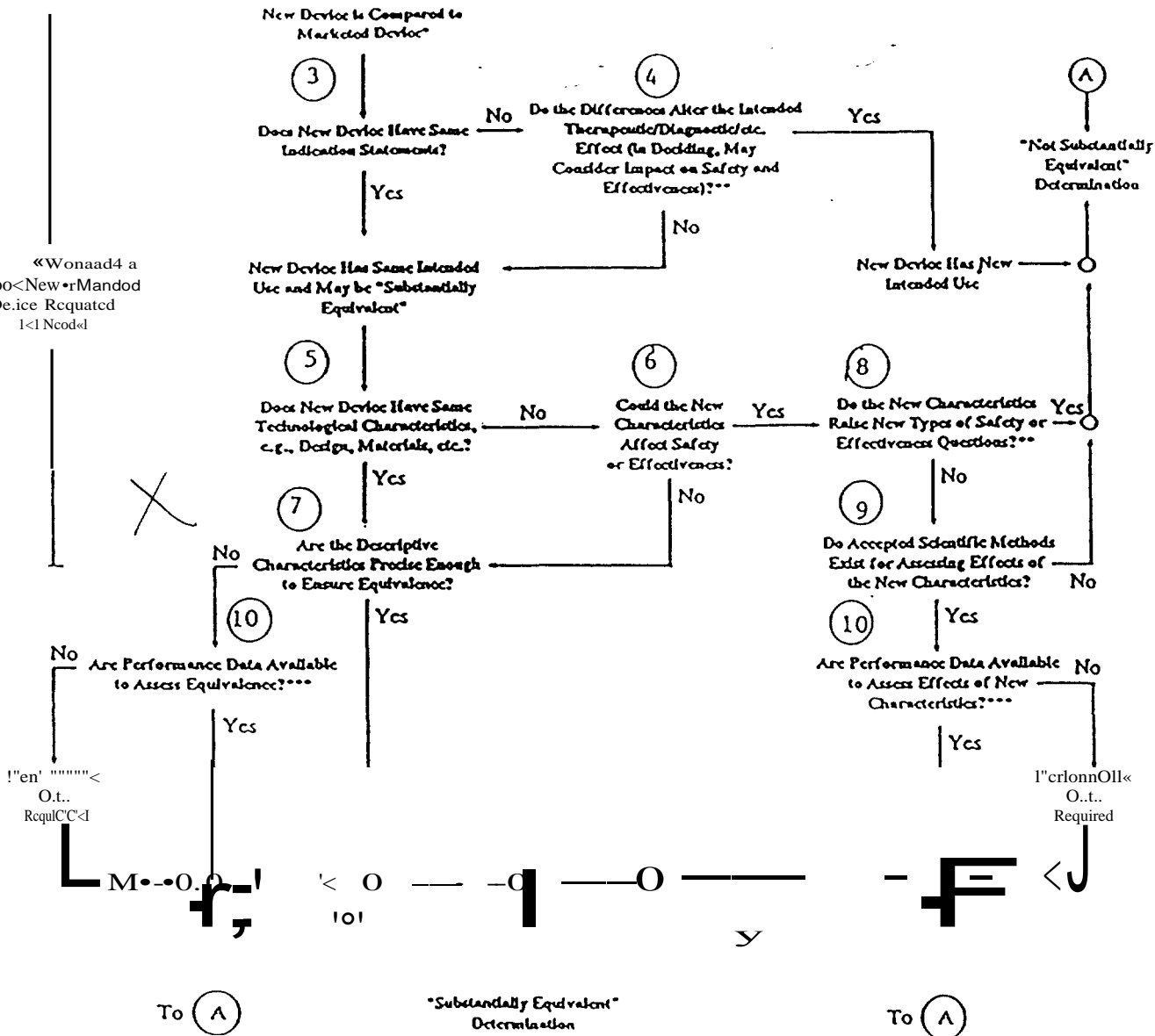
Final Review Questions? Contact FDA/CDRH/OCE/DID at CDRH-FOISTATUS@fda.hhs.gov or 301-796-8118  
(Division Director) Review: 6/2/9R

55

(Date)



## 510(k) SUBSTANTIAL EQUIVALENCE DECISION-MAKING PROCESS (DETAILED)



510(k) submissions for new devices to marketed devices. FDA requires additional information if the data differ between marketed and "predecessor" (pre-Amendments or reclassified pre-Amendments) devices.

This decision is normally based on descriptive information alone, but limited testing information is sometimes required.

For more information on the 510(k) process, see 510(k)s, the Center's definition file, or the literature.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Services  
Food and Drug Administration  
CENTER FOR DEVICES AND RADIOLOGICAL HEALTH  
Office of Device Evaluation

---

MEMORANDUM

**Date:** 24 August, 1998

**From:** Dr. Joydeb Roy  
Physicist  
DCRND/CSPG

JV--

**To:** File:K974393/SI

**Sponsor:** Britt Corp.

**Subject:** **Additional** Review

**Action:** **Additional Information (AI)**

---

**SUMMARY OF FINDING:**

The company has provided additional information in response to FDA's letter of February 19, 1998. The response addresses many of the issues raised in the FDA letter. However, there are still some problem area, for example, electromagnetic compatibility testing, performance testing of sleeves, indications for use form and promotional material. The response is unsatisfactory. The details are discussed below.

The submission is judged deficient (AI). A letter is being prepared.

57

**RESPONSE TO QUESTIONS**

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Services  
Food and Drug Administration  
CENTER FOR DEVICES AND RADIOLOGICAL HEALTH  
Office of Device Evaluation

---

MEMORANDUM

Date: 24 August, 1998  
From: Dr. Joydeb Roy, M.D.  
Physicist  
DCRND/CSPG  
To: File: K974393/S1  
Sponsor: Britt Corp.  
Subject: Additional Review  
Action: Additional Information (AI)

---

*SUMMARY OF FINDING:*

The company has provided additional information in response to FDA's letter of February 19, 1998. The response addresses many of the issues raised in the FDA letter. However, there are still some problem areas, for example, electromagnetic compatibility testing, performance testing of sleeves, indications for use form and promotional material. The response is unsatisfactory. The details are discussed below.

The submission is judged deficient (AI). A letter is being prepared.

## RESPONSE TO QUESTIONS

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data





(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



**RECOMMENDATION:** The response is still deficient. A letter is to be mailed for additional information.



K-3

**CANNOT DETERMINE EQUIVALENCY LETTER  
- NEED MORE INFORMATION**

Mr. J. James Britton  
President  
Britt Corp., Inc.  
45 East Main St., Suite 204  
Freehold, NJ 07728

Re: K974393/S 1  
Trade Name: Vaso Press System  
Dated: June 1, 1998  
Received: June 5, 1998

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above. We cannot determine if the device is substantially equivalent to a legally marketed predicate device based solely on the information you provided. To complete the review of your submission, we require the following:

**(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data**



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



We believe that this information is necessary for us to determine whether or not this device is substantially equivalent to a legally marketed predicate device with regard to its safety and effectiveness.

You may not market this device until you have provided adequate information described above and required by 21 CFR 807.87(k), and you have received a letter from FDA allowing you to do so. If you market the device without conforming to these requirements, you will be in violation of the Federal Food, Drug, and Cosmetic Act (Act). You may, however, distribute this device for investigational purposes to obtain clinical data if needed to establish substantial equivalence. Clinical investigations of this device must be conducted in accordance with the investigational device exemption (IDE) regulations.

If the information, or a request for an extension of time, is not received within 30 days, we will consider your premarket notification to be withdrawn and your submission will be deleted from our system. If you submit the requested information after 30 days it will be considered and processed as a new 510(k); therefore, all information previously submitted must be resubmitted so that your new 510(k) is complete.

The requested information, or a request for an extension of time, should reference your above 510(k) number and should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health

Document Mail Center (HFZ.401)  
9200 Corporate Boulevard  
Rockville, Maryland 20850

If you have any questions concerning the contents of this letter, please contact [DIVISION REPRESENTATIVE] at (301) 594-[ ]. If you need information or assistance concerning the IDE regulations, please contact the Division of Small Manufacturers Assistance at its toll-free number (800) 63g2041 or at (301) 443-6597, or at its internet address "dsmo@fdadr.cdrh.fda.gov".

Sincerely yours,

[Division Director]

Office of Device Evaluation  
Center for Devices and  
Radiological Health



cc:

HFZ-401 DMC  
HFZ-404 51O(k) Staff  
HFZ- Division  
D.O.

*68*

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

June 02, 1998

BRITT CORP., INC.  
45 EAST MAIN ST., SUITE 204  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

SLO (k) Number: K974393  
Product: VASO PRESS  
SYSTEM

The additional information you have submitted has been received.

We will notify you when the processing of this submission has been completed or if any additional information is required. Please remember that all correspondence concerning your submission MUST be sent to the Document Mail Center (HFZ-401) at the above letterhead address. Correspondence sent to any address other than the one above will not be considered as part of your official premarket notification submission. Because of equipment and personnel limitations we cannot accept telefaxed material as part of your official premarket notification submission, unless specifically requested of you by an FDA official.

The Safe Medical Devices Act of 1990, signed on November 28, states that you may not place this device into commercial distribution until you receive a letter from FDA allowing you to do so. As in the past, we intend to complete our review as quickly as possible. Generally we do so 90 days. However, the complexity of a submission or a requirement for additional information may occasionally cause the review to extend beyond 90 days. Thus, if you have not received a written decision or been contacted within 90 days of our receipt date you may want to check with FDA to determine the status of your submission.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

K974393/S1

# BRITT CORP

P.O. Box 547 • 45 E. Main St. Suite 204 • Freehold, NJ 07728  
Phone (908) 863 • 1400 Fax (908) 863 • 1603

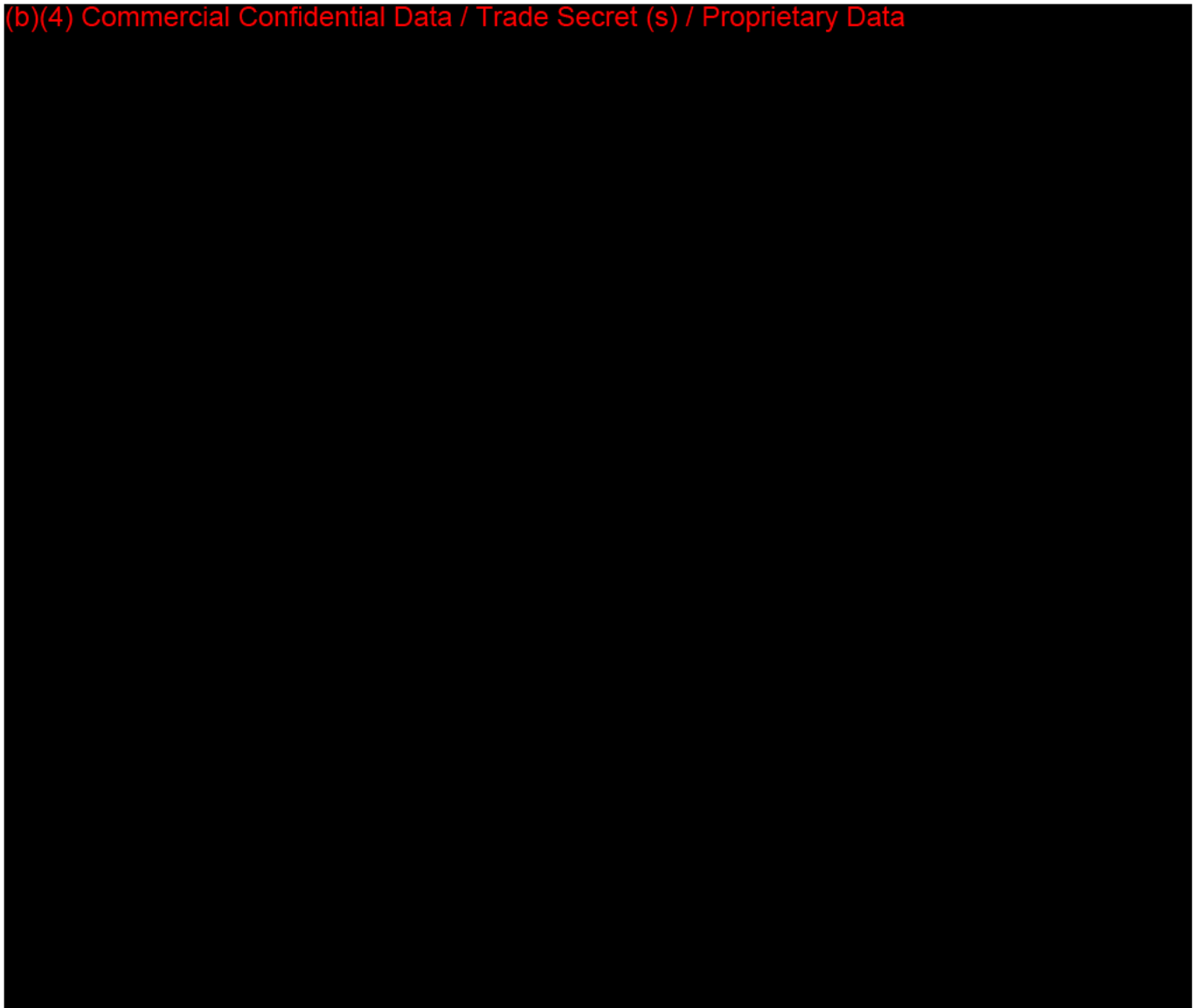
May 28, 1998

Food and Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
200 Corporate Boulevard  
Rockville, MD 20850

Re: K974393  
Product: Vaso Press System

This is in response to the request dated February 19, 1998 for additional information on the subject device.

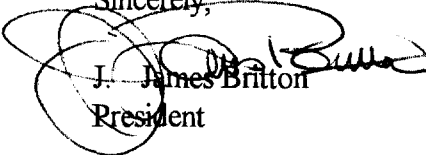
(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



Handwritten symbols and markings on the right side of the page, including a vertical line of symbols and a circular mark.

I trust this additional information is helpful in making you assessment regarding the substantial equivalency of this device. If you have any questions regarding this application or contents please feel free to contact me at 732-817-1122.

Sincerely,



J. James Britton  
President





APPENDECES

APPENDIX A ... Electromagnetic Immunity Testing

APPENDIX B ... Underwriter's Laboratories Infonnation

APPENDIX C ... Inflation and Deflation Pressure Tests

APPENDIX D ... Inflation Burst Pressure Testing

APPENDIX E ... Biocompatability Testing

APPENDIX F ... Comparison Table

APPENDIX G ... Preliminary Catalog Sheet

APPENDIX H ... Indications for Use Form



Test Report No: (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data  
about  
Electromagnetic Compatibility

Applicant: (b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

Kind of Equipment: Pump

Type Designation: 7000, 8030, 8050, 9000

Standard: EN60601-1-2:1993 EN61000-3-2:1995  
EN61000-3-3:1995

Date of Receipt of Test Item: 05.03.1998

Date of Testing: March 10/13, 1998

Test result: The above mentioned product has been tested and passed.

Der Sachverständige: überprift:  
reviewed by

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data





































# Appendix D

## Photographs of Test Sample

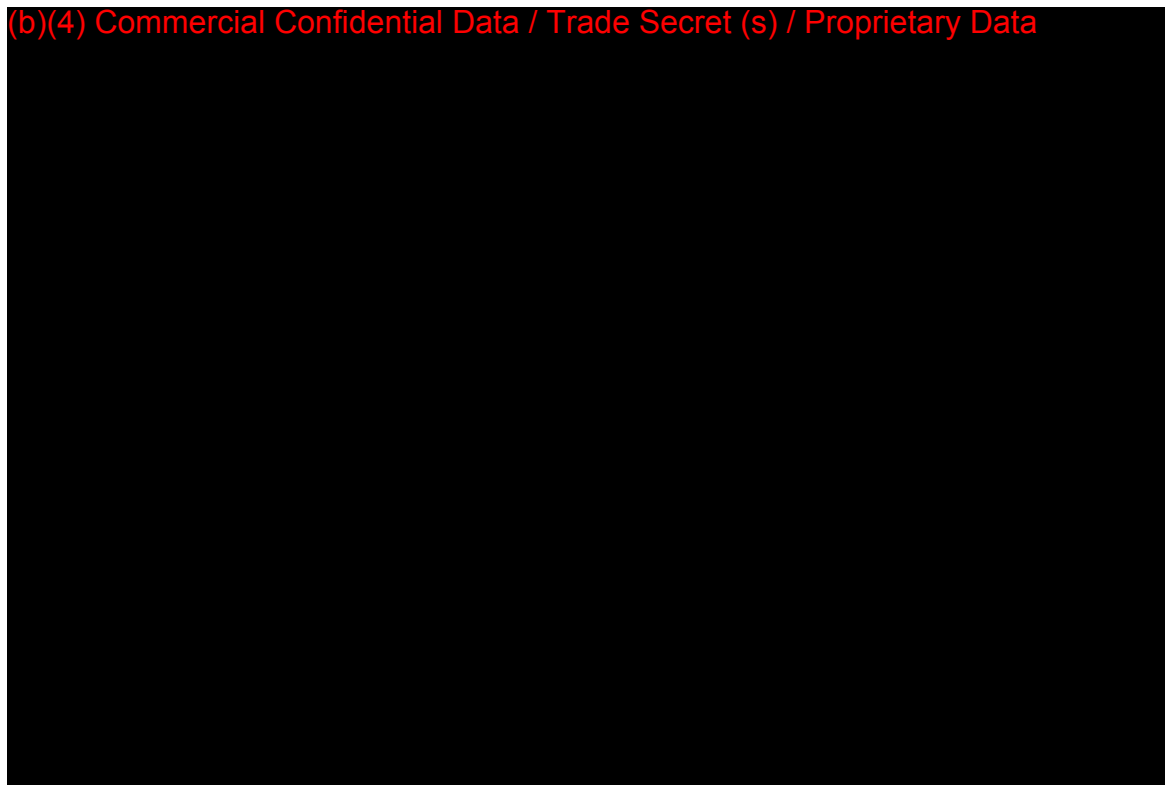
u  
l:l  
u  
u

TOV Rheinland

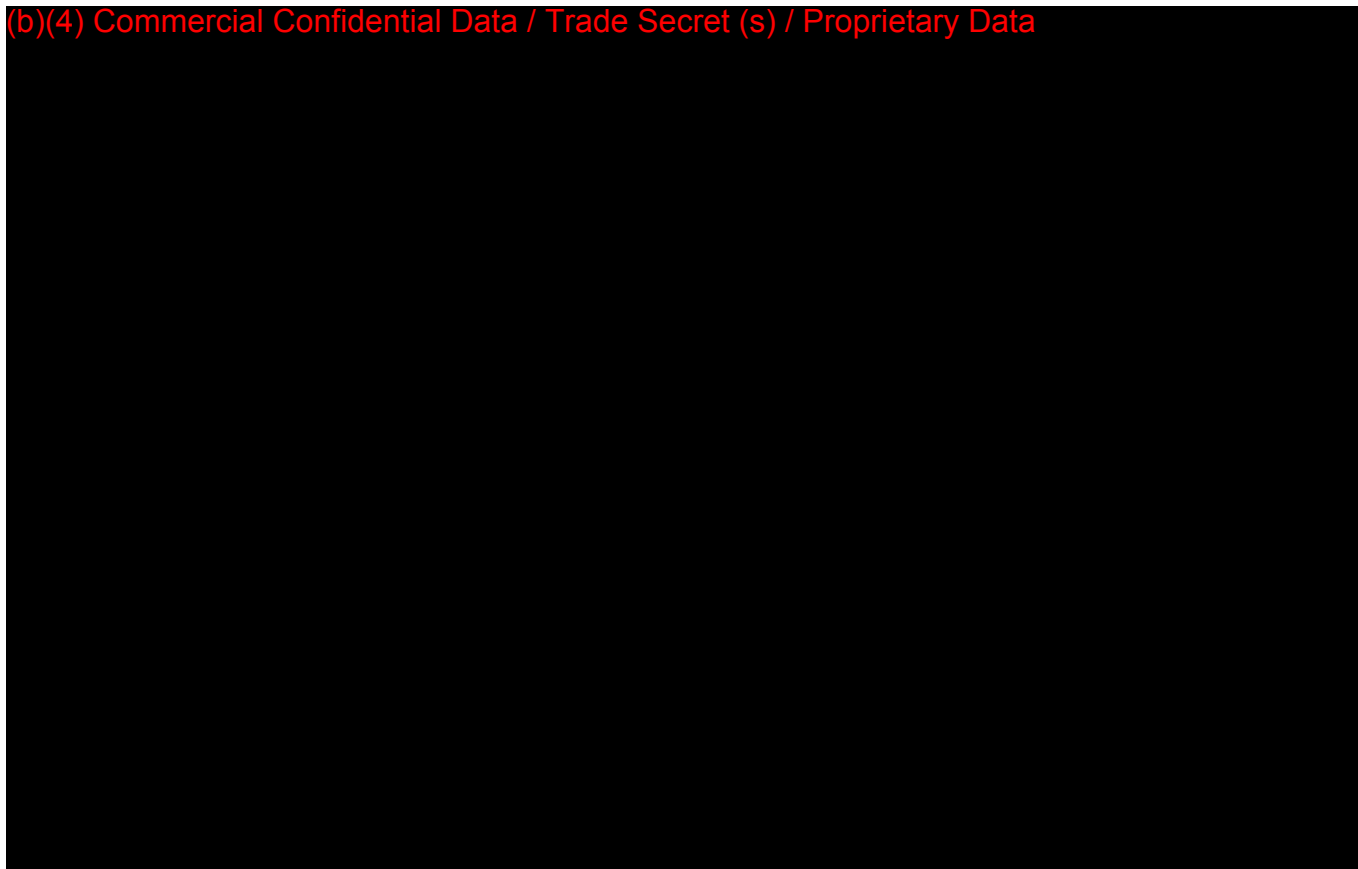
Questions? Contact FDA/CDRH/OCE/DID at CDRH-FOISTATUS@fda.hhs.gov or 301-796-8118

Product Safety GmbH  
P 9 1 6 3 5 7 9

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



TÜV Rheinland  
Product Safety GmbH

P 0 8 6 3 5 7 9





**CARE SUPPLY AMERICA, INC.**

P.O. Box 66007, 2170 South 7th Drive  
West Des Moines IA 50265 USA  
Phone: (515) 285-4044 Fax: (515) 256-8197

May 22, 1998

Mr. Jim Britton  
Britt Corporation  
P.O. Box 547  
Freehold, NJ 07728

Dear Jim,

This letter is in response to your request for clarification on the UL and CSA status of your model VP100 Vase Press.

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



Respectfully yours, *//*  
*7UN. ?'ltdla-w,, yA*  
Tim McCarty  
cc: file



(b)(4) Commercial  
Confidential Data / Trade  
Secret (s) / Proprietary Data

(b)(4) Commercial Confidential Data / Trade Secret  
(s) / Proprietary Data

CARE SUPPLY AMERICA INC  
MR TMCCARTY  
2170 S 7TH DR  
PO BOX 66007  
WEST DES MOINES IA 502135

Your most recent list is shown below. Please review this information and report any inaccuracies to the UL Engineering staff member who handled your UL project.

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

For information on placing an order for UL Listing Cards in a 3 x 1 inch card format, please refer to the enclosed ordering information.

(b)(4) Commercial Confidential Data /  
Trade Secret (s) / Proprietary Data





GARMENTCOM\_PARISONTABLE

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

PRODUCT TYID
Uniform Compression
Segmental Compression
Gradient Segmental

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



































## INFLATION BURST TESTING

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



(b)(4)  
Commercial  
Confidential

FINAL REPORT:

(b)(4) Commercial  
Confidential Data /

PRIMARY SKIN IRRITATION - ISO

(b)(4) Commercial Confidential  
Data / Trade Secret (s) /  
Proprietary Data

MANAGEMENT OF THE STCD

(b)(4) Commercial Confidential  
Data / Trade Secret (s) / Proprietary  
Data

Sponsor  
Britt Curporat iu11  
45 E. Main Street  
Suite 204  
P.O. Box 547  
Freehold.NJ 0772

112

## TABLE OF CONTENTS

Title Page

Table of Contents

Study Summary

Quality Assurance Statement

Study Director Signature and Verification Dates

- 1.0 Purpose
- 2.0 References
- 3.0 Compliance
- 4.0 Identification of Test and Control Articles
- 5.0 Identification of Test System
- 6.0 Justification of Test System and Route of Administration
- 7.0 Experimental Design
- 8.0 Dosage
- 9.0 Evaluation Criteria
- 10.0 Results
- 11.0 Conclusion
- 12.0 Records
- 13.0 Confidentiality Agreement
- 14.0 Policy on Pain and Suffering in Animals
- 15.0 Animal Usage

Table I: Animal Weights and Clinical Observations

Table II: Skin Reaction Scores

Appendix I: Classification System for Scoring Skin Reactions

13

(b)(4) Commercial Confidential Data /  
Trade Secret (s) / Proprietary Data

Request # 2018-1307; Released by CDRH on 04-05-2018

---

## STUDY SUMMARY

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

114

QUALITY ASSURANCE STATEMENT

This study was conducted in compliance with U.S. Food and Drug Administration regulations set forth in 21 CFR, Part 58.

The sections of the regulations not performed by or under the direction of Toxikon Corporation, exempt from this Good Laboratory Practice Statement, included characterization and stability of the test article and its mixture with carriers, 21 CFR, Parts 58.105 and 58.113.

The Quality Assurance Unit conducted inspections on the following dates. The findings were reported to the Study Director and to Toxikon's Management.

INSPECTIONS	DATE OF INSPECTION	DATE INJURED MANAGMENT	DATE REPORTED STUDY DIRECTOR
CLINICAL OBSERVATIONS	(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data		
RAW DATA	(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data		
FINAL REPORT	(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data		

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

L/1LJ/f6

Date

1/5





























































































510(k) Number (if known): K>.....92.74r.3c9L3,

Device Name: vAsoPREssSysTEM

Indications For Use: Treatment of lymphatic and venous disorders.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-off)  
[Signature]  
[Title]: Cardiovascular, Respiratory,  
and Ocular Device  
510(k) Number \_\_\_\_\_

Prescription Use \_\_\_\_\_  
(Per 21 CFR 801.109)

OR

Over-The-Counter Use \_\_\_\_\_

(Optional Format 1-2-96)

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

April 23, 1998

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (BFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

BRITT CORP. , INC.  
45 EAST MAIN ST. , SUITE 204  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510 (k) Number: K974393  
Product: VASO PRESS  
SYSTEM

Extended Until

**(b)(4) Commercial  
Confidential Data / Trade**

Based on your recent request, an extension of time has been granted for you to submit the additional information we requested.

If the additional information is not received by the "Extended Until" date shown above your premarket notification will be considered withdrawn.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at (301) 443-6597 or at their toll-free number (800) 638-2041, or contact me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Supervisory Consumer Safety Officer  
Premarket Notification Section  
Office of Device Evaluation  
Center for Devices and  
Radiological Health



69743431

# **BRITT CORP**

P.O. Box 547 • 45 E. Main St. Suite 204 • Freehold, NJ 07728  
t,one (908) 863 • 1400 Fax (908) 863 • 1603

March 19, 1998

c ■

Center for Devices and Radiological Health  
HFZ-401  
Document Mail Center  
9200 Corporate Boulevard  
Rockville, MD 20850

!fC ¥  
Re: **K9**  
o Press System

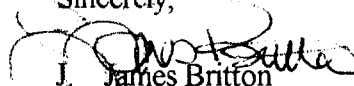
Dear Sir or Madam:

We recently received a request for additional information regarding the above 51OK application.

It will take approximately 6 weeks to gather the required information and I respectfully request an extension to June 1st in order to submit all the information.

Thank you in advance for you consideration.

Sincerely,

  
J. James Britton  
President

**S -50**

58



**FEB 19 1998**

Food and Drug Administration.  
9200 Corporate Boulevard  
Rockville MD 20850

Mr. J. James Britton  
President  
Britt Corp. Inc.  
45 East Main Street, Suite 204  
Freehold, NJ 07728

Re: K974393  
Vaso Press System  
Dated: November 18, 1997  
Received: November 21, 1997

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above. We cannot determine if the device is substantially equivalent to a legally marketed predicate device based solely on the information you provided. To complete the review of your submission, we require the following:

**(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data**



159

Page 2 - Mr. J. James Britton

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



160

Page 3 - Mr. J. James Britton

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



We believe that this information is necessary for us to determine whether or not this device is substantially equivalent to a legally marketed predicate device with regard to its safety and effectiveness.

You may not market this device until you have provided adequate information described above and required by 21 CFR 807.87(k), and you have received a letter from FDA allowing you to do so. If you market the device without conforming to these requirements, you will be in violation of the Federal Food, Drug, and Cosmetic Act (Act). You may, however, distribute this device for investigational purposes to obtain clinical data if needed to establish substantial equivalence. Clinical investigations of this device must be conducted in accordance with the investigational device exemption (IDE) regulations.

If the information, or a request for an extension of time, is not received within 30 days, we will consider your premarket notification to be withdrawn and your submission will be deleted from our system. If you submit the requested information after 30 days it will be considered and processed as a new 510(k); therefore, all information

Page 4 - Mr. J. James Britt0n

previously submitted must be resubmitted so that your new 510(k) is complete.

The requested information, or a request for an extension of time, should reference your above 510(k) number and should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
200 Corporate Boulevard  
Rockville, Maryland 20850

If you have any questions concerning the contents of this letter, please contact Joydeb Roy, Ph.D., at (301) 443-8262. If you need information or assistance concerning the IDE regulations, please contact the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or at (301) 443-6597, or at its internet address "dsmo@fdadr.cdrh.fda.gov".

Sincerely yours,



Thomas J. Callahan, P. .

Director

Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

162

Page s - Mr. J. James Britton

cc: HFZ-401 DMC  
 HFZ-404 510(k) Staff  
 HFZ-450 Division  
 D.O.

Prepared by: JROY:erj:2/12/98:FINAL

# FILE COPY

OFFICE	SURNAME	DATE	OFFICE	SURNAME	DATE	OFFICE	SURNAME	DATE
150	rt;UYtr' R.OY	o/tsf9,						
450	NG0Ycr-J	/t:J/cl						
45()	....v1fJv2e_	'to1n						

11

U.S. GPO 1986-169-089

103

Mr. J. James Britton  
President  
Britt Corp. Inc.  
45 East Main Street, Suite 204  
Freehold, NJ 07728

Re: K974393  
Vaso Press System  
Dated: November 18, 1997  
Received: November 21, 1997

Dear Mr. Britton:

We have reviewed your Section 510(k) notification of intent to market the device referenced above. We cannot determine if the device is substantially equivalent to a legally marketed predicate device based solely on the information you provided. To complete the review of your submission, we require the following:

1. Please demonstrate that your device operates safely and effectively in its intended use environment by providing the following information:

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



104

Page 2 - Mr. J. James Britton

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



110<sup>5</sup>



Page 3 - Mr. J. James Britton

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



We believe that this information is necessary for us to determine whether or not this device is substantially equivalent to a legally marketed predicate device with regard to its safety and effectiveness.

You may not market this device until you have provided adequate information described above and required by 21 CFR 807.87(k), and you have received a letter from FDA allowing you to do so. If you market the device without conforming to these requirements, you will be in violation of the Federal Food, Drug, and Cosmetic Act (Act). You may, however, distribute this device for investigational purposes to obtain clinical data if needed to establish substantial equivalence. Clinical investigations of this device must be conducted in accordance with the investigational device exemption (IDE) regulations.

If the information, or a request for an extension of time, is not received within 30 days, we will consider your premarket notification to be withdrawn and your submission will be deleted from our system. If you submit the requested information after 30 days it will be considered and processed as a new 510(k); therefore, all information

166

Page 4 - Mr. J. James Britton

previously submitted must be resubmitted so that your new S10(k) is complete.

The requested information, or a request for an extension of time, should reference your above 510(k) number and should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
200 Corporate Boulevard  
Rockville, Maryland 20850

If you have any questions concerning the contents of this letter, please contact Joydeb Roy, Ph.D., at (301) 443-8262. If you need information or assistance concerning the IDE regulations, please contact the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or at (301) 443-6597, or at its internet address "dsmo@fdadr.cdrh.fda.gov".

Sincerely yours,

Thomas J. Callahan, Ph.D.  
Director  
Division of Cardiovascular, Respiratory,  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

167

DEPARTMENT OF HEALTH & HUMAN SERVICES - Public Health Service - Food and Drug Administration



Memorandum

From: Reviewer(s) - Name(s) tjlj/lf

Subject: 510(k) Number RU-e/b; 2, 1, 1

To: The Record - It is my recommendation that the subject 510(k) Notification:

- Refused to accept. of 7
- Requires additional information (other than refuse to accept).
- Accepted for review \_\_\_\_\_
- Dis substantially equivalent to marketed devices.
- NOT substantially equivalent to marketed devices.
- Other (e.g., exempt by regulation, not a device, duplicate, etc.)

Is this device subject to Postmarket Surveillance?	DYES	li2f NO
Is this device subject to the Tracking Regulation?	DYES	fi1 NO
Was clinical data necessary to support the review of this 510(k)?	DYES	l2f NO
Is this a prescription device?	G1YES	O NO
Was this 510(k) reviewed by a Third Party?	DYES	(1) NO

This 510(k) contains:

Truthful and Accurate Statement  Requested  Enclosed  
(required for originals received 3-14-95 and after)

EIA 510(k) summary OR  DA 510(k) statement

The required certification and summary for class III devices

The indication for use form (required for originals received 1-1-96 and after) /Y"

The submitter requests under 21 CFR 807.95 (doesn't apply for SEs):

No Confidentiality  Confidentiality for 90 days  Continued Confidentiality exceeding 90 days  
Predicat Product Code with class and tie;;: Additional Pro<duct Code(s) with panel (optional):

JOW II

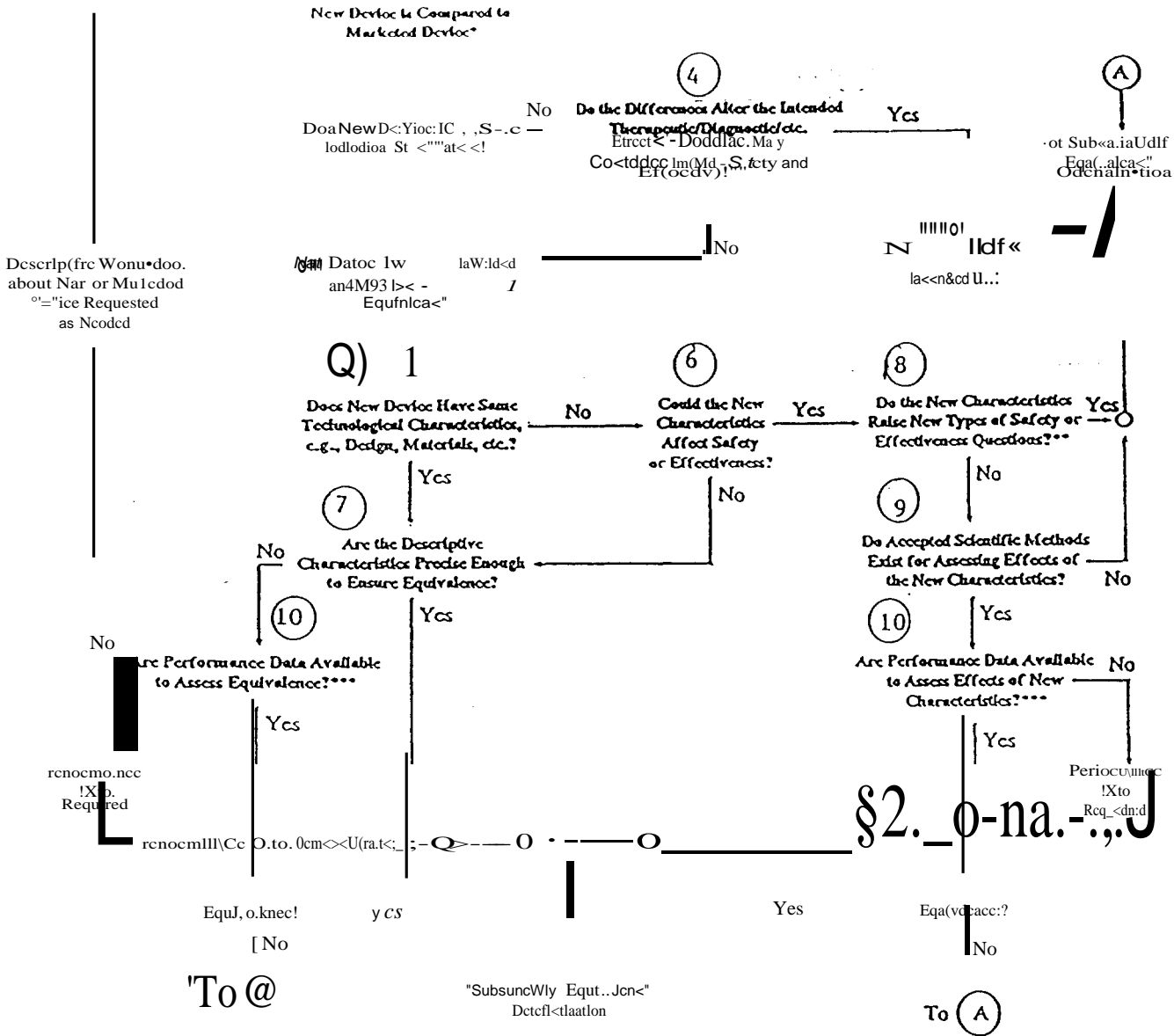
(Branch Code) (Date)

Review: \_\_\_\_\_  
Review by: \_\_\_\_\_  
(Branch Chief) (Date)  
(Division Director) (Date)

Questions? Contact FDA/CDRH/OCE/DID at CDRH-FOI STATUS@fda.hhs.gov or 301-796-8118

1108

## SIO(k) "SUBSTANTIAL EQUIVALENCE" DECISION-MAKING PROCESS (DETAILED)



SIO(k) submissions for new devices to market. FDA will require additional information if the device is not substantially equivalent to a marketed device. The decision is based on the information provided in the SIO(k) and the manufacturer's response to the FDA's questions.

This decision is normally based on descriptive information alone, but limited testing information is sometimes required.

••• Data may be in the SIO(k), other SIO(k)s, the Center's classification files, or the manufacturer's files.

169

# FOOD AND DRUG ADMINISTRATION

CENTER FOR DEVICES AND RADIOLOGICAL HEALTH

<OIFIF[CIE OIF IDIEV][CIE IEVAILLJ[A1[(QIN

DIVISION OF CARDIOVASCULAR AND RESPIRATORY DEVICES  
CIRCULATORY SUPPORT AND PROSTHETICS GROUP

---

## DEVICE REVIEW MEMORANDUM

Date of Review: February 6, 1998  
From: Dr. Joydeb Roy (ODE/DCRND/CSPG) =  
To: To the Record  
Date Due: February 19, 1998  
Date Received in CSPG: November 24, 1998  
Submission Number: K974393  
Name of Device: Vaso Press System, VP 100 and Sleeves  
Predicate Device: Flowtron HC (Huntleigh Technology)  
Predicate 510(K)#: K874689  
Name of Sponsor: Britt Corp., Inc.  
Name of Manufacturer: Cathay Consolidated, Inc.  
Type of Submission: New  
Contact: J. James Britton (732-863-1400)  
Code Class/CFR#: JOW 11/870;5800  
Consulting Reviews:  
Decision Status: AI

BL  
19 Feb 98

---

## ORIGINAL REVIEW

### SUMMARY:

This is a compressible pump with sleeve(s) device. Following deficiencies have been noted with this submission:

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



A deficiency letter is being prepared and the device will be on hold pending satisfactory resolution of the issues raised.

.0

REVIEW ELEMENTS

1. **ADMINISTRATIVE**

a.	<i>Truthful and Accurate Statement:</i>	-/Yes	No	
b.	<i>Indications for Use Form:</i>	Yes	V No	_Inadequate
c.	<i>SIOKSE Statement</i>	-/Yes	No	
d.	<i>Class III Certification</i>	Yes	_No	VNA
e.	<i>Other</i>			

*Indications for use form will be necessary*

2. **REASON FOR SUBMISSION**

a.	<i>New device</i>	!Yes	No
b.	<i>Change (design/labeling/functionality)</i>	Yes	No
c.	<i>New Indication</i>	Yes	No
d.	<i>Shelf Life</i>	Yes	_No
e.	<i>Sterilization</i>	Yes	_No
f.	<i>Other</i>	Yes	_No

*No additional information necessary*

3. **INDICATIONS FOR USE**

a.	<i>List of indications (Y)</i>	b.	<i>List of new indications</i>
c.	<i>Predicate indications comparison (N)</i>	d.	<i>Supportive data for new</i>
e.	<i>Clinical utility</i>		<i>Documentation</i>
g.	<i>Environment of use (Y)</i>	h.	<i>Target population (Y)</i>
i.	<i>Indications for use form (N)</i>		

Statement of Intended Use under General Information Section states that the device is used in the treatment and management of venous and lymphatic disorders. Either a single or three chamber device is available. The three chamber sleeves provide either a segmental uniform pressure or a gradient pressure. The indication is language consistent with the predicate device.

However, promotional material information claims (Appendix D) that "Britt Medical Products Now offers a unique System that will maximize inventory investment and offer flexibility for your patients suffering from Lymphedema or venous ulcers". Ulcers were not included in the initial Statement of Intended use. Further, Appendix D lists also the suggested use as "Treatment of chronic venous insufficiency, including venous ulcers and edema, Lymphedema, primary and secondary". It is not clear what they mean by Lymphedema, primary and secondary. The intended use languages are not consistent with each other.

NOTE: It is not clear what is the "Unique Investment" they are talking about?

NOTE: Intended use languages are not consistent with each other..

NOTE: Indications for use form not provided. .

*Additional information/clarification is necessary.*

4. **DESCRIPTION/PRINCIPLE OF OPERATION**

a.	<i>Device description with components (N)</i>	b.	<i>Mode of operation (Y)</i>
c.	<i>Design goals/validation (N)</i>	d.	<i>Block diagram (N)</i>
e.	<i>Engineering/ circuit diagram (N)</i>	f.	<i>Photographs (Y)</i>
g.	<i>Operation manual (Y)</i>	h.	<i>Performance specification (Y)</i>
i.	<i>Material specification (Y)</i>	j.	<i>Safety features/alarms</i>
k.	<i>Characteristics (i.e., new technology, new material, new functionality) (N)</i>		

178

*l. Lists of tests performed (Y) m. Other*

The air controller (pump) is a small and compact pump that provides an air source to inflatable limb sleeves. The sleeves are placed on the extremity and secured by a zipper closure so that the pressure derived from the controller is distributed over the extremity. One the sleeves are positioned they are attached to the controller by a connecting hose. The pump is then turned on and the pre-selected pressure is delivered to the extremity by the air pressure in the sleeve(s).

**(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data**



The following labeling information provided:

Preliminary labeling, labeling for the controller, labeling for the shipping carton, labeling for the sleeves.

Device operating instructions provided.

The labeling does not include the following statement, "Federal (USA) law restricts the devrc;to sale by or on the order of a physician or other licensed practioner.".

However, caution statement is included in the Instructions for use. nformation on treatment protocol provided.

Appendix D also lists preliminary catalog sheet. Instructions on device cleaning.

Labeling/promotional material/instructions for use for the Flowtron HC predicate device (AC200/2) provided, but not for the Jobst device. Huntleigh Flowtron HC pump is indicated for reduction in lymphatic, venous, and traumatic edema in the extremities by enhancing natural blood and lymphatic fluid flow. No mention of venous ulcer in the predicate.

NOTE: Jobst labeling information not provided.

NOTE: The indications for use need to be clarified.

The labeling information is inadequate and incomplete.

*Additional information will be required.*

6. COMPARISON WITH PREDICATE DEVICES:

a. *Similarities/ Differences (design,functionality, per/ormance, sterility, shelf life,biocompatibility)*



- |    |                                      |    |   |
|----|--------------------------------------|----|---|
| b. | <i>Intended use (Y)</i>              | d. | <i>Laboratory/bench testing (NJ)</i>          |
| c. | <i>Performance</i>                   | f. | <i>Clinical study(NA)</i>                     |
| e. | <i>Biocompatibility (NJ)</i>         | h. | <i>System and material specification (NJ)</i> |
| g. | <i>Labeling</i>                      | j. | <i>Animal testing(NA)</i>                     |
| l. | <i>Anatomical sites (I)</i>          |    |   |
| k. | <i>Areas of concern/disagreement</i> |    |   |

The listed predicate devices are Flowtron HC (K874688), and Jobst Extremity Pump Home Model 7000 (5 IOK #?).

A comparison table is provided to compare the device with the Huntleigh Flowtron pump device but not the Jobst device. The features compared are Labeling, intended use, physical characteristics, anatomical sites, target population and safety characteristics. However, no performance comparison/data provided, no sleeve(s) comparison information provided.

NOTE: Jobst Extremity Pump Model 7000 is listed as one of the predicate device, but not included in the table of comparison. No 5 IO(k) of the predicate device supplied.

NOTE: UL certification for safety testing is pending. It is clarified what testing is done.

7

NOTE: No comparison of sleeves or performance data. The current table of comparison is incomplete.

*Additional information will be necessary.*

7. SOFTWARE

- |    |                                |    |                              |
|----|--------------------------------|----|------------------------------|
| a. | <i>Requirements</i>            | b. | <i>Level of concern</i>      |
| c. | <i>Hazard analysis</i>         | d. | <i>Functionality testing</i> |
| e. | <i>Validation/verification</i> | f. | <i>Tests reports</i>         |
| g. | <i>Certification</i>           | h. | <i>Reference</i>             |

NIA

8. ENVIRONMENTAL TESTING:

- |    |                          |    |                                    |
|----|--------------------------|----|------------------------------------|
| a. | <i>EMC (N)</i>           | b. | <i>Electrical safety(N)</i>        |
| c. | <i>Temperature</i>       | d. | <i>Pressure(Y)</i>                 |
| e. | <i>Component Failure</i> | f. | <i>Vibration, shock, drop (NJ)</i> |
| g. | <i>Other</i>             |    |                                    |

In the table of comparison the submitter states that the UL Certification is pending, but does not state for what tests. Electrical safety testing/certification, electromagnetic compatibility (EMC) data/certification are required for the pump. An UL certification is attached, but we could not make out what it is for. So a clarification will be required.

NOTE: A copy of an article on Lymphedema Pumps: Pneumatic Compression Devices provided.

NOTE: No EMC testing, no sg ed.

*Additional information will be required.*

9. PERFORMANCE/FUNCTIONALITY TESTING

- |    |  |    |                                    |
|----|--|----|------------------------------------|
| a. | <i>Performance tests (Lists all functionality, performance tests performed) (Y)</i>      |    |                                    |
| b. | <i>Test objective/description (Y)</i>  | c. | <i>Test protocol(Y)</i>            |
| d. | <i>Pass/fail criteria (NJ)</i>   | e. | <i>Data plots (Y)</i>              |
| f. | <i>Data accuracy &amp; acceptability(N)</i>  | g. | <i>Data analysis(N)</i>            |
| h. | <i>Results/summary (N)</i>   | i. | <i>Predicate device testing(N)</i> |
| j. | <i>Chemical tests (Hemolysis, thromboembolism, platelets, red blood cells, etc.)(NA)</i> |    |                                    |
| k. | <i>Other tests</i>   |    |                                    |

Pressure (inflation/deflation pressures) testing data plots provided in Appendix F. A protocol for the pressure measurement provided to demonstrate that the system delivers the pressure to the extremity. Graphical data plots of cycle time (inflation and deflation times) in seconds against pressures in mm Hg are plotted. Three plots are included, one for uniform compression (single sleeve), one for segmental compression, and one for segmental gradient (distal, central and proximal) pressure.

174



No performance comparison with the predicate device provided, No data or measurement accuracy provided. No EMC test data provided. No pass/fail criteria listed. No data table provided. Data generated for all the sleeve types and sizes are required. Further,, burst pressure data not provided.

Testing information is incomplete and inadequate.  
Additional information will be required.

10. CLINICAL STUDY

- |    |  |    |                       |
|----|--|----|-----------------------|
| a. | General and specific objectives/hypotheses | c. | Protocol              |
| b. | End points/Outcome parameters              | e. | Randomization         |
| d. | Inclusion/Exclusion criteria               | g. | Follow ups/monitoring |
| f. | Control study groups                       | i. | Results/analysis      |
| h. | Risk/benefit analysis                      | k. | Bibliography          |
| j. | Conclusions                                |    |                       |

NIA

11. ANIMAL TESTING

- |    |                    |    |          |
|----|--------------------|----|----------|
| a. | Objectives         | b. | Protocol |
| c. | Results/conclusion | d. | Other    |

NIA

12. BIOCOMPATIBILITY TESTING

- |     |   |    |                                      |
|-----|---|----|--------------------------------------|
| a.  | List of component material(Y)             | b. | List of patient -contacting material |
| c.  | Final sterilized and aged product testing | e. | Pass/fail criteria(N)                |
| d.  | Test protocol (N)                         | g. | Toxicology profile                   |
| f.  | Test results/data (N)                     | i. | Reference standards                  |
| lr. | Certification(N)                          |    |                                      |
| j.  | Other                                     |    |                                      |

The submitter states that the sleeve material does not come in contact with the patients skin, therefore no biocompatibility assessments are provided.

The material does contact patients and hence biocompatibility information or reference to documentation about their biocompatibility are required. Material specification information also required.

Additional information will be required.

13. STERILITY TESTING

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

The device is non-sterile, but the predicate is sterilizable. Cleaning information provided.

The information is adequate.

No additional information is necessary.

14. PACKAGING & SHELF LIFE

- |    |                   |    |                    |
|----|-------------------|----|--------------------|
| a. | Packaging method  | b. | Shelf life testing |
| c. | Testing performed | d. | Certification      |

175

*e. Other*

---

*No information provided.*

*Additional information is necessary.*

15. COMPLIANCE WITH APPLICABLE STANDARDS:

- |    |           |    |      |
|----|-----------|----|------|
| a. | AAMI/ANSI | b. | ASTM |
| c. | ISO       | d. | IEC  |
|    | CEN       | [  | UL   |
| g. | Other     |    |      |
- 

UL certification mentioned.

16. COMPLIANCE FDA GUIDANCE

---

17. ANY OTHER ISSUE

- |    |                 |    |                    |
|----|-----------------|----|--------------------|
| a. | <i>Clinical</i> | b. | <i>Engineering</i> |
| c. | <i>Other</i>    |    |                    |
- 

None

18. INFORMATION MATRIX

REVIEW ELEMENTS	YES	NO	DEFICIENCY
Ad ministrative			Indications for use form
Labeling			Warning statement
Description			
Comparative Information			Sleeves/performance
Performance Testing			No burst testing, no raw data
Environmental Testing			No EMC/electrical safety
Clinical Testing			<i>NIA</i>
Animal Testing			<i>NIA</i>
Biocompatibility Testing			No
Sterility Testing			<i>NIA</i>
Packaging & Shelf Life Testing			No packaging information
Software Testing			<i>NIA</i>
Special Features			
Standards/Guidance			
ANY OTHER ISSUE			
Recommendation:	AI		
Letter			
COMMENTS:			

127

# FOR DCRND USE ONLY

## DCRND/CSPG 510(K) SCREENING CHECKLIST

Device: Vaso Press System	K974393	
Submitter: Britt Corp., Inc.  Manufacturer: Britt Corp., Inc.		
DATES: Original Submission: 11/18/97 Received in ODE: 1 1121/97 Received in CSPG: 1 1/24/97 Reviewed: 12/1/97	Review Cycle 1	
QUESTION	Yes	No
A. Is the product a device?	Yes	
B. Is the device exempt from 510(K) by regulation or policy?		No
C. Expedited Review Status: Requested by Sponsor?		No
D. Expedited Review Status: Identified by DCRND?		No
E. Expedited Review Status: Granted by DCRND?		No
F. Has this device been the subject of a previous NSE decision?		No
If yes, does this new 510(K) address the NSE Issues ( e.g., performance data, indications for use, etc.)		
G. Has the sponsor been the subject of an integrity investigation?		No
If yes, has the ODE Integrity Officer given permission to proceed with the review?		

Administrative Reviewer Signature: J. J. 4L tt p  
*J*

Date: 1, / 1, )

*178*



Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
9200 Corporate Blvd.  
Rockville, Maryland 20850

November 23, 1997

BRITT CORP. , INC.  
45 EAST MAIN ST. , SUITE 204  
FREEHOLD, NJ 07728  
ATTN: J. JAMES BRITTON

510(k) Number: K974393  
Received: 21-NOV-97  
Product: VASO PRESS SYSTEM

The Center for Devices and Radiological Health (CDRH) , Office of Device Evaluation (ODE) , has received the Premarket Notification you submitted in accordance with Section 510(k) of the Federal Food, Drug, and Cosmetic Act (Act) for the above referenced product. We have assigned your submission a unique 510(k) number that is cited above. Please refer prominently to this 510(k) number in any future correspondence that relates to this submission. We will notify you when the processing of your premarket notification has been completed or if any additional information is required. **YOU MAY NOT PLACE THIS DEVICE INTO COMMERCIAL DISTRIBUTION UNTIL YOU RECEIVE A LETTER FROM FDA ALLOWING YOU TO DO SO.**

On January 1, 1996, FDA began requiring that all 510(k) submitters provide on a separate page and clearly marked "Indication For Use" the indication for use of their device. If you have not included this information on a separate page in your submission, please complete the attached and amend your 510(k) as soon as possible. Also if you have not included your 510(k) Summary or 510(k) Statement, or your Truthful and Accurate Statement, please do so as soon as possible. There may be other regulations or requirements affecting your device such as Postmarket Surveillance (Section 522(a)(1) of the Act) and the Device Tracking regulation (21 CFR Part 821). Please contact the Division of Small Manufacturers Assistance (DSMA) at the telephone or web site below for more information.

Please remember that all correspondence concerning your submission **MUST** be sent to the Document Mail Center (HFZ-401) at the above letterhead address. Correspondence sent to any address other than the Document Mail Center will not be considered as part of your official premarket notification submission. Because of equipment and personnel limitations, we cannot accept telefaxed material as part of your official premarket notification submission, unless specifically requested of you by an FDA official. Any telefaxed material must be followed by a hard copy to the Document Mail Center (HFZ-401).

You should be familiar with the manual entitled, "Premarket Notification 510(k) Regulatory Requirements for Medical Devices" available from DSMA. If you have other procedural or policy questions, or want information on how to check on the status of your submission (after 90 days from the receipt date) , please contact DSMA at (301) 443-6597 or its toll-free number (800) 638-2041, or at their Internet address <http://www.fda.gov/cdrh/dsmamain.html> or me at (301) 594-1190.

Sincerely yours,

Marjorie Shulman  
Consumer Safety Officer  
Premarket Notification Staff  
Office of Device Evaluation  
Center for Devices and Radiological Health

100



# CENTER FOR DEVICES AND RADIOLOGICAL HEALTH

## Premarket Submission Cover Sheet

Date of Submission: NOVEMBER 15, 1997

FDA Document Number: UNKNCMN

Section A	Type of Submission			
<input checked="" type="checkbox"/> 510(k) D 510(k) Addl information	<input type="checkbox"/> IDE <input type="checkbox"/> IDE Amendment <input type="checkbox"/> IDE Supplement <input type="checkbox"/> IDE R rt	<input type="checkbox"/> PMA <input type="checkbox"/> PMA Amendment <input type="checkbox"/> PMA Report	<input type="checkbox"/> PMA Supplement - Regular <input type="checkbox"/> PMA Supplement - Special <input type="checkbox"/> PMA Supplement - 30 day <input type="checkbox"/> PMA Supplement - Panel Track	

Section B1	Reason for Submission — 510(k)s Only	
<input checked="" type="checkbox"/> New device  <input type="checkbox"/> Other reason (specify):	<input type="checkbox"/> Additional or expanded indications	<input type="checkbox"/> Change in technology, design, materials, or manufacturing process

Section B2		
<input type="checkbox"/> New device <input type="checkbox"/> Withdrawal <input type="checkbox"/> Additional or expanded indications <input type="checkbox"/> Licensing agreement  <input type="checkbox"/> Labeling change: <input type="checkbox"/> Indications <input type="checkbox"/> Instructions <input type="checkbox"/> Performance Characteristics <input type="checkbox"/> Shelflife <input type="checkbox"/> Trade name <input type="checkbox"/> Other (specify below)	<input type="checkbox"/> Change in design, component, or specification: <input type="checkbox"/> Software <input type="checkbox"/> Color Additive <input type="checkbox"/> Other (specify below)	<input type="checkbox"/> Location change: <input type="checkbox"/> Manufacturer <input type="checkbox"/> Sterilizer <input type="checkbox"/> Packager <input type="checkbox"/> Distributor
<input type="checkbox"/> Change in ownership <input type="checkbox"/> Change in correspondent	<input type="checkbox"/> Process change: <input type="checkbox"/> Manufacturer <input type="checkbox"/> Sterilizer <input type="checkbox"/> Packager  <input type="checkbox"/> Response to FDA correspondence (specify below) <input type="checkbox"/> Request for applicant hold <input type="checkbox"/> Request for removal of applicant hold <input type="checkbox"/> Request for extension <input type="checkbox"/> Request to remove or add manufacturing site	<input type="checkbox"/> Report submission: <input type="checkbox"/> Annual or periodic <input type="checkbox"/> Post-approval study <input type="checkbox"/> Adverse reaction <input type="checkbox"/> Device defect <input type="checkbox"/> Amendment
<input type="checkbox"/> Other reason (specify):		

Section B3		
<input type="checkbox"/> New device <input type="checkbox"/> Addition of institution <input type="checkbox"/> Expansion /extension of study <input type="checkbox"/> IRB certification <input type="checkbox"/> Request hearing <input type="checkbox"/> Request waiver <input type="checkbox"/> Termination of study <input type="checkbox"/> Withdrawal of application <input type="checkbox"/> Unanticipated adverse effect  <input type="checkbox"/> Emergency use: <input type="checkbox"/> Notification of emergency use <input type="checkbox"/> Additional information	<input type="checkbox"/> Change in: <input type="checkbox"/> Correspondent <input type="checkbox"/> Design <input type="checkbox"/> Informed consent <input type="checkbox"/> Manufacturer <input type="checkbox"/> Manufacturing <input type="checkbox"/> Protocol - feasibility <input type="checkbox"/> Protocol - other <input type="checkbox"/> Sponsor	<input type="checkbox"/> Response to FDA letter concerning: <input type="checkbox"/> Condition approval <input type="checkbox"/> Condition approved <input checked="" type="checkbox"/> Deficient final report <input type="checkbox"/> Deficient progress report <input type="checkbox"/> Deficient investigator report <input type="checkbox"/> Disapproval <input type="checkbox"/> Request extension of time to respond to FDA <input type="checkbox"/> Request meeting  <input type="checkbox"/> Report submission: <input type="checkbox"/> CWTC investigator <input type="checkbox"/> Annual progress <input type="checkbox"/> Site waiver limit reached <input type="checkbox"/> Final
<input type="checkbox"/> Other reason (specify):		

152



**Section C Product Classification**

ProPuct code: JCM C.F.R Section: 870.5800 Device class:  
 D Class I II  
 O Class III D Unclassified  
 Classification: J1JUCf eARTIOVASCULAR

**Section D Information on 510(k) Submissions**

Product codes of devices to which substantial equivalence is claimed:  

J0.1	2	3	4
	6	7	■

 Summary of, or statement concerning, safety and effectiveness data:  
 D 510(k) SUIDIDBJY attached  
 O(k) statement

Information on devices to which substantial equivalence is claimed:

510(k) Number	Trade or proprietaiy or model name	Manufacturer
K 874688	FIDWI RON HC	<sup>1</sup> HUBBLEIGH TECHNOLOGY, INC.
2	2	2
3	3	3
4	4	4
■	■	■
6	■	■

Common or usual name or classification name:

COMPRESSIBLE LIMB SLEEVE

Trade or <u>proprietary</u> or model name	lvfodelnwnber
VASO PRESS SYSTEM	VP 100 and SLEEVES
2	2
3	3
4	4

FDA docwnent nwnber of all rior related submissions (r ardless of outcome :

	2	3	4		
7	■	9	10	11	12

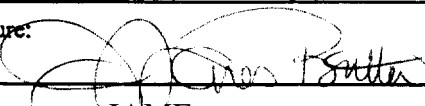
Data included in submission: boratory testing D Animal trials D Hwnan trials

Indications (from labeling):

TREATMENT OF VENOUS INSUFFICIENCY, INCLUDING VENOUS ULCERS AND EDEMA  
 TREATMENT OF PRIMARY AND SECONDARY LYMPHEDENA

153



			FDA Document Number:	
<b>Section G Applicant or Sponsor</b>				
Company /Institution name: BRIT' CORP. , INC			IDA establislunent registration nwnber: <b>(b)(4) Commercial Confidential</b>	
Division name (if applicable)13RIT' MEDICAL PIDDOCI'S			Phone number (mclude area code): ( 732 863-1400	
Street address: 45 EAST MAIN STREET , SUITE 204			FAX nwnber (mclude area code): ( 732 863-1603	
City: FREEHOID	State gjovince:	Country: USA	ZIP /J>osl,_Corle: 07728	
Signature: 				
Name: J.-)JAMES BRITTON				
Title: PRESIDENT				
:I:@:iffiain,j; :z:=!q:::z:=!sffs'wilar!a' ,,,gr!ww :t!wrr R:ti ¥Jra:ff!}6v===:z:= :z:=!q:::z:=!sffs'wilar!a' :z:=!q:::z:=!sffs'wilar!a' :z:=!q:::z:=!sffs'wilar!a'				
company /Institution name:				
Division name (if applicable):			Phone nwnber (mclude area code): (	
Street address:			FAX nwnber (mclude area code): (	
City:	State /Province:	Country:	ZIP /Postal Code:	
Contact name:				
Contact title:				

Your voluntary completion of this Premarket Submission Cover Sheet will not affect any FDA decision concerning your submission, but will help FDA's Center for Devices and Radiological Health process your submission more efficiently. The information you provide should apply *only* to a single accompanying submission. Please do not send cover sheets for any previous submissions. See the instructions for additional information on completing the cover sheet. If you have a question concerning completion of the cover sheet, please contact the Division of Small Manufacturers Assistance at (800) 638-2041 or (301) 443-6597.

-cf?

## TABLE OF CONTENTS

1. GENERAL INFORMATION .....	1
1.1 APPLICANT .....	I
1.2 TRADE NAME .....	I
1.3 COMMON NAME OR CLASSIFICATION NAME .....	I
1.4 ESTABLISHMENT REGISTRATION NUMBER .....	I
1.5 FACILITY ADDRESS .....	I
1.6 SECTION 513 DEVICE CLASSIFICATION .....	II
1.6.1 Classification .....	II
1.6.2 Classification Panel .....	II
1.7 REASON FOR PREMARKET NOTIFICATION .....	II
1.8 PREDICATE DEVICE DESCRIPTION .....	II
1.8.1 Name .....	II
1.8.2 Predicate Device Company .....	III
1.8.3 Predicate Device 510(k) .....	III
1.9 FEDERAL FOOD, DRUG, AND COSMETIC ACT COMPLIANCE .....	III
2. SMDA INFORMATION .....	m
2.1 510(K) STATEMENT .....	III
2.2 CLASS III SUMMARY & CERTIFICATION .....	III
2.3 TRUTHFUL / ACCURATE STATEMENT .....	III
3. INTENDED USE/PROPOSED LABELING .....	iii
3.1 STATEMENT OF INTENDED USE .....	III
3.2 DEVICE LABELS .....	IV
3.3 DEVICE LABELING .....	IV
3.4 ADVERTISEMENTS AND PROMOTIONAL LITERATURE .....	IV
4. DEVICE DESCRIPTION .....	IV
4.1 PHYSICAL DESCRIPTION .....	IV
4.1.1 Description .....	IV
4.1.2 Specifications .....	IV
4.2 PHOTOGRAPHS .....	V
4.3 SIGNIFICANT CHANGES / MODIFICATIONS FROM PREDICATE DEVICE .....	V
4.4 ACCESSORIES .....	V
5. COMPARATIVE INFORMATION .....	V
5.1 EQUIVALENT DEVICE INFORMATION .....	V
5.2 COMPARISON TABLE .....	VI
5.3 PERFORMANCE TESTING SUBJECT DEVICE .....	VI
6. BIOCOMPATIBILITY ASSESSMENT .....	VI
7. STERILIZATION INFORMATION .....	VII
8. SOFTWARE VALIDATION & VERIFICATION .....	VII
9. SPECIFIC STANDARDS & GUIDANCES .....	VII
APPENDIX A. PREDICATE DEVICE AND 510(K) .....	Viii
APPENDIX B. PRELIMINARY DEVICE LABELS .....	IX

APPENDIX C. PRELIMINARY DEVICE LABELING, OPERATING INSTRUCTIONS. .... X

APPENDIX D. ADVERTISING AND PROMOTIONAL LITERATURE ..... XI

APPENDIX E. PHOTOGRAPHS..... XII

APPENDIX F.PERFORMANCE TESTING DATA ..... XIII

APPENDIX G. OFFICE OF HEALTH TECHNOLOGY ASSESSMENT ..... XV

APPENDIX H. UL LISTING DOCUMENT..... XV

APPENDIX L TRUTHFUL AND ACCURATE STATEMENT..... XVI

APPENDIX J. 510K STATEMENT ..... XVII

## 1. GENERAL INFORMATION

### 1.1 Applicant

Date: November 18, 1997

Name: J. James Britton

Address: Britt Corp., PO Box 547, 45 East Main Street, Suite 204  
Freehold, NJ 07728

Contact Person: J. James Britton

Phone Number: (732) 863-1400, Fax (732) 863-1603

Signatu \_\_\_\_\_ \OJ - )  
)

### 1.2 Trade Name

Vaso Press System- The Vaso Press System consists of a pneumatic controller (pump) that supplies an air source to inflate extremity sleeves (garments).

- Model Number VP-100- Vaso Press Pump
- Model Number VP-101- Half Leg Uniform Compression Sleeve
- Model Number VP-102- Full Leg Uniform Compression Sleeve
- Model Number VP-120- Full Arm Uniform Compression Sleeve
- Model Number VP-201-Half Leg Segmental Sleeve
- Model Number VP-202-Full Leg Segmental Sleeve
- Model Number VP 220-Full Arm Segmental Sleeve
- Model Number VP-301-Half Leg Gradient Segmental Sleeve
- Model Number VP-302-Full Leg Gradient Segmental Sleeve
- Model Number VP-320-Full Arm Gradient Segmental Sleeve

### 1.3 Common Name or Classification Name

Common Name: Compressible Limb Sleeve

Intermittent Compression Unit (Anti-Embolism Pump)

Classification Name: 870.5800 Compressible Limb Sleeve

### 1.4 Establishment Registration Number: #2249054

## **1.5 Facility Address**

Britt Medical Products a Division of Britt Corp.  
PO Box 547  
45 East Main Street, Suite 204  
Freehold, NJ 07728

## **1.6 Section 513 Device Classification**

### **1.6.1 Classification**

This intermittent compression system that consists of a controller (pump) and compressible limb sleeves which are a Class II device.

### **1.6.2 Classification Panel**

The panel to review this device is the cardiovascular panel.

## **1.7 Reason for Premarket Notification**

The Vaso Press System is a new device for Britt Medical Products but similar in function and design to existing products currently marketed by several companies.

## **1.8 Predicate Device Description**

This device is similar in function and application to devices that are currently marketed. The products consist of pneumatic pumps (controllers) that supply an air source to a compressible limb sleeve(s) that apply pressure to an extremity which will assist in moving extra-cellular fluids into the venous or lymphatic system. The pump is a compact device that inflates the sleeve to a pressure that has been recommended by a clinician. The products are used primarily in the home and depending on the degree of swelling can be used up to 2 hours per day.

### **1.8.1 Predicate Device Name**

Flowtron HC, Model Number AC200HC and associated garments (sleeves) by Huntleigh Healthcare  
Jobst Extremity Pump Home Model 7000 by Beiersdorf Jobst

### **1.8.2 Predicate Device Company**

Huntleigh Healthcare  
227 Route 33 East  
Manalapan, NJ 07726

Beiersdorf Jobst Inc.  
5825 Carnegie Blvd.  
Charlotte, NC 28247-1048

### **1.8.3 Predicate Device 510(k)#**

Huntleigh's Flowtron HC K#874688. A copy of the product literature is included in Appendix A along with the 510K.

## **1.9 Federal Food, Drug, and Cosmetic Act Compliance**

There are no performance standards published for these devices.

## **2. SMDA Information**

### **2.1 510(k) Statement**

A 510(k) Statement is included in Appendix J.

-----

### **2.2 Truthful /Accurate Statement**

A Truthful and Accurate Statement, as required by 21 CFR 807.87(j), is provided in Appendix I.

## **3. INTENDED USE/PROPOSED LABELING**

### **3.1 Statement of Intended Use**

The Vaso Press Intermittent Compression System is used in the treatment and management of venous and lymphatic disorders. Depending upon the preference of the clinician they may choose a single uniform compression sleeve, segmental sleeve or a gradient sleeve

The controller provides cycles of compression at a selected pressure which inflate a single or three chamber sleeve. The three chambered sleeve provides a segmental uniform \_\_\_  
\compression or a gradient pressure with the highest pressure most distal on the extremity.

0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
:



### **3.2 Device Labels**

Preliminary device labels are found in Appendix B.

### **3.3 Device Labeling**

Preliminary device labeling, Operating Instructions is found in Appendix C.

### **3.4 Advertisements and Promotional Literature**

Preliminary advertisement and promotional literature are located in Appendix D.

## **4. DEVICE DESCRIPTION**

### **4.1 Physical Description**

The air controller is a small and compact pump that provides an air source to inflatable limb sleeves.

#### **4.1.1 Description**

Depending upon the etiology, a prescription for One or two sleeves may be given. A pressure range is suggested by the clinician and the patient is instructed on the proper use and recommended treatment times. The sleeves are placed on the extremity and secured by a zipper closure so that the pressure derived from the controller is distributed over the extremity.

Once the sleeves are positioned they are attached to the controller by a connecting hose. The pump is then turned on and the pre-selected pressure is delivered to the extremity by the air pressure in the sleeve(s).

The cycle timing for the inflation of the sleeves is preset to provide 90 seconds of compression on one sleeve and then 90 seconds on the other sleeve if a bilateral use has been prescribed.

#### **4.1.2 Specifications**

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



## 4.2 Photographs

Photographs of the products are found in Appendix E.

## 4.3 Significant Changes / Modifications from Predicate Device

There are no significant changes or modifications that would effect the safety or effectiveness of this device compared to the predicate devices.

## 4.4 Accessories

The sleeves that are used with the controller are manufactured from polyurethane impregnated nylon and have the following physical description:

### SLEEVE SIZES FOR UNIFORM, SEGMENTAL AND GRADIENT SEG.

Description	Single	Segment.	Gradient	Dimensions					Inserts		
				L	W	F	H	S	A	B	
Half Leg	VP 101	VS 201	VS 301	19.75	23	12.5				6	3.5
Full Leg	VP 102	VS 202	VS 302	30	26.5	12.5				7	3.5
Full Arm	VP 120	VS 220	VS 320	26			14.5	22.5		5	2

## 5. COMPARATIVE INFORMATION

### 5.1 Equivalent Device Information

Name: Flowtron HC  
 Status: The Huntleigh Flowtron has a 510K  
 510(k) #: K874688  
 Name: Jobst Extremity Pump Home Model  
 Status: The Jobst Home Model is a predicate device

*Handwritten initials and a checkmark.*

## 5.2 Comparison Table

The following table displays the similarities and differences of the new device to the legally marketed device to which equivalency is claimed.

Characteristic Compared	510(k) DEVICE FLOWTRON HC	Proposed Device Vaso Press
Product Labeling	Similar	(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data
Intended Use	Enhancement of lymphatic and venous flow.	
Physical Characteristics	11"L x 5"W x 4"H Power: 110-130 Volts Case Material High Impact ABS  Pressure Range 30-90 mmHg Cycle Time: 90 seconds inflation 90 seconds deflation	
Anatomical Sites	Application of the sleeves are either on the leg or arm	
Target Population	Classed as home medical equipment and therefore is for use by patients who are primarily at home.	
Safety Characteristics	UL 544	

## 5.3 Performance Testing Subject Device

Test data is provided in Appendix F.

## 6. BIOCOMPATIBILITY ASSESSMENT

The sleeve material does not come in contact with the patients skin therefore no biocompatibility assessments are provided.

## **7. STERILIZATION INFORMATION**

The VASO PRESS SYSTEM is provided non-sterile.

The VASO PRESS SYSTEM is not intended for sterilization. Instructions for cleaning, disinfecting is as follows:

**CLEANING INSTRUCTIONS:** The outside case of the air controller is made from high impact ABS plastic and should be cleaned using a damp cloth and mild detergent. Hypocarbonate and phenol based cleaning solutions should never be used as they cause the case material to deteriorate.

The sleeve may be hand washed in luke warm water using a mild detergent.  
**CARE MUST BE TAKEN NOT TO SUBMERGE THE TUBING IN WATER**  
**DO NOT DRY CLEAN THE SLEEVES**  
**DO NOT IRON**  
**DO NOT AUTOCLAVE**

## **8. SOFTWARE VALIDATION & VERIFICATION**

Does not apply to this device.

## **9. SPECIFIC STANDARDS & GUIDANCES**

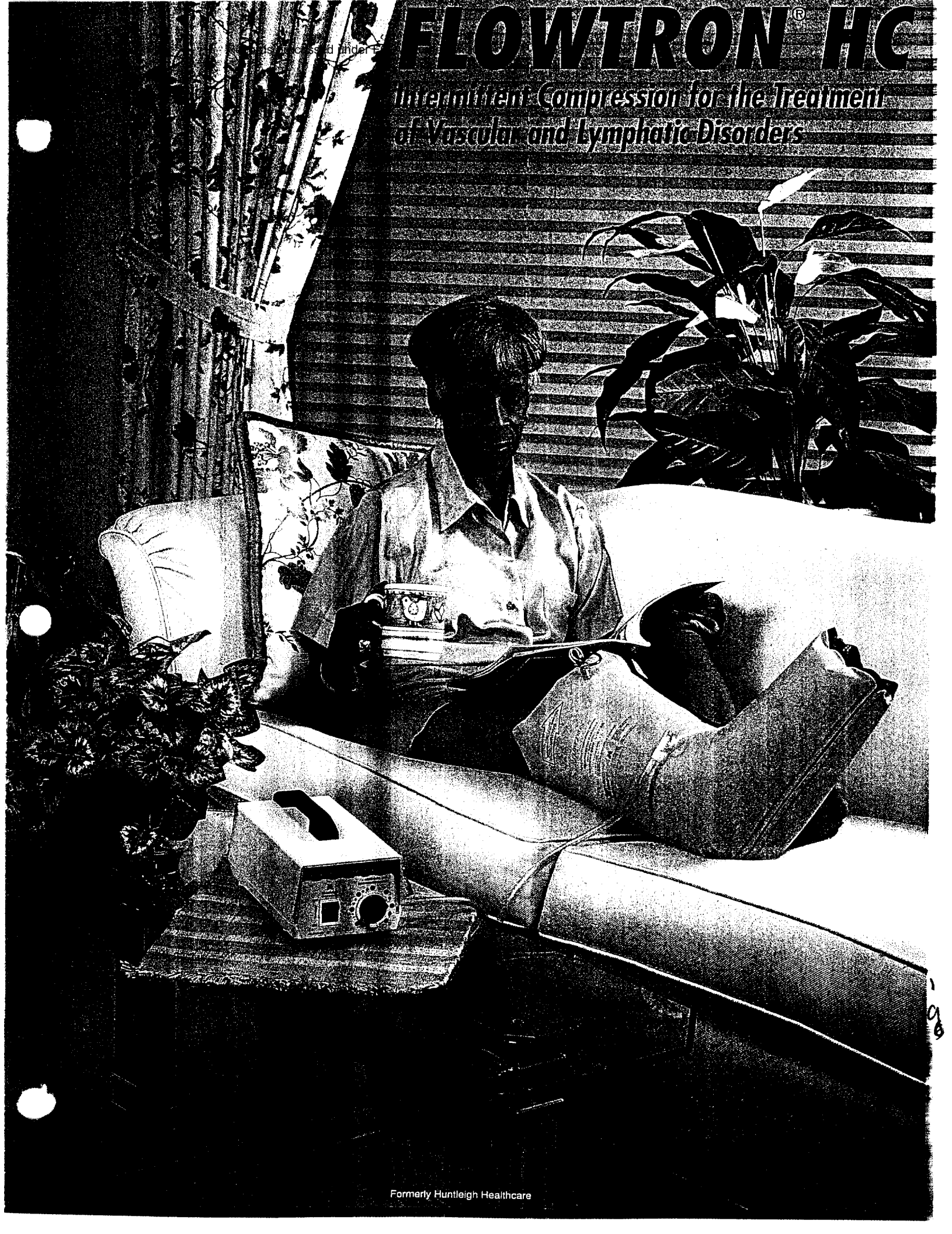
There are no standards or guidance documents on intermittent compression systems for the treatment of venous and lymphatic disorders. For reference a recent survey by the Agency for Health Care Policy and Research, Office of Health Technology Assessment is included in Appendix G.

## Appendix A. Predicate Device 51OK

195

# FLOWTRON<sup>®</sup> HC

*Intermittent Compression for the Treatment  
of Vascular and Lymphatic Disorders*



# FLOWTRON® HC from HNE Jfl' ealth,are

Records processed under FOIA Request # 2018-1307; Released by CDRH on 04-05-2018

Available In

Four Garment Choices:

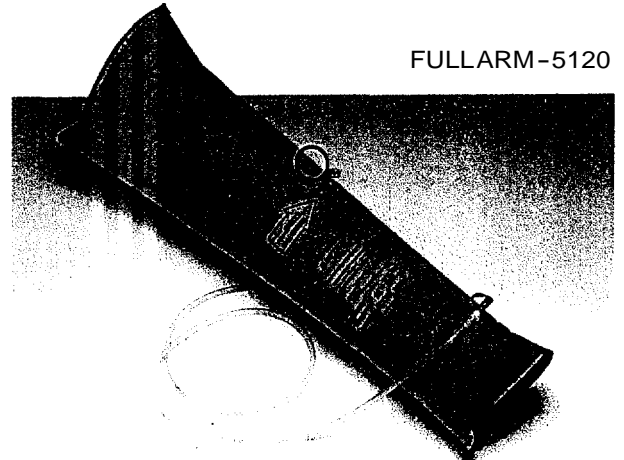
HALF ARM – S220

## Intermittent Compression System

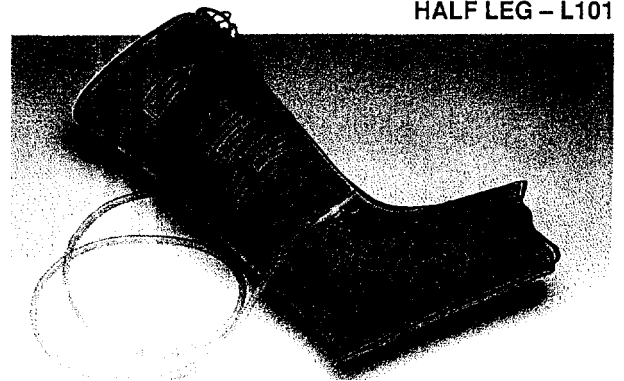
- *ate, effective treatment enhances lymphatic and venous f/i:1'W.*
- *Promotes increased circulation by simulating natural rm.1sch contractions.*
- *Lined garments with full length zippers are durable, comfortable, and easy to use.*
- *Lightweight, portable pump with single pressure control.*
- *Cycle time preset at 90 seconds inflation and 90 seconds deflation.*
- *Ideal for home use.*



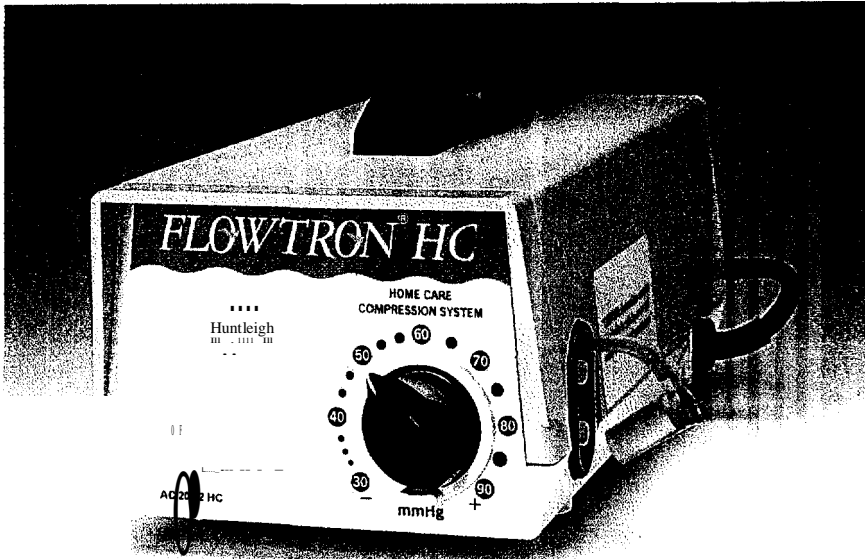
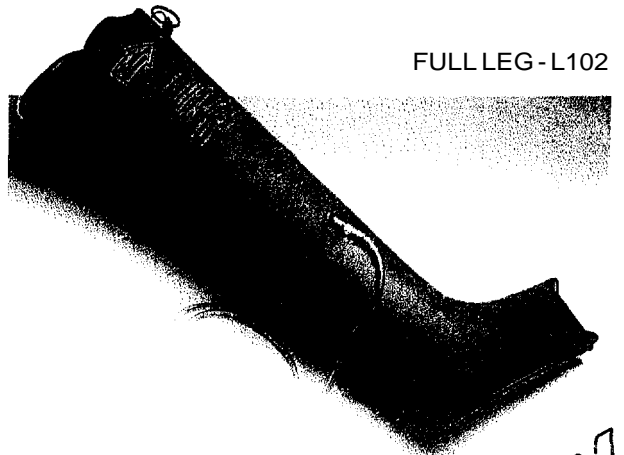
FULLARM-5120



HALF LEG – L101



FULL LEG - L102



FLOWTRON - AC200HC

### Technical Specifications • Pump

Model Number: AC200HC  
 Power: 110-130v 60Hz  
 Size: 4x11 x5 inches  
 Weight: 3½ lbs.  
 Pressure Range: 30-90mmHg  
 Approximate Cycle Time: 90 seconds inflation  
 90 seconds deflation

### Ordering Information

AC200HC Single Chamber Intermittent Compression Pump  
 L101 Half Leg Garment (19¾' length)  
 L102ES Full Leg Extra Short Garment (27" length)  
 L102S Full Leg Short Garment (30" length)  
 L102M Full Leg Medium Garment (33' length)  
 L102L full Leg Long Garment (36V// length)  
 L102EL Full Leg Extra Long Garment (381// length)  
 S120 Full Arm Garment (30¾' length)  
 S220 Half Arm Garment (20" length)

Inflatable Inserts are available to increase garment circumference

For information on the full line of HNE Healthcare products including pressure relieving devices, compression systems and fetal/vascular Dopplers, please call 1-800-223-1218.



**HNE**  
HEALTH CARE

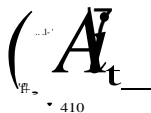
227 Route 33 East, Manalapan, NJ 07726  
 1-800-223-1218 • Fax: 908-246-1938



10%  
 mJALBFCOYEAEOFIBER  
 All POST CONSUMER FIBER

Printed on recycled paper using soy based inks.

157



SEP 23 1988

Food and Drug Administration  
8757 Georgia Avenue  
Silver Spring MD 20910

Ms. Diane Distefano  
Marketing Assistant  
Huntleigh Technology, Inc.  
227 Route 33 East  
Manalapan, New Jersey 07726

Re: K874688  
Flowtron AC 200/2  
Regulatory Class: II  
Dated: September 6, 1988  
Received: September 15, 1988

Dear Ms. Distefano:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent to devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments. You may, therefore, market the device, subject to the general controls provisions of the Federal Food, Drug, and Cosmetic Act (Act). The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, and labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Performance Standards) or class III (Premarket Approval) it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. In addition, the Food and Drug Administration (FDA) may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under the Radiation Control for Health and Safety Act of 1968, or other Federal Laws or Regulations.

Powered inflatable tube massagers are considered to be prescription devices in the United States. This means they can only be sold by, or on the order of, a licensed practitioner. No direct sales to the general public can be legally made. Such devices should be labeled in accordance with 21 CFR 801.109, copy enclosed.

This letter immediately will allow you to begin marketing your device as described. An FDA finding of substantial equivalence of your device to a pre-Amendments device results in a classification for your device and permits your device to proceed to market, but it does not mean that FDA approves your device. Therefore, you may not promote or in any way represent your device or



Page 2 - Ms .Diane Distefano

its labeling as being approved by FDA. If you desire specific advice on the labeling for your device please contact the Division of Compliance Operations, Regulatory Guidance Branch (HFZ-323) at (301) 427-8040. Other general information on your responsibilities under the Act, may be obtained from the Division of Small Manufacturers Assistance at their toll free number (800) 638-2041 or at (301) 443-6597.

Sincerely yours,

*LJA. - z*

Carl A. Larson, Ph D.  
Director, Division of Surgical  
and Rehabilitation Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

*LJA*

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

SEPTEMBER 15, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

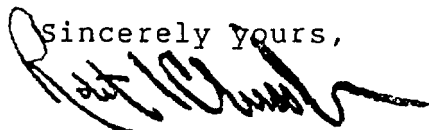
D.C. Number K874688  
Received 09-15-88  
Product FLOWTRON AC200/2

The additional information you have submitted has been received.

We will notify you when the processing of your submission has been completed or if any additional information is required. You are required to wait ninety (90) days after the received date shown above or until receipt of a "substantially equivalent" letter before placing the product into commercial distribution. I suggest that you contact us if you have not been notified in writing at the end of this ninety (90) day period before you begin marketing your device. Written questions concerning the status of your submission should be sent to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162

Sincerely yours,  


Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

200

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

AUGUST 25, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

Ref K874688  
Product FLOWTRON AC200/2

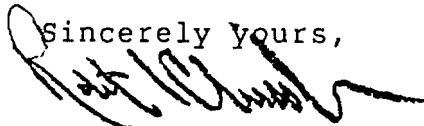
We are holding your above-referenced Premarket Notification (510(k)) for 30 days pending receipt of the additional information that was requested by the Office of Device Evaluation. This information should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

When your additional information is received by the Office of Device Evaluation the 90-day period will begin again.

If after 30 days the requested information is not received, we will stop reviewing your submission. Pursuant to 21 CFR 20.29, a copy of your 510(k) submission will remain in the Office of Device Evaluation. If you then wish to resubmit this 510(k) notification, a new number will be assigned and the 90-day time period will begin again.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162.

Sincerely yours,  


Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

201

Huntleigh Technology Inc.

CORPORATE HEADQUARTERS  
227 Route 33 East

(201) 446 0 a i rm

Sept. 6, 1988

Robert Chissler  
Food & Drug Admin.  
Center for Devices &  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Ave.  
Silver Spring MD 20910

Dear Mr. Chissler:

Enclosed is the information requested by the Office of Device Evaluation concerning Ref: K874688 Product: Flowtron AC 200/2. As discussed with Dr. Blanckwell, we have excluded the reference to our product simulating natural muscle contractions comparable to exercise.

If I may be of further assistance, please feel free to contact me.

Sincerely yours,

' -  
--'lu( t!A, -"'--<>

Diane DislefcGo  
Mkting. Asst.

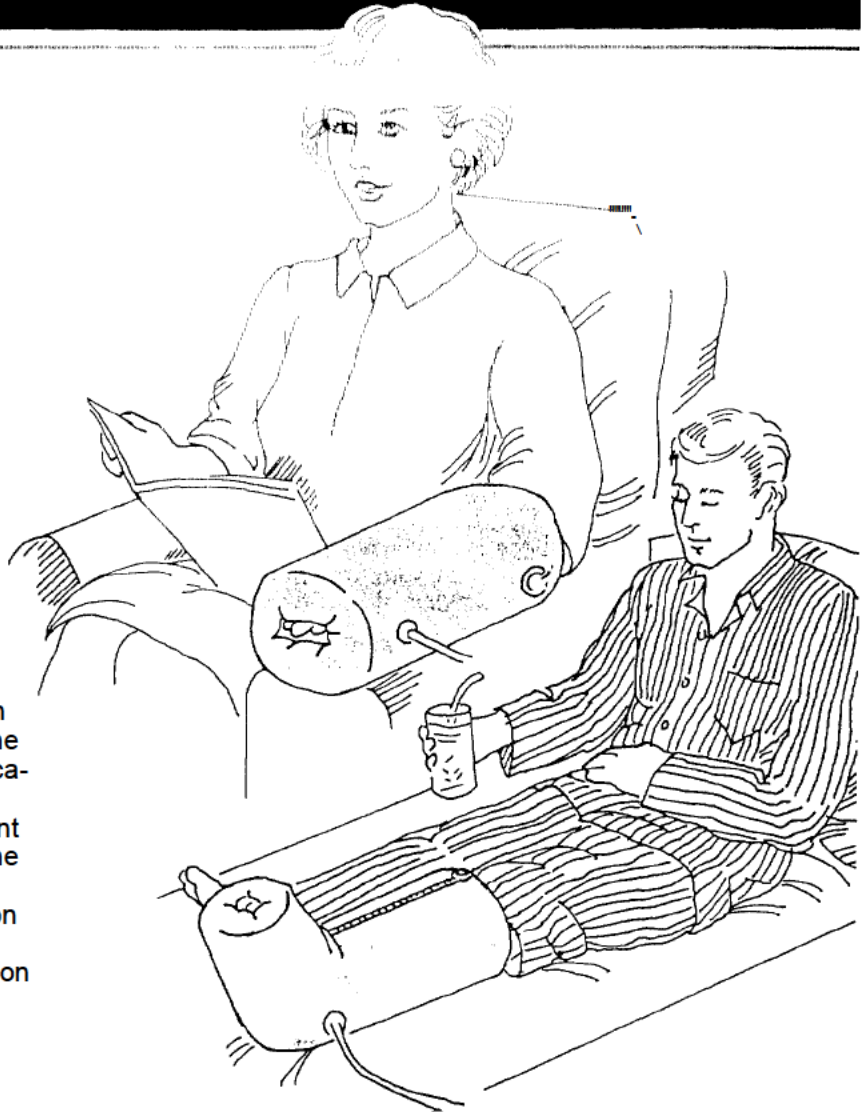
J.

208



# FLOWTRON<sup>®</sup> HC

# HOME CARE COMPRESSION SYSTEM



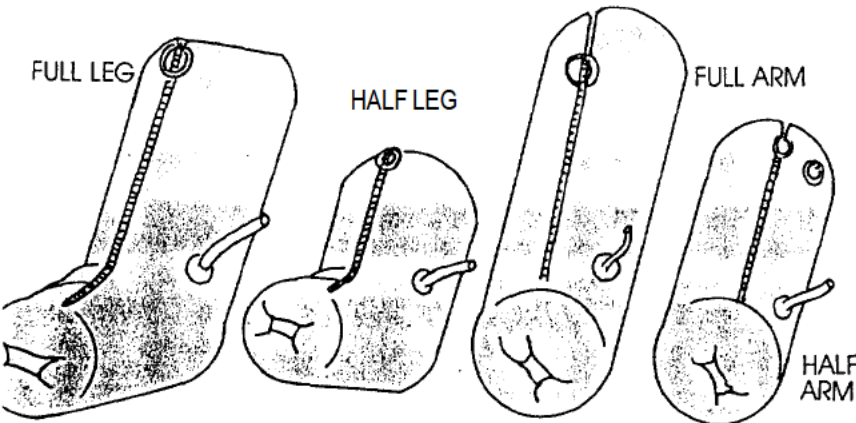
## Home Care Intermittent Compression

Huntleigh Technology, with over 15 years experience in intermittent compression therapy, has now developed the Flowtron HC, a system designed specifically for application in the home environment. The system consists of a compact pump which intermittently inflates a garment that is applied to the extremities. The pressure within the garment is controlled by a dial set at a recommended level. The entire cycle time is preset at 90 seconds inflation and 90 seconds deflation. By alternating the pressure, blood flow is stimulated, resulting in improved circulation and healing.

### IMPROVING THE NATURAL FLOW

Intermittent compression assists venous and lymphatic flow where vascular problems exist. When ambulation is restricted or there is injury to muscle, lymph vessels, or veins, fluid balance may be impaired.

Huntleigh's compression systems facilitate fluid movement by creating a pressure shift within the tissues. During the inflation phase of the system, excess fluid is gently pushed out of the tissue area and into the venous and lymphatic circulation. Once within the circulation, this extra fluid is more readily excreted by the body's natural mechanisms or functions.



- Non-Invasive
- Natural Action
- Practical and Simple to Use
- Ideal for Home Use

**Huntleigh Technology**  
227 Route 33 East, Manalapan, NJ 08028  
Toll Free: 800-223-1218 / NJ (201) 446-2500

**Huntleigh Compression Systems  
for non-invasive therapy in  
vascular and lymphatic disorders.**

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

AUGUST 25, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

Ref K874688  
Product FLOWTRON AC200/2

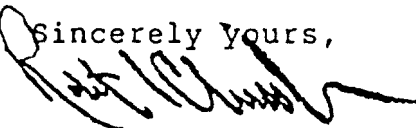
We are holding your above-referenced Premarket Notification (510(k)) for 30 days pending receipt of the additional information that was requested by the Office of Device Evaluation. This information should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

When your additional information is received by the Office of Device Evaluation the 90-day period will begin again.

If after 30 days the requested information is not received, we will stop reviewing your submission. Pursuant to 21 CFR 20.29, a copy of your 510(k) submission will remain in the Office of Device Evaluation. If you then wish to resubmit this 510(k) notification, a new number will be assigned and the 90-day time period will begin again.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162.

Sincerely yours,  


Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

2011

Huntleigh Technology Inc.

CORPORATE HEADQUARTERS  
227 Route 33 East  
Manalapan, NJ 07726  
(201) 446-2500 • 800-223-1218  
Telex 132819

Sept. 6, 1988

Robert Chissler  
Food & Drug Admin.  
Center for Devices &  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Ave.  
Silver Spring MD 20910

Dear Mr. Chissler:

Enclosed is the information requested by the Office of Device Evaluation concerning Ref: K874688 Product: Flowtron AC 200/2. As discussed with Dr. Blanckwell, we have excluded the reference to our product's simulating natural muscle contractions comparable to exercise.

If I may be of further assistance, please feel free to contact me.

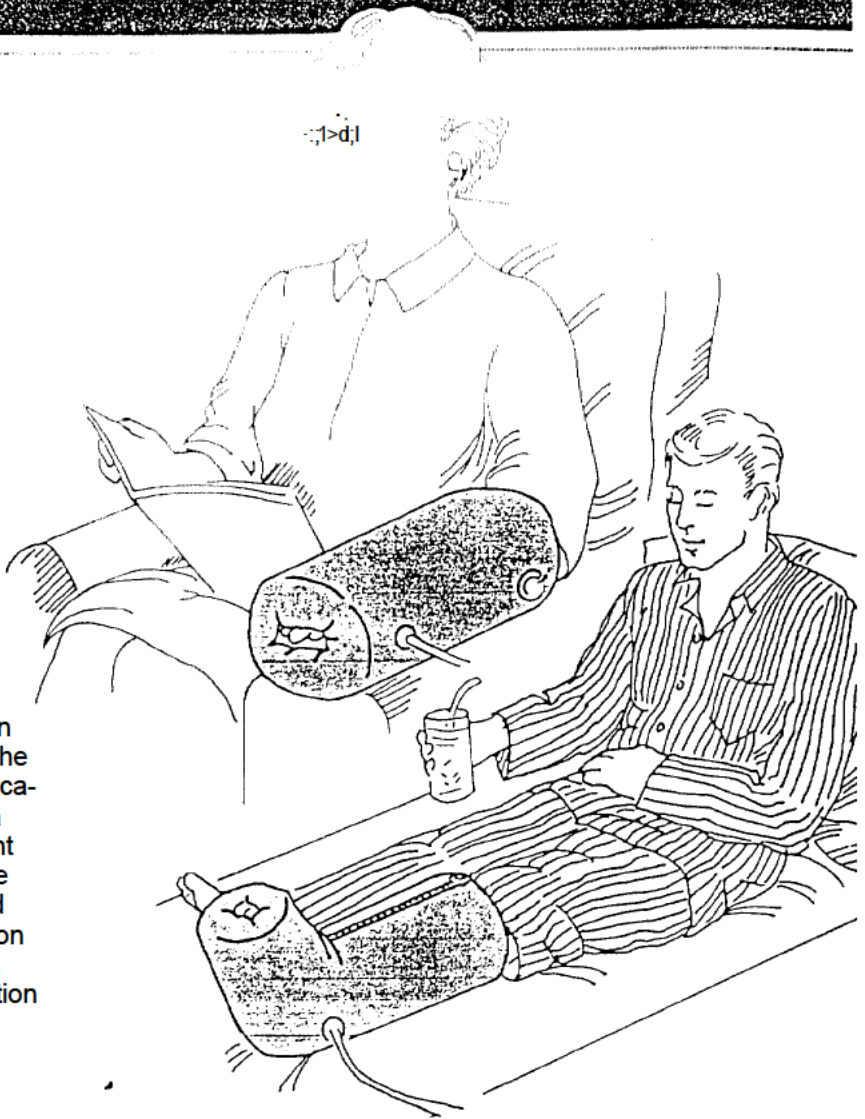
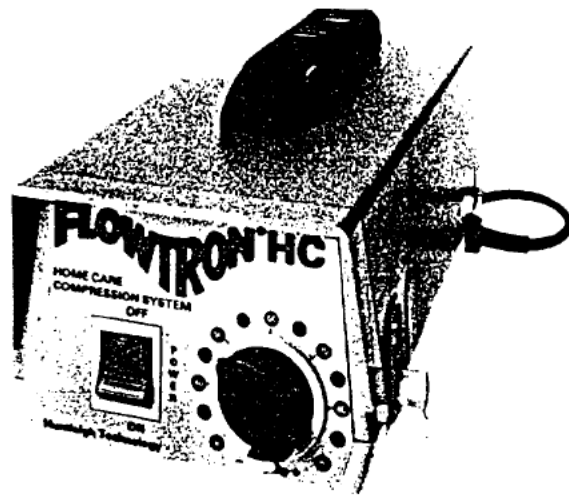
Sincerely yours,

1-  
;JJc"-<>

Diane Distef o  
Mkting. AssL.

205

Huntleigh Technology



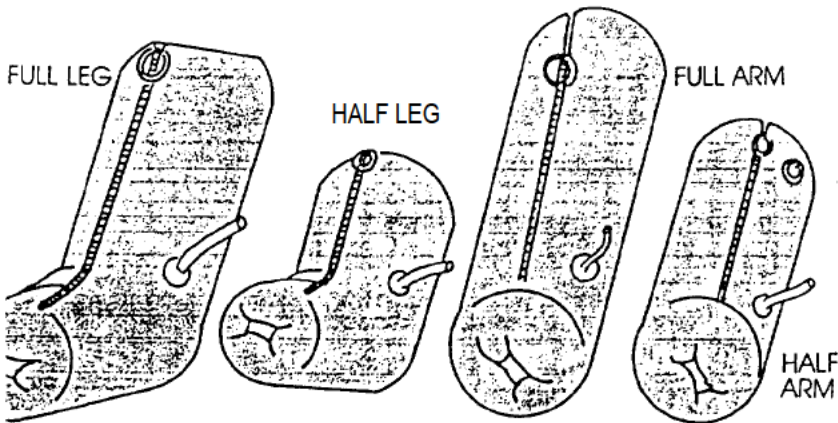
## Home Care Intermittent Compression

Huntleigh Technology, with over 15 years experience in intermittent compression therapy, has now developed the Flowtron HC, a system designed specifically for application in the home environment. The system consists of a compact pump which intermittently inflates a garment that is applied to the extremities. The pressure within the garment is controlled by a dial set at a recommended level. The entire cycle time is preset at 90 seconds inflation and 90 seconds deflation. By alternating the pressure, blood flow is stimulated, resulting in improved circulation and healing.

### IMPROVING THE NATURAL FLOW

Intermittent compression assists venous and lymphatic flow where vascular problems exist. When ambulation is restricted or there is injury to muscle, lymph vessels, or veins, fluid balance may be impaired.

Huntleigh's compression systems facilitate fluid movement by creating a pressure shift within the tissues. During the inflation phase of the system, excess fluid is gently pushed out of the tissue area and into the venous and lymphatic circulation. Once within the circulation, this extra fluid is more readily excreted by the body's natural mechanisms or functions.



- Non-Invasive
- Natural Action
- Practical and Simple to Use
- Ideal for Home Use

**Huntleigh Technology**

227 Route 33 East, Manalapan, NJ 07726  
Toll Free: 800-223-1218 / In NJ (201) 446-2500

*Huntleigh Compression Systems for non-invasive therapy in vascular and lymphatic disorders.*



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

JUNE 10, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

D.C. Number	K874688
Received	06-09-88
Product	FLOWTRON AC200/2

The additional information you have submitted has been received.

We will notify you when the processing of your submission has been completed or if any additional information is required. You are required to wait ninety (90) days after the received date shown above or until receipt of a "substantially equivalent" letter before placing the product into commercial distribution. I suggest that you contact us if you have not been notified in writing at the end of this ninety (90) day period before you begin marketing your device. Written questions concerning the status of your submission should be sent to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162

Sincerely yours,

**R** sler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

**REC'D JUN 16 1988**

207

## Huntleigh Technology Inc.

CORPORATE HEADQUARTERS  
227 Route 33 East  
Manalapan, NJ 07726  
(201) 446-2500/800-223-1218  
Telex 132819

June 6, 1988

Food & Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, MD 20910

Attention: Ms. Marie Schroeder

REFERENCE: K874688  
PRODUCT: Flowtron AC200/2

Dear Ms. Schroeder:

Regarding our phone conversation this past week, I am supplying the additional information requested.

1. PRODUCT LITERATURE:

The literature initially submitted is being withdrawn. This was used to market our products in the U.K. and other European countries. I have re-submitted the literature on the Flowtron HC which is our home care version and the primary product that we wish to market. Therefore, this application should be amended to include the AC200HC.

The products are similar but the HC version does not have a pressure gauge and the three prong ground plug has been eliminated. Please note reference to both products under specifications. Since all of our pneumatic pumps are doubly insulated, there is no compromise on electrical safety.

The pressure on the HC model is set by adjusting the dial to the indicated numerical setting.

2. GARMENTS AND MATERIAL:

Enclosed is a letter dated March 1, 1988 which addresses this question. There are four styles of garments as indicated.

.../2

208

Marie Schroler  
F.D.A.

-2-

June 6, 1988

3. CONNECTING HOSES:

The hoses to connect to the pump are made of PVC.

4. PRESSURE RANGE:

30 90 mrnHg.

5. COPY CHANGES:

From our last conversation, we have now eliminated the references to specific indications. We will submit, at a later date, documentation that we feel is sufficient so that specific claims can be made. In the meantime, the indication will read:

"Reduces lymphatic, venous and traumatic edema in the extremities by enhancing natural blood and lymphatic fluid flow."

6. CLEANING INSTRUCTIONS:

The cleaning instructions will read as follows. These are silkscreened on the inside of each garment.

Cleaning


Do not dry clean. Do not iron. Handwash in lukewarm water using normal detergent or soap powder. Take care to leave the end of the tube out of water while washing. When dry the appliance may be wiped over with antiseptic lotion or cream.

Sterilization

Gas sterilization is suitable for these appliances. The temperature should not exceed 125 degrees Farenheit (51 degrees centigrade).

I hope the above information is sufficient to complete the 510K notification. If you do need any further clarification, please contact me.

Sincerely yours,

  
J. James Britton  
Executive Vice President

JJB/mes  
enc.

Questions? Contact FDA/CDRH/OCE/DID at CDRH-FOISTATUS@fda.hhs.gov or 301-796-8118

209

# FLOWTRON<sup>®</sup> INTERMITTENT COMPRESSION SYSTEM

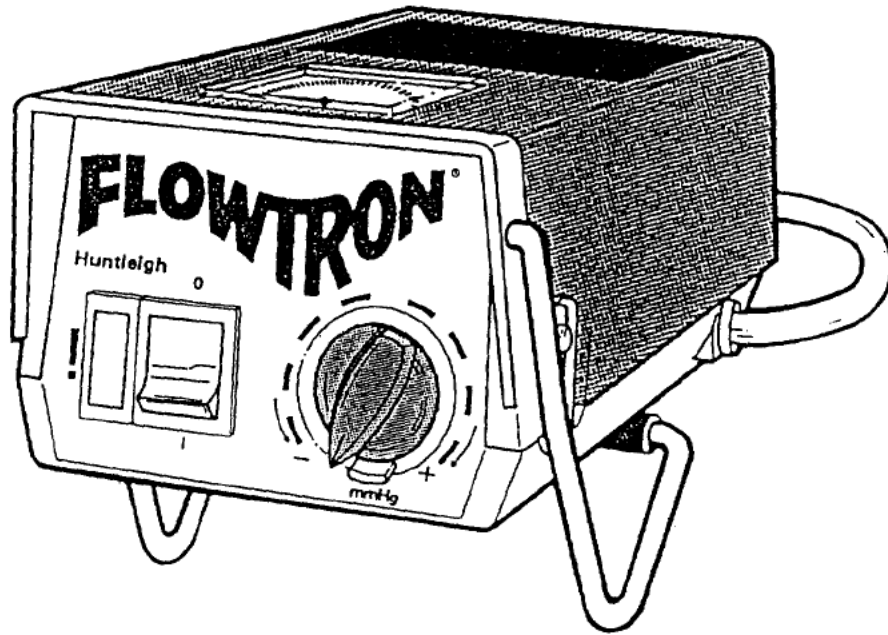
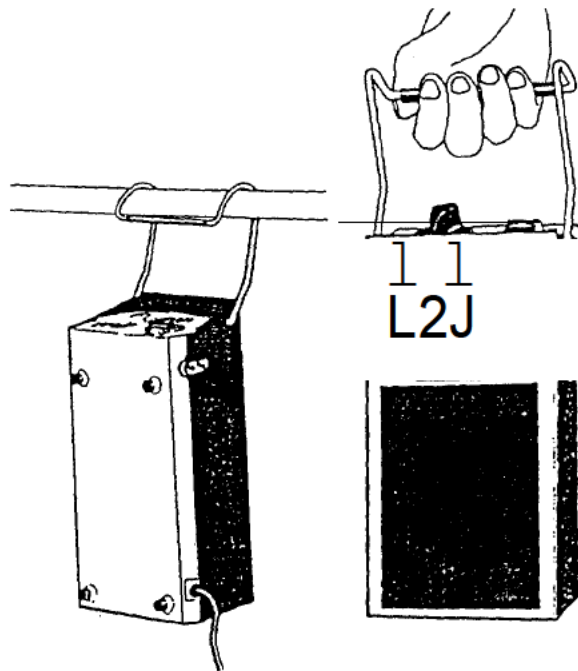
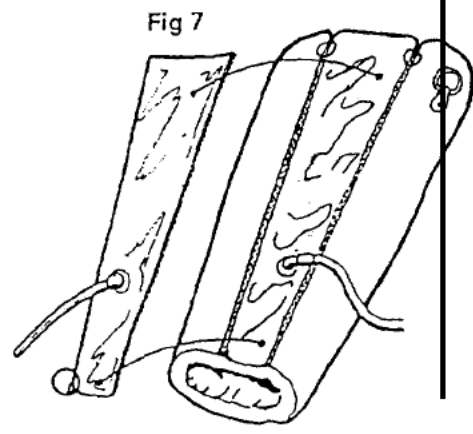


Fig 1.--



Use of inserts to increase circumference of garment.



LJ

210

# OPERATION

- 1) Site the pump (Fig 1) on a suitable flat surface or hang on rail/armrest as illustrated.
- 2) Connect to supply and switch on before connecting garments.
- 3) Both indicator lamps should illuminate (Fig 2).
- 4) Before fitting garment cover the limb with gauze or similar material to prevent excessive perspiration.
- 5) Connect the garment or garments to the pump outlets (Fig 3), after checking garment pull ring is inserted. When using one garment only, ensure that the other air outlet on the pump is closed using the stopper attached.
- 6) Should the garment be connected incorrectly or if there is a leak the red lamp will remain illuminated (Fig 4).
- 7) Adjust pressure control (Fig 5) to desired setting as indicated by pressure gauge (Fig 6).
- 8) Treatment should now commence for as long as required or is convenient.
- 9) **IMPORTANT** - Before removing the garment release the pull ring or the pump allowing deflation.

RA



Fig 2



Fig 3

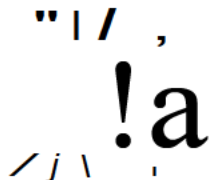


Fig 4

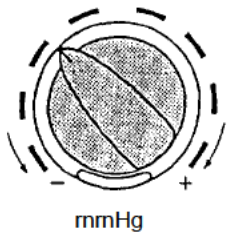


Fig 5

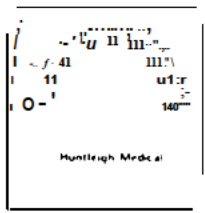


Fig 6

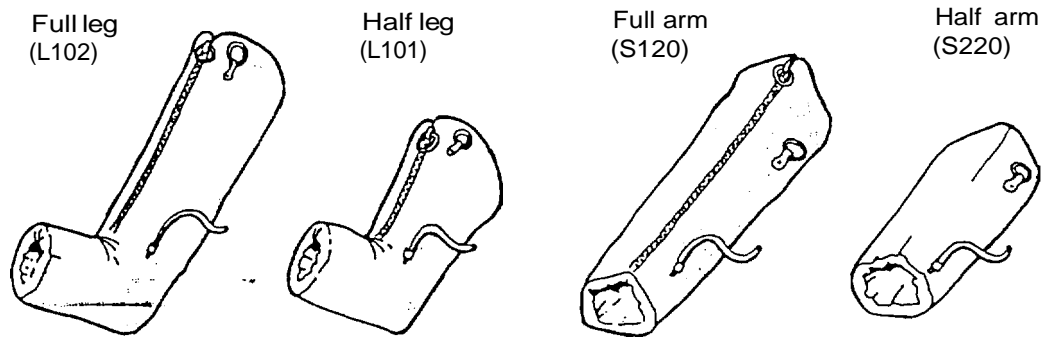
2/11

# TECHNICAL SPECIFICATION

## Flowtron Model AC 200/2

Power:	220-240V 50Hz 110-130V 60Hz 90-110V 50/60Hz	Cycle Time: (Total)	Fully Automatic 220-240V 3 mins 110-130V 3.3 mins 90-110V (50Hz) 4 mins 90-110V (60Hz) 3.3 mins
Size:	26 x 12 x 10cm	Indicators:	Power on; low air pressure; pressure gauge
Weight:	1.7Kg		
Pressure Range:	30 - 90mmHg		

Also incorporating multi-purpose stand/ hook and carry handle.



A range of inflatable extension inserts (Fig 7) are available to increase circumference of L101 (Half leg), L102 (Full leg), S120 (Full arm) and S220 (Half arm). When ordering insert pieces, substitute IP for L or S prefix in order code numbers.

## TROUBLE SHOOTING GUIDE

If red lamp remains illuminated:

- a) check for loose garment connection;
- b) ensure that garment pull ring is fully inserted;
- c) if using one garment, ensure other pump outlet is plugged with the stopper provided.
- d) try replacement garment;
- e) if no improvement, please return to your local service centre.

N.B. Please remember that the unit takes approximately 10 mins to achieve normal running pressure. After this time the red lamp should be extinguished. Momentary illumination during changeover may occur, but does not indicate a fault.

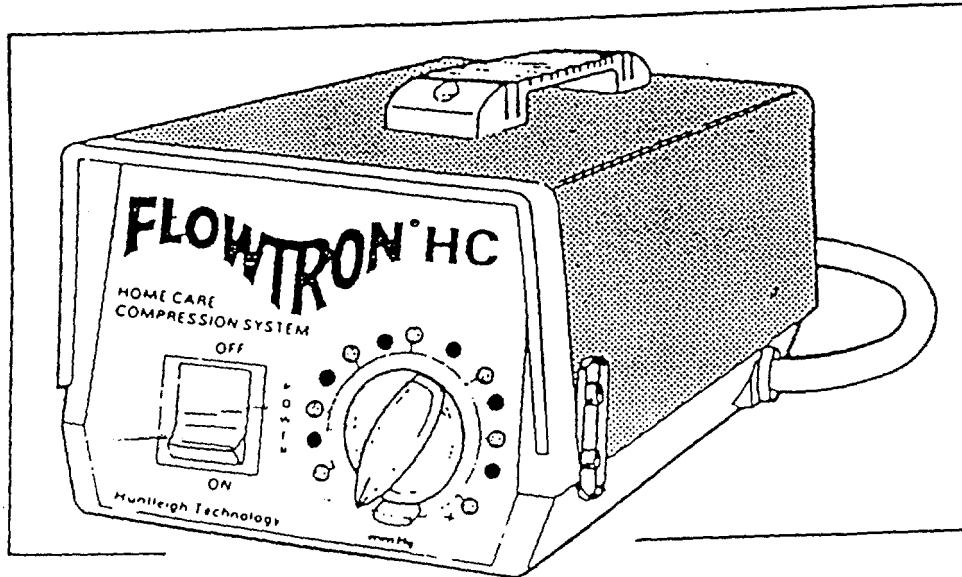
212

# fLOWTRON HC

Huntleigh

## INTERMITTENT COMPRESSION SYSTEM

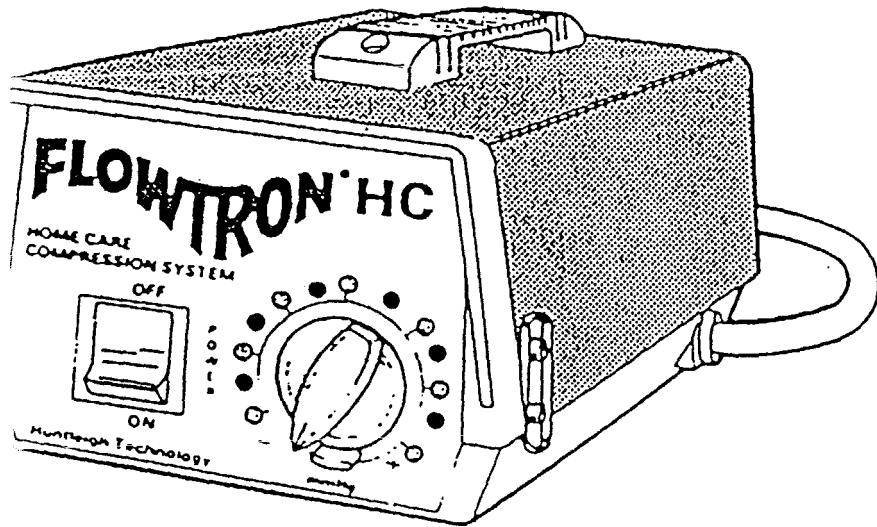
OPERATING INSTRUCTIONS  
TREATMENT NOTES



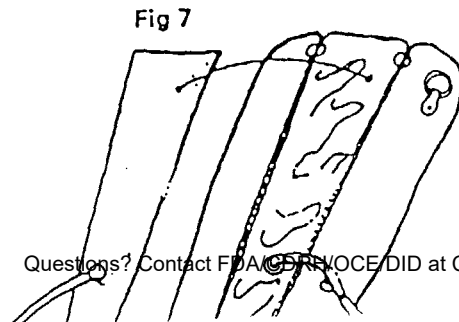
# The Natural Solution to Venous and Lymphatic Disorders

# LOWTRO G C

## INTERMITTENT COMPRESSION SYSTEM

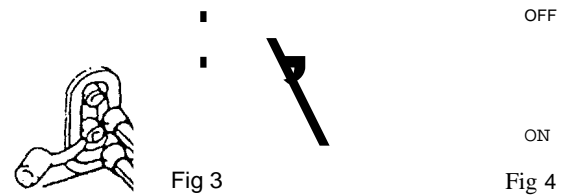
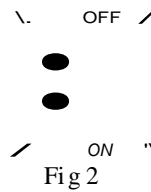


Use of insens to increase circumference of garment.



## OPERATION

- 1) Site the pump ( Fig 1) on a suitable flat surface
- 2) Connect to supply and switch on before connecting garments.
- 3) Indicator lamp should illuminate ( Fig. 2)
- 4) Before fitting garment cover the limb with gauze or similar material to prevent excessive perspiration.
- 5) Connect the garment or garments to the pump outlets ( Fig 3). After checking garment pull ring is inserted. When using one garment only, ensure that the other air outlet on the pump is closed using the stopper attached.
- 6) Adjust pressure control ( Fig 5) to desired setting .
- 7) Treatment should now commence for as long as required or is convenient.
- 8) .1 IMPORTANT - Before removal of the garment release the pull ring or disconnect from the pump allowing deflation





# USER INSTRUCTIONS

## User Instructions

Check function of equipment and integrity of enclosure prior to each use.

No periodical preventive technical maintenance is required. In case of failure contact your local dealer.

## Pump Unit Cleaning Instruction

To clean pump unit, wipe with a damp cloth and a mild detergent.

## Garment Cleaning Instruction

Do not dry clean. Do not iron. Hand wash in lukewarm water using normal detergent or soap powder. Take care to leave the end of the tube out of the water while washing. When dry the appliance may be wiped over with an antiseptic lotion or cream.

## Sterilisation

Gas sterilisation is suitable for these appliances. The temperature should not exceed 125°F (51°C).

Technical information concerning our products can be obtained from Huntleigh Technology pie. or from your local distributor.

# USER MAINTENANCE

- 1) Always switch off (Fig. 4) and unplug this unit immediately after use.
- 2) Do not use while bathing.
- 3) Do not place or store product where it can fall or be pulled into a tub sink.
- 4) Do not place in or drop into water or other fluid.
- 5) Do not reach for a product that has fallen into water. Unplug immediately.

## WARNING

TO REDUCE THE RISK OF BURNS,  
ELECTRDCUTION, FIRE OR INJURY  
TO OTHER PERSONS.

- 1) Use this unit only for its intended use as described in this manual.
- 2) Never operate this product if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return unit to service centre for examination and repair.
- 3) Keep the cord away from heated surfaces.
- 4) Never drop or insert any object into any opening or hose.
- 5) Do not use outdoors or operate where aerosol (spray) products are used or where oxygen is being administered.
- 6) Possible explosion hazard if used in the presence of flammable anaesthetics.

## Huntleigh Technology Inc.

CORPORATE HEADQUARTERS  
227 Route 33 East  
Manalapan, NJ 07726  
(201)446-2soo • 800-223-1218  
Telex 132819

March 1, 1988

Food & Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Ave.  
Silver Spring, MD 20910

Attn: Mr. Robert I. Chissler  
Premarket Notification Coordinator

Ref: K874688  
Product: Flowtron AC200/2

Dear Mr. Chissler:

In reference to your letter dated February 3rd, and a telephone conversation with Marie Schroeder, we are submitting the additional information requested.


1. Cycle time - The cycle time on the Flowtron Air AC400 is one minute on and one minute off, while the submitted product Flowtron AC200/2 is one minute forty-five seconds on and one minute forty-five seconds off.
2. Garment Material Construction - Two types are used - the outer layer is made from a polyurethane nylon while the inner is a two-way stretch woven material. Construction is from the same material used in our previous SLOK submission K871271 - Flowpress Garments SQ301/302/320.
3. Standard - The pump AC200/2 is U.L. listed under their UL544 for medical devices, and is doubly insulated plus has a three prong hospital grade plug.
4. Claims - We are making claims for application in chronic lymphatic and venous disorders to reduce edema and improve circulation (similar to our application K871271 and K850190). These conditions are manifested by indications listed in the product literature. Enclosed is selected literature for reference.

2/16

Page 2

I believe the foregoing supplies the information that you requested. Should you require any additional information or clarification, please contact me at 1-800-223-1218.

Very truly yours,



J. JAMES BRITTON

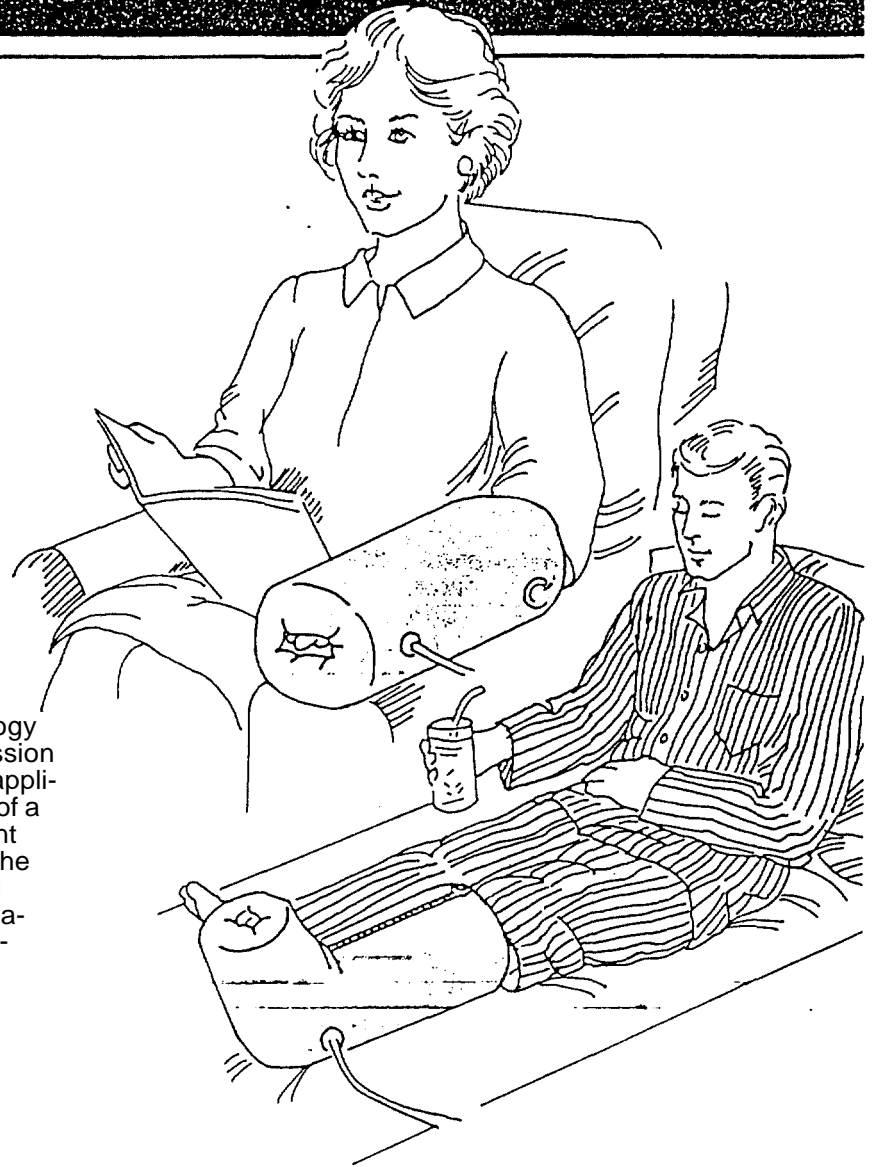
Executive Vice President

JJB:cm

Enclosures

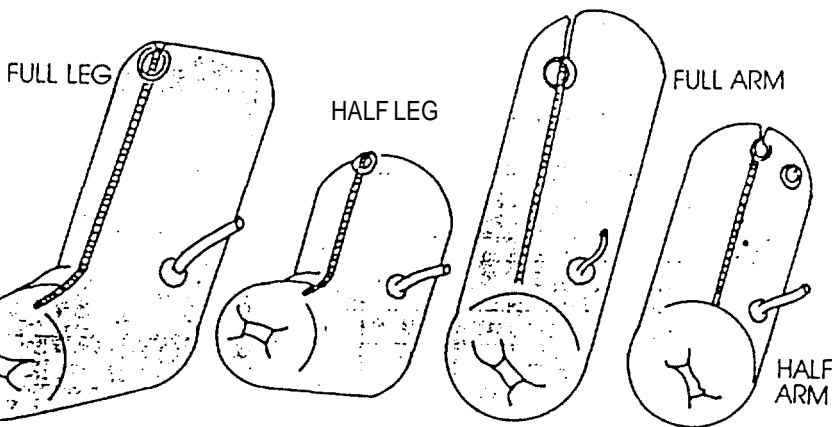
217

# FLOWTRON HC HOME CARE COMPRESSION SYSTEM



## Home Care Intermittent Compression

Flowtron HC, a development from Huntleigh Technology with over 15 years experience in intermittent compression therapy, has now designed a system specifically for application in the home environment. The system consists of a compact pump which intermittently inflates a garment that is applied to the extremities. The pressure within the garment is controlled by a dial set at a recommended level. The entire cycle time is preset at 90 seconds inflation and 90 seconds deflation. By alternating the pressure, blood flow is stimulated, resulting in improved circulation and healing.



## Improving the Natural Flow

Intermittent compression increases venous and lymphatic flow where vascular problems exist. The process promotes better circulation by simulating natural muscle contractions comparable to walking or exercise.

When ambulation is restricted or there is injury to muscle, lymph vessels or veins, fluid balance may be impaired. By imitating normal muscle contractions, Huntleigh's compression systems facilitate blood flow and gently force the excess fluid from the tissues back into the vascular system.

*if,ct*

**Huntleigh Compression Systems  
for non-invasive therapy in  
vascular and lymphatic disorders.**

• Non-Invasive  
• Natural Action

• Practical and Simple to Use  
• Ideal for Home Use

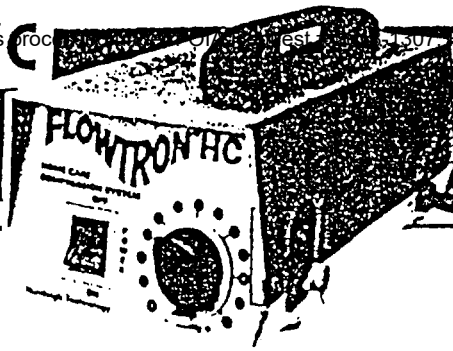
**Huntleigh  
Technology**

227 Route 33 East, Manalapan NJ 07726

Toll Free: 800-223-1218. In NJ: 908-250-2500

Questions? Contact FDA/CDRH/OCE/DID at CDRH-FOISTATUS@fda.hhs.gov or 1-800-368-1099

# FLOWTRON HC



## HOME CARE COMPRESSION SYSTEM

### Clinically Proven Effective and Safe

#### Lymphedema

Damaged lymph nodes, caused by surgical procedures and radiation therapy following a radical mastectomy, cause the limbs to be swollen, heavy and painful.

Intensive use of the inflatable full sleeve, supplemented by the use of made to measure elastic hosiery, will provide welcome and lasting relief.

"External pneumatic compression therapy can reduce significantly the girth and volume of a lymphedematous limb:"

"Intermittent Compression represents a safe, non-invasive, highly effective and inexpensive method for treating edema of the leg:"

#### Indications:

Reduces lymphatic, venous and traumatic edema in the extremities by enhancing natural blood and lymphatic flow.

#### Contraindications:

- Known or suspected Dvr (deep vein leg clots)
- Pulmonary edema
- Congestive heart failure
- Active, untreated infection (cellulitis, infected wound, etc.)
- Any condition whereby an increase of fluid to the heart would be detrimental.

### Vascular Insufficiency

If physical movement is restricted due to age or injury, the body's venous circulatory system becomes sluggish which can result in blood pooling or stasis. It is also possible for the valves located within the veins to become defective, leading to diminished venous return. More notable effects of this valvular insufficiency are varicose ulcers and

stasis ulcers.

We now recommend routine use of intermittent compression of the calf in instances of popliteal and femoral venous repair, particularly when an interposition or bypass graft has been used.#3

Chronic leg ulcers benefit from pneumatic intermittent compression:

#### Specifications:

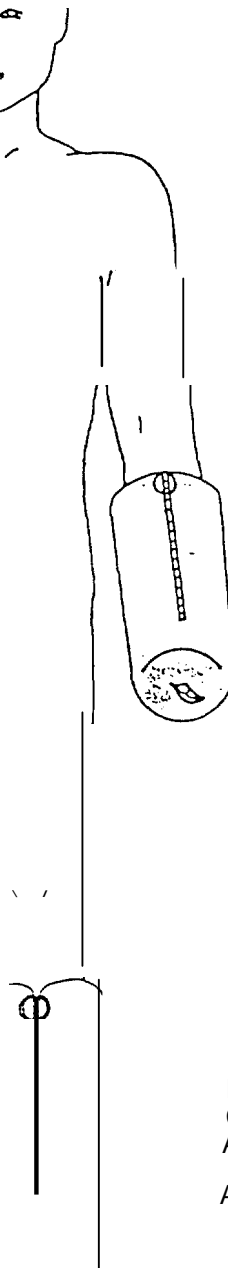
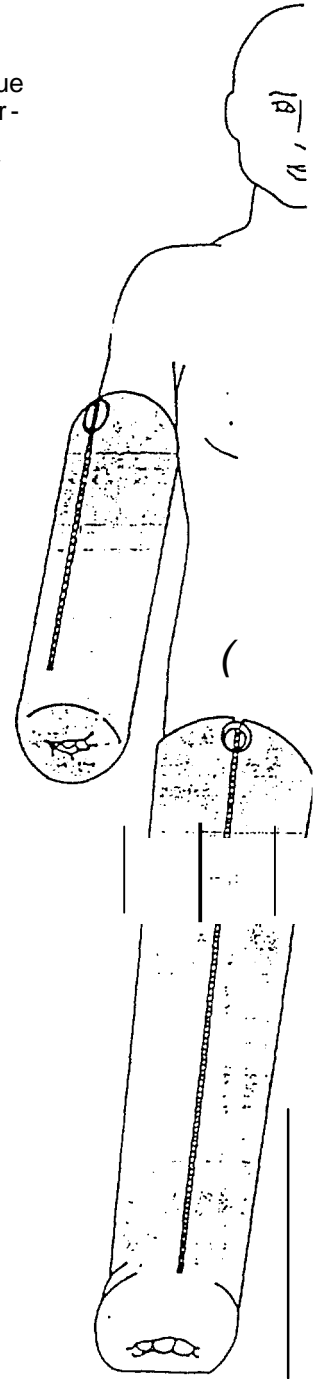
Model No. AC200HC  
 Power: 110-130V 60 Hz  
 Size: 6 x 12 x 10cm  
 Weight: 1.7 Kg (3.75 lbs.)  
 Pressure Range: 30-90 mmHg

Cycle Time: Fully Automatic  
 90 seconds on-  
 90 seconds off

Indicators: Power on, Pressure dial

Also available: AC20012. Some specifications as above but with a pressure gauge and hospital grade plug.

DISTRIBUTED BY:



/BUOGRAPHY

es. Jeffrey, Ph.D.; et al. "Selection of Patients with Lymphedema Compression Therapy," The American Journal of Surgery, Vol. 133 (April 1978), 433.

J. ... M.D. Ph.D. "Intermittent Compression in the Management of Swollen Limbs," and General Practice, Practitioner, 69, 1975.

Hobson II, Robert W.M.D.; et al. use of Intermittent Pneumatic Compression of the Calf in Femoral Venous Reconstruction, Surgery, Gynecology & Obstetrics, Vol. 159 (September 1984), 286.

Hozoriko, M.S., M.A.M.S., F.R.C.S., F.J.C.S., ED, et al., "Chronic Leg Ulcers: The Effect of Pneumatic Intermittent Compression Therapy," J. Vasc. Med. Biol., 1991, 3(2):118-122.

219 1.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

MAY 25, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

Ref K874688  
Product FLOWTRON AC200/2

We are holding your above-referenced Premarket Notification (510(k)) for 30 days pending receipt of the additional information that was requested by the Office of Device Evaluation. This information should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

Then your additional information is received by the Office of Device Evaluation the 90-day period will begin again.

If after 30 days the requested information is not received, we will stop reviewing your submission. Pursuant to 21 CFR 20.29, a copy of your 510(k) submission will remain in the Office of Device Evaluation. If you then wish to resubmit this 510(k) notification, a new number will be assigned and the 90-day time period will begin again.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162.

█  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

220

1 1)  
✓

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

MARCH 2, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

D.C. Number K874688  
Received 03-02-88  
Product FLOWTRON AC200/2

The additional information you have submitted has been received.

We will notify you when the processing of your submission has been completed or if any additional information is required. You are required to wait ninety (90) days after the received date shown above or until receipt of a "substantially equivalent" letter before placing the product into commercial distribution. I suggest that you contact us if you have not been notified in writing at the end of this ninety (90) day period before you begin marketing your device. Written questions concerning the status of your submission should be sent to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Office of Device Evaluation  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162

**tL**

Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

221

## Huntleigh Technology Inc.

CORPORATE HEADQUARTERS  
227 Route 33 East  
Manalapan, NJ 07726  
(201) 446-2500 • 800-223-1218  
Telex 132819

March 1, 1988

Food & Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Ave.  
Silver Spring, MD 20910

Attn: Mr. Robert I. Chissler  
Premarket Notification Coordinator

Ref: K874688  
Product: Flowtron AC200/2

Dear Mr. Chissler:

In reference to your letter dated February 3rd, and a telephone conversation with Marie Schroeder, we are submitting the additional information requested.

1. Cycle time - The cycle time **on** the Flowtron Air AC400 is one minute on and one minute off, while the submitted product Flowtron AC200/2 is one minute forty-five seconds on and one minute forty-five seconds off.
2. Garment Material Construction - Two types are used - the outer layer is made from a polyurethane nylon while the inner is a two-way stretch woven material. Construction is from the same material used in our previous 510K submission K871271 - Flowpress Garments SQJ01/302/320.
3. Standard - The pump AC200/2 is *U.L.* listed under their UL544 for medical devices, and is doubly insulated plus has a three prong hospital grade plug.
4. Claims - We are making claims for application in chronic lymphatic and venous disorders to reduce edema and improve circulation (similar to our application K871271 and K850190). These conditions are manifested by indications listed in the product literature.  
Enclosed is selected literature for reference.



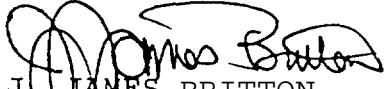
222



Page 2

I believe the foregoing supplies the information that you requested. Should you require any additional information or clarification, please contact me at 1-800-223-1218.

Very truly yours,



J. JAMES BRITTON  
Executive Vice President

JJB:cm

Enclosures

223

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

FEBRUARY 3, 1988

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

Ref K874688  
Product FLOWTRON AC200/2

We are holding your above-referenced Premarket Notification (510(k)) for 30 days pending receipt of the additional information that was requested by the Office of Device Evaluation. This information should be submitted in duplicate to:

Food and Drug Administration  
Center for Devices and  
Radiological Health  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

When your additional information is received by the Office of Device Evaluation the 90-day period will begin again.

If after 30 days the requested information is not received, we will stop reviewing your submission. Pursuant to 21 CFR 20.29, a copy of your 510(k) submission will remain in the Office of Device Evaluation. If you then wish to resubmit this 510(k) notification, a new number will be assigned and the 90-day time period will begin again.

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162.

rt L

Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

g24

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Center for Devices and  
Radiological Health  
8757 Georgia Avenue  
Silver Spring, MD 20910

NOVEMBER 24, 1987

HUNTLEIGH TECHNOLOGY, INC.  
ATTN: J. JAMES BRITTON  
227 ROUTE 33 EAST  
MANALAPAN, NJ 07726

D.C. Number K874688  
Received 11-13-87  
Product FLOWTRON AC200/2

The Premarket Notification you have submitted as required under Section 510(k) of the Federal Food, Drug and Cosmetic Act for the above referenced device has been received and assigned a unique document control number (D.C. Number above). Please cite this D.C. Number in any future correspondence that relates to this submission.

We will notify you when the processing of this submission has been completed or if any additional information is required. You are required to wait ninety (90) days after the received date shown above or until receipt of a "substantially equivalent" letter before placing the product into commercial distribution. I suggest that you contact us if you have not been notified in writing at the end of this ninety (90) day period before you begin marketing your device. Written questions concerning the status of your submission should be sent to:

Food and Drug Administration  
Center for Devices and  
Radiological Health Office  
of Device Evaluation  
Document Mail Center (HFZ-401)  
8757 Georgia Avenue  
Silver Spring, Maryland 20910

If you have procedural or policy questions, please contact the Division of Small Manufacturers Assistance at their toll-free number (800) 638-2041 or me at (301) 427-8162.

**i : /**

Robert I. Chissler  
Premarket Notification Coordinator  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

HEC'D RO V 27 1987

*era,*

## Appendix B. Preliminary Device Labels

IX-206

Appendix B:

PRELIMINARY LABELING FOR THE VASO PRESS SYSTEM

LABELING FOR THE CONTROLLER

Controller Faceplate Label

# VASO PRESS

Intermittent Compression

**BRIT**

Medical Products

50 mmHg

ON

OFF

30 mmHg  
Low

80 mmHg  
High

Controller Rear Label

BRITT MEDICAL PRODUCTS

A DIVISION OF BRITT CORP

INTERMITTENT COMPRESSION SYSTEM

CONTROLLER Model Number VP 100

Caution: Do not use in the presence of flammable anesthetics.

**UL** AIR PUMP UL LISTED 3G40

SPECIFICATIONS: 110V/60 Hz

MADE IN TAIWAN

LABELING FOR THE SHIPPING CARTON

# VASO PRESS

INTERMITTENT COMPRESSION SYSTEMS

VASO PRESS CONTROLLER

RE ORDER NUMBER: VP 100

BRITT MEDICAL PRODUCTS

A DIVISION OF BRITT CORP

45 EAST MAIN STREET FREEHOLD NJ 07728

TEL# (732) 863-1400 Fax # (732) 863-1603

227

LABELING FOR THE SLEEVE  
(representative sample)

LABELING FOR THE HALF LEG SLEEVE

**VASOPRESS**

INTERMITTENT COMPRESSION SYSTEMS

HALF LEG

RE ORDER NUMBER: VP 101

BRITT MEDICAL PRODUCTS  
45 EAST MAIN STREET SUITE 204  
FREEHOLD, NJ 07728

TEL# (732) 863-1400, FAX# (732) 863-1603

MADE IN USA

228

## Appendix C. Preliminary Device Labeling, Operating Instructions

224

X

## Appendix C:

### Preliminary Operating Instructions: Vaso Press Intermittent Compression System

Description and Operating Principle- Vaso Press is an intermittent pneumatic compression system for the treatment and management of venous and lymphatic disorder. By compressing the extremity increased venous and lymphatic flow is encouraged.

The system consists of an air controller (pump) and soft pliable compression sleeves. The controller supplies compression on a pre set timing cycle (90 seconds on followed by 90 seconds of deflation) which is intermittent at a selected pressure setting. The compression in the sleeves is transferred to the applied extremity encouraging the transfer of extra cellular fluids into the bodies natural drainage system (the venous and lymphatic system).

The Vaso Press System may be used on and by patients who suffer from lymphedema, radiation therapy or chemotherapy, venous edema following trauma or surgery, or venous leg ulcers.

Caution: Federal (USA) law restricts this device to sale by or on the order of a physician or other licensed practitioner.

System Set Up and Operating Instructions- The Vase Press System is very easy to set up. The following steps should be followed:

1. Please read this instruction manual in its entirety before setting up.
2. Once the controller and sleeves have been removed from their packaging, plug the controller into an electrical outlet. Do Not Switch On.
3. Position the controller on any flat surface.
4. Connect the sleeve(s) to the controller outlet(s) by pushing the tubing onto the air outlet. If only one sleeve is used, plug the unused air outlet.
5. Place the sleeve over and around your leg or arm and completely zip up. Position the sleeve so it is comfortable and covers your leg or arm.
6. It is helpful to keep your arm or leg being treated elevated while treatment is taking place.
7. You may sit or lie down as the treatment is being conducted.
8. Check to see that the adjustable pressure control is at the recommended setting.
9. Relax and turn the controller on. A green light will illuminate letting you know that the power is on. It will take several cycles before the recommended treatment pressure is attained.
10. When the recommended treatment time has been completed turn off the controller and disconnect the tubing from the controller to deflate the sleeve.

### Suggestions:

Ensure there are no kinks in the tubing

Treatment pressure should never be changed without the direct order of a physician.

Ensure that the zipper is fully secure (zipped completely).

230



Never apply or remove the sleeves while inflated as this may cause damage to the sleeve.

Contraindications for use: The use of the Vaso Press is not recommended in the following conditions-

- In the presence of any pain or numbness
- Severe arteriosclerosis or other ischemic vascular disease
- Massive edema of the legs or arms due to congestive heart failure
- Extreme deformity of the limbs
- Known or suspected deep vein thrombophlebitis

Any local condition in which the sleeves would interfere:

- Gangrene
- Dermatitis
- Untreated or infected wounds
- Recent skin grafts

Recommended Treatment Guidelines

Intermittent Pneumatic Compression (External Pneumatic Compression) is designed to aid in the treatment and management of impaired venous and lymphatic fluid flow. The gentle compression of each cycle enhances the movement of extra cellular fluid from the tissues back in the venous and lymphatic circulation. The extra fluid is then removed by the bodies own natural mechanism.

Following a review of current literature, a recommended treatment protocol has been established. In all cases the recommendations are guidelines and are not a substitute for clinical judgment and experience.

TREATMENT PROTOCOLS

CONDITION	PRESSURE*	DURATION	FREQUENCY
<b>EDEMA</b>			
Dependent	40 mmHg	1-2 hours	twice/day
Traumatic	40 mmHg	30 min. - 1 hour	twice/day
Lymphedema:			
Mild	40-50 mmHg	1-2 hours	twice/day
Moderate-Severe	50-60 mmHg	1-2 hours	2-4 times/day
Venous (post phlebitic syndrome, venous insufficiency)	50 mmHg	30min- 1 hour	twice/day

\  
J

Venous Stasis Ulcers	50mm hg	30 min- 1 hour	twice/day
-------------------------	---------	----------------	-----------

\*When using a gradient compression sleeve set the distal pressure to the recommended pressure setting. There will be an automatic pressure drop once the distal pressure is set.

When using the Vasa Press for wound healing, it is recommended that a clean cotton stockinet be placed over the wound dressings before placing the limb in the Vaso Press Sleeve. Since intermittent compression is an adjunctive therapy it can be used with other prescribed modalities for the treatment of venous ulcers or lymphedema.

#### Cleaning Instructions

The outside case is made from ABS plastic and should be cleaned using a damp cloth and mild detergent.

Cleaning solutions containing hypochlorite and phenol bases should never be used as they will cause the plastic to deteriorate.

The sleeve may be washed in luke warm water using a mild detergent.

Care must be taken not to submerge the tubing in water

Do not dry clean

Do not iron

Do not autoclave

#### Warranty and Service

Britt Medical Products are warranted against defects in materials and workmanship under normal use and operation. Warranties are exclusive and are in lieu of all other warranties (whether written, oral or implied).

#### PUMP UNITS:

1. The pump will be either repaired or replaced free of charge where defects in materials and/or workmanship are evident at the time of delivery.
2. All labor and parts will be provided free of charge from the date of delivery for a period of 12 months, provided the equipment is returned prepaid to an authorized center.

#### SLEEVES:

The warranty period for defects in material or workmanship is 3 months

SERVICE: Any product not covered by warranty will be serviced on request. The necessary parts, labor and shipping charges will be billed according to our latest service policy.

232

Service is available for all Britt products at authorized service centers. Contact our office (732) 863-1400 for service information.

ORDERING INFORMATION

VP 100 Intermittent Compression Pump  
SLEEVES FOR THE VASO PRESS CONTROLLER

SINGLE CHAMBER	SEGMENTAL	GRADIENT
VP 101 Half Leg Sleeve	VP 201 Seg. Half Leg Sleeve	VP 301 Gradient Half Leg
VP 102 Full Leg Sleeve	VP 202 Seg. Full Leg Sleeve	VP 302 Gradient Full Leg
VP 120 Full Arm Sleeve	VP 220 Seg. Full Arm Sleeve	VP 320 Gradient Full Arm

\*SLEEVE SIZES FOR SINGLE CHAMBER AND SEGMENTAL

Description	Single	Segment.	Gradient	Dimensions					Inserts	
				L	W	F	H	S	A	B
Half Leg	VP 101	VS 201	VP 301	19.75	23	12.5	-		6	3.5
Full Leg	VP 102	VS 202	VP 302	30	26.5	12.5	-		7	3.5
Full Arm	VP 120	VS 220	VP 320	26				14.5 22.5	5	2

\*Other sizes may be ordered on a special order basis. Please call (732) 863-1400 with the dimensions required. Allow three to four weeks for delivery.

SPECIFICATIONS

Technical Specifications for the VP 100 Controller

- Size: 10 1/4" L, 4 1/2" W, 3 3/4" H
- Cycle Time: 3 minutes (90 seconds on, 90 seconds off)
- Pressure Range: 30-80 mmHg
- Power: 110-130 Volts, 60Hz
- Weight: 3.5 lb.

233

## Appendix D. Preliminary Advertising and Promotional Literature

**Appendix D:**

(Front Page)

**Preliminary Catalog Sheet**

Vaso Press Intermittent Compression System

(Photograph of the Pump and System in Use)

■ ■ ■ ■  
Versatility in Compression Therapy!

lymphedema or venous ulcers.

One pump for Uniform Compression, Segmental or Gradient Segmental Compression. The Vaso Press from Britt Medical Products Now offers a unique System that will maximize inventory investment and offer flexibility for your patients suffering from

- One Pump for Uniform, segmental or gradient compression
- Portable, Light Weight, Quiet and Easy to Use
- Promotes Lymphatic and Venous Flow
- Gentle Compression Enhances the Movement of Extracellular Fluid
- Enhances Patient Compliance due to Simplicity and User Friendly Controls
- Promotes Increased Circulation by Simulating Natural Muscle Contractions

TEL# 732-863-1400 FAX# 732-863-1603

235

(Back Page)

VASO PRESS FROM BRITT MEDICAL PRODUCTS

- Single Pump will operate a uniform or segmented gradient sleeve
- Single Pressure Control for Ease of Operation
- Reduces Swelling and Enhances Wound Healing
- Soft and Pliable Comfortable Compression Sleeves
- Illuminated On/Off Switch
- Safe Non-Invasive Modality

(Close in Shot of the Pump)

(Photographs of Sleeves)

(VP 101)

(VP 202)

(VP 320)

Technical Specifications- Pump  
 Size: 10 1/4" L, 4 1/2" W, 3 3/4" H  
 Cycle Time: 3 min. (90 sec. on/90 sec. off)  
 Pressure Range: 30-80 mmHg  
 Power: 110-130 Volts, 60Hz  
 Weight: 3.5 lb.

Ordering Information:  
 VP 100 Intermittent Compression Pump V-  
 VP 101 Half Leg Sleeve  
 VP 102 Full Leg Sleeve  
 VP 120 Full Arm Sleeve  
 VP 201 Segmental Half Leg Sleeve  
 VP 202 Segmental Full Leg Sleeve  
 VP 220 Segmental Full Arm Sleeve  
 VP 301 Gradient Segmental Half Leg  
 VP 302 Gradient Segmental Full Leg  
 VP 320 Gradient Segmental Full Arm

Suggested Use:  
 Treatment of chronic venous insufficiency,  
 including venous ulcers and edema  
 Lymphedema, primary and secondary

Contraindications:  
 Suspected existing deep vein thrombosis  
 Pulmonary edema from congestive heart  
 failure.  
 Any local condition in which sleeves would  
 interfere with treatment, such as recent skin  
 graft or gangrene.

(Britt Med. Prod. Logo)

Distributed By:

236

## Appendix E. Photographs





## Appendix F. Performance Testing Data

## **Protocol for Pressure Measurement**

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data



28









## Appendix G. Office of Health Technology Assessment





# Health Technology Review

Agency for Health Care Policy and Research Office of Health Technology Assessment

No. 4

August 1993

## Lymphedema Pumps: Pneumatic Compression Devices

S. Steven Hotta, M.O., Ph.D. and Thomas V. Holohan, M.D.

Lymphedema is a swelling of soft tissues, especially in the limbs, due to the local retention of lymph fluid in the lymphatic system or lymph that results from an imbalance in the lymphatic system and/or from an excessive production of lymph caused by obstruction of the venous vessels. Pneumatic compression devices were developed to aid in the mobilization of lymph from the extremity to avoid the chronic consequences of uncontrolled lymphedema. These devices have varied designs, including the effective to some extent when used in conjunction with an elevation of the limb, manual massage, and an elastic "sleeve" or bandage. This review evaluates the relative effectiveness of single-chambered pneumatic devices versus multichambered devices, with or without pressure fluctuations.

### Background

Pathophysiologically, the fluid accumulating in lymphedema represents an abnormal collection of proteins, water, and solute in the interstitial tissues. The stagnant or protein-rich lymph may encourage infection and result in inflammatory reactions. Fibrosis and excessive formation of connective tissues represent further serious consequences that may present as elephantiasis or sclerodermatous changes. The extent to which the

*Health Technology Assessment Series*  
This report is part of the Health Technology Assessment Series, published by the Agency for Health Care Policy and Research, U.S. Department of Health and Human Services. The series is designed to provide information on the relative effectiveness of health technologies. The series is published in the *Journal of Clinical Pharmacy and Therapeutics*. This report is available in both print and electronic formats. For more information, contact the Agency for Health Care Policy and Research, 5600 Executive Plaza North, Room 301, Bethesda, MD 20892, or call 1-800-458-5231.

*OUT*

swelling has progressed toward the: better stages influences the effectiveness of the treatment of patients with lymphedema. For example, lymphedema following radical mastectomy and/or radiation therapy may respond readily to the application of external pressures, whereas the response to the same treatment may be limited if the condition has progressed to the stage of fibrotic changes. Furthermore, the treatability of the lymphedema may also depend on the etiology of the condition—that is, whether the lymphedema is the result of a congenital absence of or abnormalities in the lymphatic system or is secondary to an identifiable cause such as trauma, surgery, radiation therapy, infection, or malignancy.

Early treatment for lymphedema consisted of the elevation of the limb and manual massage to encourage drainage of lymph from the limbs. Elastic bandages and sleeves aided drainage and were somewhat effective in preventing the accumulation of lymph.<sup>1-3</sup> Among the early compression devices used to facilitate the mobilization of fluid from the limbs was one type that consisted of a single inflatable chamber that applied relatively uniform pressure to the whole limb. The development of multichambered devices allowed the sequential application of pressure from the distal to proximal direction. This "milking" of the extremity was thought to be more effective in removing the lymph from the extremity. The latest modification to these pneumatic compression devices was the incorporation of a control mechanism to permit the delivery of calibrated pressure gradients with a multichambered device.

All pneumatic compression devices appear to be effective in patients with treatable lymphedema, the magnitude of such effects depending in part on the tissue changes that may hinder the drainage of lymph and thus the reduction of the swelling. The successful treatment of patients with lymphedema may require the use of elastic bandages or sleeves between treatments with these devices.

## Published Literature

A computer search of the Medline database (1966-1992) found 38 references that were relevant to the treatment of lymphedema with lymphedema pumps or pneumatic compression devices. Nine of these references presented data on the effects of the various pumps in the treatment of series of patients, each study including patients with lymphedema of varied etiology (Table I). One study compared the effects of three different treatment modes: manual massage, single-chambered device, and multichambered (uncalibrated) compression device. Seven of the nine references reported data showing the extent of reduction in the volume of excess edema fluid (difference in measurements between the edematous limb and the normal, control limb) with treatment, and the remaining two reported volume or measurement changes with treatment only in the edematous extremity. The selection criteria for patients to be treated varied from study to study, and even within a study the characteristics of the lymphedema were not defined, so the treatability of the lymphedema may have varied from patient to patient. With two exceptions, the studies reported data only on the effect of a single, short-term application of the device on the reduction of lymphedema.

Zinnola et al. compared three different protocols for treating lymphedema in 60 patients who had had radical mastectomies. Each group consisted of 20 women. Group 1 received intermittent pressure treatment with a single-chambered compression device for 6 hours per day for 1 week. Group 2 was treated with cyclical sequential pressure application via a multichambered device for 6 hours per day for 1 week. Group 3 received manual massage for 1 hour 3 days per week for 1 month. After the treatments, all patients wore elastic sleeves during the day and were given 60 mg of benzopyrone (purported macrophage activator) every day. The difference between the circumference of the edematous arm at the maximum edema point and that of the nonnal arm was determined before therapy,

24/6

**Table 1. Treatment of lymphedema**

Reference	N	Etiology (N)	Device	Protocol	Reduction of lymphedema
Zanolla <sup>4</sup> (1984)	20	Mastectomy	None	Manual massage, 1 h 3/d/wk for 1 mo	18%
	20	Mastectomy	I-Chamber	6 h/d x 7	21 %
	20	Mastectomy	Mulli-chamber	6 h/d x 7	21 %
Swcdbg <sup>5</sup> (1984)	54	Mastectomy	I-Chamber	6 h/d x 2 wk	17.7%
BcneJi <sup>6</sup> (1991)	6S	Mastectomy	I-Chamber	i h/d 2 mo 6 mo	16.5% 18.9%
Raines <sup>7</sup> (1977)	17	Mastectomy Hysterectomy Radiation Sepsis	I-Chamber	24 h (alternate 4h on md 30 min off)	25% (11 arms) 45% (6 legs)
Richmand <sup>8</sup> (1985)	24 (16F, SM)	Primaz (9) Secon ary Radiation Malignancy Infection Mastectomy	Muhi-chamber	Intermiuent sequential pressure for 24 h	25-45%(7 arms) 36-47% (18 legs)
Zclikovski <sup>9</sup> (1985)	20 (17F, JM)	Mastectomy Idiopathic	Multi-chamber	6 h/d x 2	21.8%
Yamazaki III (1988)	26	Mastectomy	Multi-chamber	40-60 min/d or every other day for 1 mo	14/26: Significant reduction 7/26: no change 5/26: worsen
Singh <sup>11</sup>	15	Mastectomy	Multi-chamber with calibrated pressure gradient	38 h. 48 h treatment protocol	49.4%
Klein <sup>12</sup> (1988)	73 ficant (56F, decrease 17M)	Idiopathic(30) Congenital (8) Trauma (1) Pregnancy(2) Misc (2)	Multi-Surgery(25) -calibrated pressure gradient	38 h. 48 h chamber with protocol	Signi treatment  in circumference of edematous limbs

at the end of the therapy, and 3 months after therapy. Patients in all protocols showed significant reductions in lymphedema immediately after therapy, with little difference in the effectiveness of the three modes of therapy. The average reduction in the difference between the edematous and

control limbs immediately after conclusion of the therapy was 21% in the women treated with the single-chambered device (group 1). 21% in the women treated with the sequential compression device (group 2), and 18% in the women treated by manual massage (group 3). Measurements taken

v.<sup>1</sup>

1 month. The results of the study showed that the edema fluid appeared to have accumulated only in the women treated with the sequential compression device (percent reductions of the lymphedema were 21%, 5%, and 2% at 3 months in groups 1, 2, and 3, respectively).

Supporting evidence for the effectiveness of a sequential compression device was observed in other studies. Swedberg<sup>5</sup> found that the application of this device for 6 hours every day for 2 weeks (2 days off in the middle) reduced the lymphedema by an average of 17.7% in 5 postmastectomy patients. Kricheldorf<sup>6</sup> treated 10 postmastectomy patients with lymphedema for 6 hours every day and found that the edema was reduced on the average by about 16.5% at 2 months and about 19.9% at 6 months. Individual responses varied greatly such that about one half of the patients showed reductions of edema greater than 25%, about 5% had a worsening of edema, and the remainder had a reduction of less than 25%. In a study of 17 patients with lymphedema of various etiologies, Raines et al<sup>7</sup> found that intermittent pneumatic compression treatment for a 24-hour period resulted in the reduction of lymphedema by about 25% in the arms of 11 patients and by about 45% in the legs of 6 patients.

The treatment of lymphedema by the application of pressure sequentially from the distal to proximal direction with a multichambered device, without calibrated pressure gradients, also showed similar varied results. Richman et al<sup>8</sup> treated 24 lymphedema patients (16 females and 8 males) with intermittent sequential pressure application for 24 hours and found that the treatment reduced the edema by 25%-45% in the upper limbs and by 36%-47% in the 18 lower limbs. Zelikovski et al<sup>9</sup> reported that the treatment of 20 patients over a 2-day period resulted in an average reduction in edema of 21.8%, but observed that the individual responses varied from 0%-63%. Yamazaki et al<sup>10</sup> applied sequential pressure for 40-60 minutes every day or every other day to the edematous arm of 26 postmastectomy patients. They reported that 14 of the patients showed a

significant reduction in lymphedema after 15 months of treatment. 7 showed no change, and 5 continued to accumulate edema fluid.

A multichambered device with a calibrated pressure gradient was used by Kim-Sing and Basco<sup>11</sup> and Klein et al.<sup>12</sup> Kim-Sing and Basco<sup>11</sup> reported that the treatment of 15 postmastectomy patients with intermittent calibrated pressure gradient application for 48 hours resulted in the reduction of lymphedema by an average of 49.4%, with individual responses varying from 13%-68.7%. Klein et al.<sup>12</sup> treated 73 patients with lower extremity lymphedema similarly for 48 hours and reported only the changes in circumference of the treated limbs before and after the treatment. Although Klein et al.<sup>12</sup> noted that these reductions in circumference at live levels of the treated limb were significant, comparative measurements of the normal control extremity were not made, thus calculation of the absolute reduction of lymphedema was not possible.

## Discussion

The treatment of lymphedema by the application of external pressure to the extremity by manual massage, elastic sleeve or wrapping,<sup>13,14</sup> immersion in liquid tanks,<sup>15</sup> or pneumatic compression devices appears to be relatively effective. Whether any mode of pressure application is more or less effective in pushing the lymph out of the limb probably is dependent on a number of factors, including whether lymphatic channels or the venous vessels are obstructed. Thus manual massage with elevation of the limb and use of elastic sleeves or wrappings may suffice to control the lymphedema in mild or early cases, while more severe or longstanding lymphedema may benefit from the use of external pressure devices.

According to the studies reported in the literature, all modes of external pressure application effectively reduce lymphedema in most patients. Since none of the studies specified uniform criteria for the selection of patients or the characteristics of the lymphedema, comparison of the relative

effectiveness of the various modes of external pressure therapies cannot be meaningfully done. Even in the case of postmastectomy patients, who may represent the most treatable group of patients, no attempt to define or control for uniformity in the severity, duration, or complexity (e.g., fibrotic changes) of the lymphedema among the patients was evident. In view of these uncertainties, one can only conclude from the data in the literature that manual massage, pressure applied with a single-chambered pneumatic device, and sequential pressure applied with a multichambered device, with or without a calibrated pressure gradient, all were effective to some degree in reducing lymphedema in some patients.

Multichambered devices which were developed for the intermittent application of pressure sequentially from the distal to proximal direction in an attempt to effect the mobilization of the lymph by a "milking" action, may be more effective than single-chambered devices in selected patients. However, which patients these are cannot be determined from the published information. The published studies have only demonstrated that the reductions of lymphedema in some patients treated with the multichambered devices appear to be similar to those obtained with the use of a single-chambered device and with manual massage.

A multichambered device with a mechanism to apply a calibrated pressure gradient that automatically adjusts the pressures to limb conditions was developed with the hope that this controlled pressure application would be more effective in the mobilization of the lymph. From the two studies that reported the results of using this device in patients, the advantages of applying calibrated pressure gradients are not apparent. Although the patients treated by Kim-Sing and Basco<sup>11</sup> appeared to have a greater average reduction in lymphedema, the responses appear to be comparable with those observed with the use of other modes of therapy. The number of patients in their study was small and the individual responses of their patients varied over a wide range, which was similar to that reported for other modes of therapy. In the

other study,<sup>12</sup> the reported results indicated that the device decreased the circumferences of the treated limbs, but the significance of these changes are unknown because the authors did not report comparative measurements of the normal limbs.

The selection of patients who had failed to respond to one or another mode of therapy and the finding that some of these patients responded to the treatment under study would suggest that whether the lymphedema might be successfully treated by one or another mode of therapy may depend on the individual patient. It is conceivable that most uncomplicated lymphedema could be treated satisfactorily by any of the external pressure modes of therapy, while others may respond more favorably to one or another therapy. Lymphedema difficult to control by one mode of therapy may benefit by the use of another. Data that might be useful for the selection of the best candidates for treatment by a given mode of therapy are lacking at this time. These studies did not address important questions concerning the effectiveness of these pneumatic compression devices over the long-term and the most appropriate frequency and duration of use of these devices.

Pneumatic compression pumps were approved for marketing by the Food and Drug Administration (FDA) as devices that were substantially equivalent to similar devices marketed prior to the 1976 Medical Devices Amendments to the Federal Food, Drug and Cosmetic Act. The possible uniqueness or superiority of one pump vs. another was not a consideration for these approvals by the FDA. The National Institutes of Health has agreed with our findings that, although these pneumatic compression devices appear to be useful in the treatment of lymphedema, there is a lack of data to determine whether one device is more efficacious than another or to ascertain the best protocol for their use.

Patients have been reimbursed for the purchase and use of these pneumatic compression devices. The average allowed charge for purchase by individual in 1991 were \$198.15 for single-chambered

lymphedema pumps. \$535.01 for multichambered devices, and \$1,437.39 for multichambered devices with calibrated pressure gradients. In 1991, Medicare patients purchased 8,299 single-chambered devices at a total cost of \$1,644,448; 1,329 multichambered devices at a total cost of \$711,030; and 9,989 multichambered devices with calibrated pressure gradients at a total cost of \$14,358,040.

**Summary**

Lymphedema is the abnormal accumulation of lymph in the interstitial tissues that is usually the result of impairment of the normal clearance by the lymphatic system caused by therapy or disease. The application of external pressure represents a reasonable and successful method for the mobilization of lymph from the affected limb in some

patients. Pneumatic compression devices consisting of a single inflatable chamber or multiple chambers have been developed and used in the successful reduction of lymphedema. Multichambered devices allow the application of pressure sequentially, starting from the distal chamber and progressing proximally, theoretically encouraging an effective, unidirectional flow of lymph out of the limb.

All pneumatic compression devices appear to be similarly effective in the treatment of lymphedema. Since the patients selected varied from study to study and the characteristics of the lymphedema among the patients were not defined, neither the criteria for the selection of patients to be treated with one or another device nor the difference in effectiveness of the devices could be ascertained.

050

## Ordering Information

A limited number of free copies of this review are available:

AHCPR Publications Clearinghouse

P.O. Box 8547

Silver Spring, MD 20907

800-358-9795

When supplies have been exhausted, copies may be purchased from the National Technical Information Service (NTIS). Contact NTIS for price and ordering information:

National Technical Information Service

Springfield, VA 22161

(703) 487-4650

NTIS order number for this document:

PB93-J8390

---

## U.S. Department of Health and Human Services

Public Health Service

Agency for Health Care Policy and Research

Executive Office Center, Suite 501

2101 East Jefferson Street

Rockville, MD 20852

Official Business

Penalty for Private Use \$300



AHCPR Pub. No. 93-0051

August 1993

251



## Appendix H. UL Listing Document

2018  
XV

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

NOTICE OF INTENTION TO APPLY THE UL MARK

Northbrook Office:

11 re Supply America, Inc.  
Mr. Tom McCarty  
PO Box 66007  
2170 So 11th 7h Drive  
West Des Moines, Iowa 50319

October 29, 1997

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

Our Reference:

Subject:

Dear Mr. McCarty:

We have completed our investigation into the above project number and find that product number with the applicable reference numbers.

In our report of 11/17/97, we followed up on your request for information regarding the product and the information provided to you in our report of 11/17/97.

The information provided to you in our report of 11/17/97 was based on the information provided to us by the manufacturer of the product. The information provided to you in our report of 11/17/97 was based on the information provided to us by the manufacturer of the product.

To provide the information requested in your letter of 10/15/97, we have conducted a search of the information provided to us by the manufacturer of the product.

This authorization is effective for 90 days only from the date of this Notice. Recurrence of the product is not guaranteed.

Please note that within the United States, there are several manufacturers of the product. The information provided to you in our report of 11/17/97 was based on the information provided to us by the manufacturer of the product.

Products produced within the United States shall be identified to the extent which were available to the public. The information provided to you in our report of 11/17/97 was based on the information provided to us by the manufacturer of the product.

(b)(4) Commercial Confidential Data / Trade Secret (s) / Proprietary Data

## Appendix I. Truthful and Accurate Statement

### PREMARKET NOTIFICATION TRUTHFUL AND ACCURATE STATEMENT (As Required By 21 CFR 807.87(j))

I certify that, in my capacity as PRESIDENT of BRITT :MEDICAL PRODUCTS, I believe to the best of my knowledge, that all data and information submitted in the Premarket notification are truthful and accurate and that no material fact has been omitted.

Signed:

Name: J. James Britton

Position: President

Date: November 18, 1997

254

**Appendix J. 510 (k) Statement**

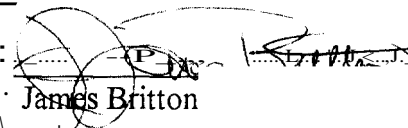
**The following section is included as required by  
the Safe Medical Device Act (SMDA) of 1990.**

Name: J. James Britton  
Address: Britt Medical Products  
PO Box 547  
45 East Main Street, Suite 204  
Freehold, NJ 07728

Contact Person: J. James Britton  
Phone Number: (732) 863-1400  
Fax Number: (732) 863-1603

This statement regarding 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR 807.93.

I certify that in my capacity as PRESIDENT OF BRITT MEDICAL PRODUCTS I will make available all information included in this premarket notification on safety and effectiveness within 30 days of request by any person if the device described in the premarket notification is determined to be substantially equivalent. The information I agree to make available will be a duplicate of the premarket notification submission, including any adverse safety and effectiveness information, but excluding all patient identifiers, and trade secret and confidential commercial information, as defined in 21 CFR 20.61.

*r-*  
Signature:   
Name: James Britton  
Position: President

*257*

# **BRITT CORP**

---

PO. Box 547 • 45 E. Main St. Suite 204 • Freehold, NJ 07728  
Phone (908) 863 • 1400 Fax (908) 863 • 1603

November 18, 1997

Food and Drug Administration  
Center for Devices and Radiological Health  
Document Mail Center (HFZ-401)  
1390 Piccard Drive  
Rockville, MD 20850

Attn. Document Control Clerk  
Re: 510(k) PREMARKET NOTIFICATION

Pursuant to section 510(k) of the Federal Food, Drug, and Cosmetic Act, premarket notification information is enclosed for the following device:

Device Name: Intermittent Compression System  
Trade Name: Vaso Press System  
Common Name: Intermittent Compression Unit and Compressible Limb Sleeve  
Classification Name: 870.5800 Compressible Limb Sleeve  
Device Class: Class II  
Classification Panel: Cardiovascular  
Performance Standards: There are no performance standards for this system.  
Facility Address & Establishment Registration Number:  
Britt Medical Products a Division of Britt Corp.  
45 East Main Street, Suite 204  
Freehold, NJ 07728  
Registration Number: (b)(4) Commercial Confidential Data /


Reason For Submission: The Vaso Press System is a new device for Britt Medical Products but similar in form, function and design to existing products currently marketed by several companies.

Contact Information:

Name: J. James Britton  
Address: Britt Medical Products  
45 East Main Street, Suite 204  
Freehold, NJ 07728  
Telephone: (732) 863-1400  
Fax: (732) 863-1603

Should additional information be required, please contact me immediately.

Sincerely,

  
J. James Britton  
President

254

## FDA/CDRH IMAGING SYSTEM

### Page Count Discrepancy Information

---

Page after page 170 is misnumbered.

Verifiers Initials \_\_\_\_\_