

LAPORAN PROJEK

MESIN WAX BATH

DISEDIAKAN OLEH:

RAHAYULIZA RAMLI

08DEU02F538

NURAMALLEENA SYAWALI HJ MANSOR

08DEU02F539

UVASHINI VASUTHAVEN

08DEU02F503

MOHD AL-AWAL MOHD RAZALI

08DEU02F506

JULAI 2005

DIPLOMA KEJURUTERAAN ELEKTRONIK (PERUBATAN)

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

SHAH ALAM

SELANGOR DARUL EHSAN

LAPORAN PROJEK

MESIN WAX BATH

DISEDIAKAN OLEH:

RAHAYULIZA RAMLI

08DEU02F538

NURAMALLEENA SYAWALI HJ MANSOR

08DEU02F539

UVASHINI VASUTHAVEN

08DEU02F503

MOHD AL-AWAL MOHD RAZALI

08DEU02F506

JULAI 2005

DIPLOMA KEJURUTERAAN ELEKTRONIK (PERUBATAN)

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

SHAH ALAM

SELANGOR DARUL EHSAN.

ISI KANDUNGAN

SENARAI KANDUNGAN

ISI KANDUNGAN

MUKASURAT

Perakuan	i
Penghargaan	ii
Sinopsis	iii
Objektif	iv
Skop Subjek	v
Skop Produk	vi

BAB 1 PENGENALAN

1.1	Pengenalan	1
1.2	Objektif Mesin Wax Bath	2
1.3	Fungsi Mesin Wax Bath	3
1.4	Kebaikan Wax Bath	4
1.5	Individu yang Memerlukannya	5
1.6	Apakah Itu Paraffin Wax Bath	6

BAB 2 KAJIAN ILMIAH

2.1	Kajian Ilmiah	10
2.2	Teori Wax	10
2.3	Kebaikan Penggunaan Rawata Wax Therapy	11
2.4	Gambarajah Contoh Perawatan	12
2.5	Prosedur Penggunaan	13
2.6	Paraffin Dispensers	14
2.7	Spesifikasi Produk	14

BAB 3 PENYATAAN MASALAH

3.1	Masalah Dan Cara Penyelesaian	15
-----	-------------------------------	----

BAB	4	KAEDAH PERLAKSANAAN	
4.1		Blok Diagram	17
4.2		Penerangan Gambarajah Blok	18
4.3		Komponen yang Digunakan	19
 BAB	 5	 KEPUTUSAN	
5.1		Carta Gantt	20
5.2		Penerangan Carta Gantt	21
 BAB	 6	 PERBINCANGAN	
6.1		Perbincangan	23
 BAB	 7	 CADANGAN	
7.1		Cadangan Masa Depan	24
 BAB	 8	 KESIMPULAN	
8.1		Kesimpulan	25

RUJUKAN

LAMPIRAN

SENARAI RAJAH

RAJAH	TAJUK	MUKA SURAT
1.1	Model Wax Bath	6
1.2	Cara Penggunaan Wax Bath	7
1.3	Penggunaan Wax Bath Menggunakan Tangan	8
1.4	Penggunaan Wax Bath Menggunakan Kaki	8
1.5	Penggunaan Wax Bath Menggunakan Siku	9
1.6	Para-Care, Wax	10
1.7	Contoh Perawatan	12
1.8	Prosedur Penggunaan Wax Bath	13
1.9	Gambar Paraffin Dispensers	14
1.10	Gambarajah Blok Wax Bath	17

SENARAI JADUAL

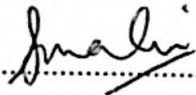
JADUAL	TAJUK	MUKA SURAT
1.1	Spesifikasi Produk	14
1.2	Carta Gantt Perancangan Projek	20

PERAKUAN

PERAKUAN

Dengan ini kami membuat perakuan bahawa laporan ini adalah usaha kami sendiri kecuali pada bahagian – bahagian yang tertentu dimana kami sertakan lampiran – lampiran dari bahan – bahan rujukan yang dinyatakan sahaja.

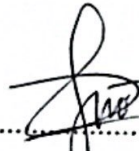
Disedikan oleh :-



.....
(NURAMALLEENA SYAWALI BT HJ
MANSOR)

(08DEU02F539)

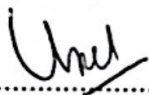
Tarikh : 25/11/05



.....
(RAHAYULIZA BT RAMLI)

(08DEU02F538)

Tarikh : 15 / 11 / 05



.....
(UVASHINI A/P VASUTHAVEN)

(08DEU02F503)

Tarikh : 15/11/05



.....
(MOHD AL-AWAL B MOHD RAZALI)

(08DEU02F506)

Tarikh :

Disemak oleh:

.....
(MISS WEE SOO LEE)

PENYELIA PROJEK

Tarikh:

PENGHARGAAN

PENGHARGAAN

Syukur kehadiran illahi, kerana limpah dan kurnianya kami dapat menyiapkan projek semester akhir ini iaitu 'WAX BATH' bagi memenuhi matapelajaran ini.

Terlebih dahulu kami ingin merakamkan jutaan terima kasih kepada penyelia projek kami iaitu MISS WEE SOO LEE kerana banyak membantu kami dalam menyiapkan projek ini. Selain itu, kami juga ingin berterima kasih kepada pensyarah – pensyarah, rakan – rakan yang terlibat membantu secara langsung atau tidak langsung dalam memberi tunjuk ajar dan idea – idea yang bernas kepada kami semasa pelaksanaan projek ini dilakukan.

Akhir kata daripada kami berempat, ucapan setinggi-tinggi terima kasih kepada ibubapa, pensyarah – pensyarah, rakan – rakan dan semua pihak yang terlibat secara langsung atau tidak langsung dalam memberi galakan dan dorongan kepada kami dalam menjayakan projek ini. Sesungguhnya saya amat berbesar hati diatas keperihatinan mereka.

SINOPSIS

SINOPSIS

Mesin Wax Bath berfungsi merangsang darah seseorang yang mungkin mengalami kekejangan otot dan radang sendi.

Mesin wax bath yang kami laksanakan adalah lebih fleksibel. Mesin wax bath ini juga lebih ringan. Malah mesin ini juga tidak terdapat dipasaran tempatan. Pihak yang membekalkan produk ini akan mengimport mesin ini dari luar negara seperti US. Oleh kerana ia tidak terdapat dipasaran tempatan kami bercadang untuk mereka dan mengubahsuai mesin ini supaya ia boleh mendapat tempat di pasaran tempatan.

Kami telah menambah beberapa komponen untuk produk ini daripada produk asal. Komponen yang kami tambah ialah

- Buzzer, ia berfungsi untuk pemberitahuan kepada penjaga mesin dan pesakit dimana mesin telah boleh digunakan dan wax telah capai tahap yang boleh melakukan proses pencelupan.
- LED, ia berfungsi sebagai isyarat bermula mesin di'on 'kan. Apabila mesin mula dipanaskan dan proses pencairan wax dilakukan LED akan terpadam sebagai maksud mesin sedang beroperasi. LED akan menyala apabila telah capai tahap yang boleh melakukan proses pencelupan.
- Termometer, ia berfungsi untuk menyukat suhu yang sesuai untuk melakukan proses pencelupan yang selamat bagi pesakit.

OBJEKTIF

Bagi pelajar semesta 5 dan semesta 6 setiap politeknik, dipertanggungjawabkan untuk melaksanakan subjek bagi matapelajaran projek dengan menghasilkan suatu peralatan secara berkumpulan. Subjek ini penting untuk melayakkan pelajar mendapat Diploma. Projek ini adalah gabungan teori dan praktikal para pelajar sepanjang menjalani pembelajaran di politeknik dengan bantuan tenaga pelajar atau penyelia kumpulan masing-masing. Objektif bagi laporan projek ini adalah seperti berikut:

- i. Diwajibkan bagi setiap pelajar yang menjalani pengajian bagi Diploma dan Sijil dari Politeknik.
- ii. Mendedahkan pelajar kepada cara pekerjaan yang sebenar.
- iii. Mengupas kreativiti pelajar dengan gabungan teori dan praktikal yang pelajar belajar sepanjang menjalani pengajian.
- iv. Melatih pelajar untuk bersedia dan menyediakan proposal yang baik bagi dunia pekerjaan yang sebenar.
- v. Membina semangat kerjasama kumpulan dan perhubungan serta komunikasi yang baik di antara pelajar.
- vi. Membina keyakinan diri dan rasa tanggungjawab terhadap sesuatu tugas.
- vii. Melatih pelajar untuk mengikut peraturan dan arahan keselamatan semasa melakukan tugas.

SKOP SUBJEK

SKOP SUBJEK

Matapelajaran projek diwajibkan kepada semua pelajar Politeknik bagi memenuhi penilaian akhir semesta. Ia menggabungkan idea-idea dari ahli kumpulan dan memerlukan kerjasama dalam melaksanakan produk yang perlu direka.

Sesungguhnya skop matapelajaran projek tidak hanya tertumpu kepada produk yang perlu dilaksanakan tetapi juga memerlukan gabungan teori atau laporan yang perlu disediakan.

Skop Latihan Industri ini bukan sahaja bertujuan untuk mempraktikkan apa yang telah dipelajari malah ia juga meliputi tentang bagaimana pengurusan sesebuah kumpulan dan kerjasama yang perlu diberikan untuk beroperasi.

SKOP PRODUK

SKOP PRODUK

Produk ini biasanya terdapat didalam unit fisioterapi. Ia berfungsi sebagai rawatan kepada pesakit yang mengalami lenguh – lenguh sendi, penyakit arthiritis ,kekejangan otot , kulit kering dan tumit yang merekah.Ia tidak boleh digunakan pada kulit yang terdedah dan juga terbakar.

BAB 1

1.1 PENGENALAN

Mesin Portable Wax Bath adalah sebuah mesin yang aplikasinya menggunakan tahap kepanasan yang tinggi sebagai fungsi utamanya. Ia adalah pada satu tahap kepanasan yang mana ianya mampu merawat sesuatu penyakit. Dalam penggunaan mesin ini, ianya menggunakan satu jenis parafin wax yang mengandungi ubat yang mampu merawat dan menjadikan sebagai satu rawatan yang sanga baik.

Mesin ini bukan sahaja boleh digunakan oleh pihak hospital namun ianya boleh digunapakai di rumah, pejabat dan sebagainya. Ianya adalah sebuah mesin yang boleh bergerak dan sangat fleksibal. Dimana jua individu itu boleh menggunakannya.

Penggunaan mesin ini bukan sahaja sebagai satu cara mengatasi penyakit yang ada, malah ianya juga boleh digunakan sebagai satu langkah mencegah sesuatu penyakit itu berlaku. Ini kerana penggunaan mesin ini berfungsi merangsang darah seseorang yang mungkin mengalami kekejangan otot dan radang sendi. Tidak hairanlah ada segelintir pengguna yang tidak sakit pun menggunakan mesin ini sebagai satu rawatan spa.

1.2 OBJEKTIF MESIN WAX BATH

- Mesin Wax Bath ini bertujuan untuk melancarkan peredaran darah dan juga merangsangkan darah agar berjalan dengan lebih baik agar tidak berlaku darah beku (*hemartoma*).
- Alat ini sangat penting dalam kehidupan seharian memandangkan fungsinya yang fleksibel bagi setiap keadaan.
- Alat ini juga berfungsi untuk melegakan sakit sendi, lenguh-lenguh dan meredakan kebengkakan.

1.3 FUNGSI MESIN WAX BATH

1. Merangsang darah yang ada dalam badan agar perjalanan darah berjalan dengan lebih lancar.
2. Memperbetulkan semula salur dan kapilari darah dalam badan.
3. Memanaskan urat-urat dan otot dalaman agar tidak mengalami kekejangan.

1.4 KEBAIKAN WAX BATH

1. Rawatan yang sangat mudah.
2. Sesuai untuk semua individu.
3. Murah dan fleksibel.
4. Tidak mengambil masa yang lama untuk menjalani rawatan.
5. Senang untuk digunapakai.
6. Menjimatkan masa dan tenaga.
7. "*Portable*" mesin.

1.5 INDIVIDU YANG MEMERLUKANNYA

1. Semua individu sama ada menghadapi penyalit atau tidak.
2. Individu yang mengalami kebengkakkan dan lenguh-lenguh badan.
3. Individu yang mengalami pembekuan darah.

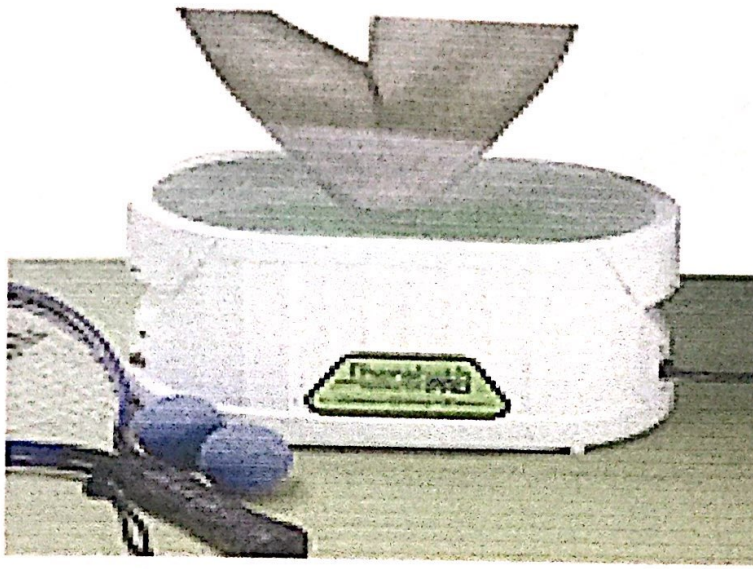
1.6 APAKAH ITU PARAFFIN WAX BATH



Rajah 1.1 : Model Wax Bath

Semua Paraffin Wax bath tidak dicipta dengan sama. Ia mempunyai satu permukaan yang dicipta khas daripada 'fiberglass'. Ia juga mempunyai permukaan dalaman yang diperbuat daripada aluminium. Satu thermostat primer akan mengawal suhu. Insulation akan menutup semua bahagian. Ini bermaksud ia menggunakan jumlah tenaga yang kurang dan menyimpan paraffin pada suhu yang seimbang.

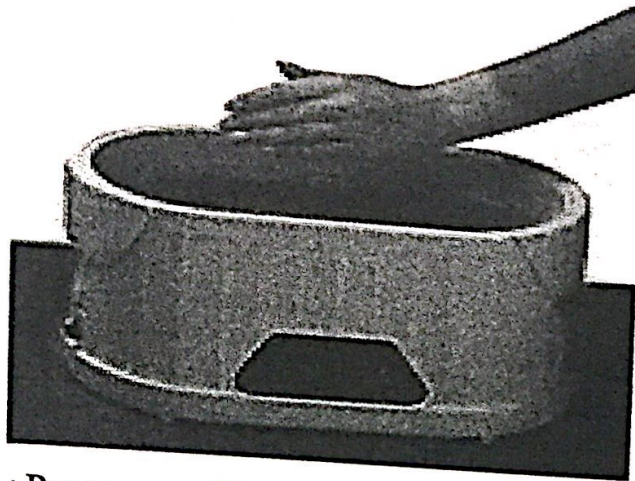
Selain daripada itu ia mempunyai pemanas seumur hidup untuk mengawal suhu. Ia juga mempunyai cord bumi. Paraffin Wax bath ini tidak mempunyai 'setting' dial suhu, kerana ia mempunyai pengawal thermostatic yang berfungsi secara automatic supaya kita tidak perlu mengambil tahu mengenai suhu tersebut. Paraffin wax bath ini akan cair lebih cepat kerana ia mempunyai pemanas.



Rajah 1.2 : Cara Penggunaan Wax Bath

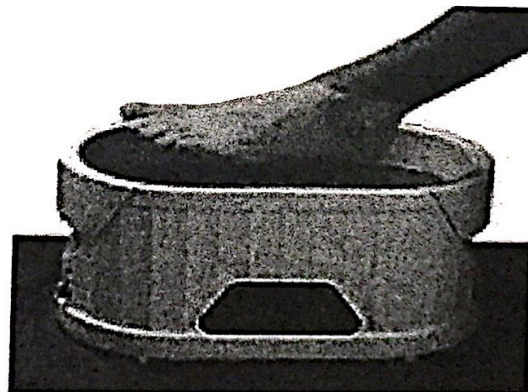
Paraffin Wax bath mempunyai kapasiti suhu yang tinggi. Ia dapat menyerap dan menyimpan satu jumlah kepanasan. Sebuah paraffin wax spa akan mengambil kesempatan dari pemanas paraffin. Dalam bidang teknikal, kepanasan akan dihantar ke bahagian utama yang tercedera dan pada masa yang sama paraffin akan melalui perubahan fasa.

Semasa ia sedang cair paraffin tersebut akan menjadi cecair dan mampu menyimpan lebih banyak kepanasan. Apabila tangan atau kaki dimasukkan ke dalam paraffin bath, fasa paraffin tersebut akan mengelilingi bahagian kaki dan tangan dengan cepat dan kemudian membeku. Pada masa yang sama ia melancarkan pengaliran darah dalam kulit.



Rajah 1.3 : Penggunaan Wax Bath Menggunakan Tangan

Paraffin Wax bath ini merupakan satu cara yang paling berkesan. Paraffin Wax bath ini melembutkan kulit dan juga menggabungkan bahagian tercedera. Paraffin Wax bath ini bertindak dengan cepat. Ia bebas daripada dadah dan juga berfungsi untuk arthritis tangan dan kaki. Ia juga boleh digunakan di dalam rumah, pejabat dan hospital.



Rajah 1.4 : Penggunaan Wax Bath Menggunakan Kaki

Ia juga digunakan untuk menenangkan otot yang mengalami kekejangan, ketika 'occupational therapy', untuk tangan yang letih, kulit yang kering, tangan dan kaki. facial, untuk menggabungkan tulang pada tangan dan kaki yang sudah patah dan spa.



Rajah 1.5 : Penggunaan Wax Bath Menggunakan siku

BAB 2

2.1 KAJIAN ILMIAH



Rajah 1.6 : Para-Care, Wax (isian semula)

2.2 TEORI WAX

- Gred parafin lilin adalah ditapis sebanyak tiga kali untuk memastikan ianya bersih.
- Sebatian hidrat yang banyak dan bersifat melindungi.
- Berkesan dalam masa yang singkat dan ia tidak mengandungi campuran dadah.
- Ia bersifat lembut, mudah dilentur dan tidak melekit.
- Wax ini boleh digunakan dalam mana – mana mesin *wax bath therapy* .

2.3 KEBAIKAN PENGGUNAAN RAWATAN WAX THERAPY.

- Rawatan ini adalah baik untuk semua jenis kulit.
- Dapat menambah dan melancarkan pengaliran darah, melegakan kesakitan pada bahagian sendi – sendi dan mengendurkan mana – mana otot yang kejang.
- Keberkesanan dalam rawatan ini adalah untuk jangka masa yang lama dan tindak balasnya yang berlaku sungguh cepat.
- Wax yang digunakan adalah bebas daripada sebarang jenis dadah.
- Rawatan ini adalah sangat mudah, berkesan dan selamat digunakan untuk semua jenis peringkat umur.



Melegakan sakit sendi



Melegakan kulit tangan
yang kering



Melegakan kaki yang
sakit

Rajah 1.7: Contoh Perawatan

2.5 PROSEDUR PENGGUNAAN

	
1. tuangkan parafin wax dalam bekas wax bath.	2. setkan suhu untuk mencairkan wax.
	
3. setelah wax cair, setkan suhu pada keadaan yang selesa. Masukkan tangan, kaki atau siku beberapa kali ke dalam bekas wax bath sehingga lapisan wax menjadi tebal.	4. gunakan plastik liner untuk menambahkan insulasi. Selepas lima belas minit, ia boleh ditanggalkan dari bahagian yang bersalut wax dengan mudah.

Rajah 1.8: Prosedur Penggunaan Wax Bath

2.6 PARAFFIN DISPENSERS.



Rajah 1.9 : Gambar Paraffin Dispensers.

Paraffin Dispensers adalah satu alat yang biasanya digunakan dalam makmal histologi atau makmal individu. Alat ini berfungsi untuk menyimpan paraffin sebanyak 1.0-2.0 liter. penutupnya yang lutsinar memudahkan pengguna melihat paraffin tersebut. Ia menggunakan kuasa elektrik 120VAC dan suhu didalam *dispenser* ini boleh diubah serta disetkan sehingga 70°C. Paraffin ini boleh menjadi cair dalam masa satu jam dan akan kekal cair di dalamnya dengan suhu yang sama.

2.7 SPESIFIKASI PRODUK

Dimensi keseluruhan	12"(H) x 11 " Dia (30 x 28cm)
---------------------	-------------------------------

Dimensi <i>Chamber</i>	8"(H) x 8.25 " Dia (30 x 28cm)
------------------------	--------------------------------

Berat	10 lbs (4.5kg)
-------	----------------

Frekuensi elektrik	50/60 Hertz
--------------------	-------------

Model 8523BX1 (power)	115 Volts, 175 Watts
-----------------------	----------------------

Model 8523B (power)	230 Volts, 175 Watts
---------------------	----------------------

Jadual 1.1 : Spesifikasi Produk

BAB 3

3.1 MASALAH DAN CARA PENYELESAIAN

Semasa kami melaksanakan projek ini terdapat beberapa masalah yang kami hadapi, iaitu:

1) Heater yang dibeli mengalami kerosakan

Kami menangani masalah ini dengan berjumpa semua dengan pembekal yang kami membelinya dahulu. Namun ianya adalah kesalahan kami lantaran kami terpaksa membeli satu heater yang baru lagi sebagai ganti.

2) Timer Rosak

Timer yang kami gunakan tidak berfungsi, justeru kami membeli semula Timer yang lain

3) Pencarian Pembekal Wax

Amat sukar kami mencari pembekal Wax memandangkan Wax ini tidak dijual di Malaysia. Kami pergi ke Hospital daerah Kajang, Hospital-hospital swasta di Kajang dan Shah Alam namun mereka tidak boleh menjualkannya keana tiada dalam sistem kewangan mereka.

Kami cuba mencari dengan pihak pembekal barang perubatan namun disebabkan kuantiti wax yang kami kehendaki dalam jumlah yang sedikit mereka tidak layan permintaan yang kami buat.

Akhirnya kami pergi ke sebuah Hospital salah seorang daripada kami yang menjalani latihan Industri semasa dalam semester yang lepas, kami mendapat

kerjasama daripada pihak Kajang Medical Centre tersebut dan membantu kami dalam mendapatkan Wax tersebut.

4) Kesukaran membuat temujanji

Sedaya upaya kami pergi dan juga menelefon orang yang kami ingin jumpa seperti doktor, juruteknik dan pakar fisioteraphy namun amat sukar kami mengatitkan temujanji berkenaan memandangkan mereka sangat sibuk dan penuh tanggungjawab lain untuk dilunaskan. Namun berkat kesabaran kami dapatlah juga kami berjumpa mereka walaupun berulang kali kami pergi berjumpa untuk berjumpa mereka.

5) Pencarian Prospek

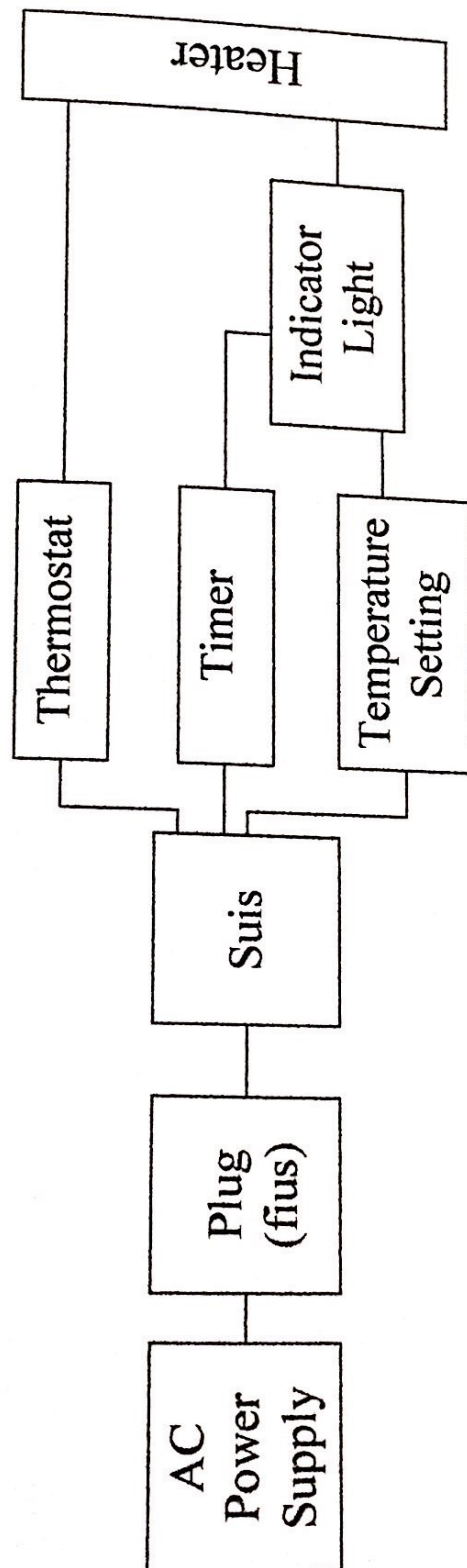
Prospek yang kami ingin gunakan agak sukar di cari memandangkan bahan projek kami adalah pada satu tahap keadaan haba yang sangat tinggi. Namun akhirnya dapat juga kami mendapatkannya dengan bertanyakan kepada pelbagai entiti bagi mendapatkan sumber yang tersebut.

6) Bekalan Wax

Walaupun kami sudah mendapat tahu sumber dimana kami boleh mendapatkan wax ini namun kami juga terpaksa menunggu tempoh order yang kami buat agak lama memandangkan Wax ini tidak dijual di Malaysia dan ianya hanya dijual di USA. Jadi kami menanti sampainya tempahan kami dalam tempoh lebih 2 minggu seperti yang dijanjikan. Wax ini tiada di Malaysia disebabkan oleh ianya bukanlah lilin biasa malah di dalam wax tersebut mengandungi sejenis ubat yang dikenali sebagai ubat yang mampu merangsang fungsi khasnya.

BAB 4

GAMBARAJAH BLOK WAX BATH



Gambarajah 1.10 : Gambarajah Blok Wax Bath

4.2 PENERANGAN MENGENAI GAMBARRAJAH BLOK

- 1) 'On'kan suis utama.
- 2) Tekan thermostat bagi pemanasan wax (berada pada satu lagi keadaan iaitu 'warm').
- 3) Lampu penunjuk atau indicator light akan berfungsi mengikut keadaan mesin contohnya, ingin memanaskan wax pusingkan temperature settings.
- 4) Pada masa yang sama heater akan menjadi panas.
- 5) Timer pula berfungsi untuk menentukan keadaan kepanasan mencukupi dan memadamkan atau mematikan arus.
- 6) Elektromagnetik contractor berfungsi sebagai sensor bagi timer untuk mematikan suis.

4.3 KOMPONEN YANG DIGUNAKAN.

1. Suis.

- Suis yang digunakan adalah suis automatik, mesin akan dibekalkan dengan AC power dan suis akan secara automatik 'on'.

2. Wayar

- Wayar digunakan untuk memberi pengaliran arus yang baik. Wayar digunakan untuk membuat penyambungan atau pendawaian.

3. Heater

- heater atau alat pemanas diperlukan sebagai element utama. Ia digunakan untuk memanaskan wax pejal ke bentuk cecair.

4. Temperature

- Temperature digunakan untuk mengawal suhu dan mengset suhu mengikut suhu yang dibenarkan dan selamat untuk digunakan.

5. Timing Set

- Timing digunakan untuk mengawal dan mengset masa yang diperlukan untuk memanaskan wax.

6. Indicator Light

- Terdapat dua indicator light pada mesin ini iaitu merah dan hijau. Ianya adalah petunjuk bagi memastikan mesin sedang dipanaskan dan sudah boleh digunakan.

7. Paraffin Wax

- Paraffin wax adalah lilin yang dikhaskan untuk penggunaan perubatan. Lilin tersebut mengandungi ubat yang selamat digunakan.

Rangka Projek	Minggu Pertama	Minggu Kedua	Minggu Ketiga	Minggu Keempat	Minggu Kelima	Minggu Keenam	Minggu Ketujuh	Minggu Kelapan	Minggu Kesembilan	Minggu Kesepuluh
---------------	----------------	--------------	---------------	----------------	---------------	---------------	----------------	----------------	-------------------	------------------

Perancangan Mingguan



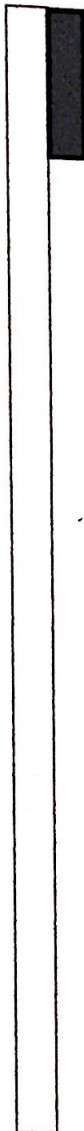
Membeli Peralatan Projek



Menguji Alat Pemanas



Mendapatkan Wax



Membuat Bekas Lutsinar



Membuat Pendawaian



Rangka Kerja
Kerja Dilaksanakan



Jadual 1.2 : Carta Gantt Perancangan Projek

BAB 5

5.2 PENERANGAN BERDASARKAN CARTA GANTT.

Bermula pada awal semesta enam ini, iaitu pada 5hb Ogos 2005, kumpulan kami telah membuat perancangan mingguan dan juga menyusun rangka aktiviti. Kami juga telah merancang untuk mula membeli peralatan, komponen dan bahan bagi produk projek kami.

Kami mendapatkan bekalan komponen – komponen, peralatan dan bahan yang diperlukan di Jalan Pasar, Kuala Lumpur. Namun terdapat juga beberapa peralatan dan bahan yang diperlukan tidak dapat diperolehi. Pada minggu berikutnya kami masih mencari dan menemui bahan dan peralatan tersebut.

Heater atau alat pemanas yang telah dibeli, diuji samada berfungsi atau tidak. Kami dapati heater tersebut tidak boleh digunakan dan kami terus merujuk kepada En. Aziz iaitu pembantu teknikal di Hospital Besar Klang. Kemudian heater tersebut disahkan rosak dan tidak dapat dibaiki. Dari hal yang berikut kami telah membeli heater yang baru bagi menggantikan heater yang telah rosak tersebut.

Perancangan kami juga sedikit goyah apabila timer analog yang dibeli juga menghadapi masalah. Tanpa membuang masa kami telah menggantikan timer tersebut dengan timer yang baru. Dalam masa yang sama kami mencari pembekal yang membekal paraffin wax. Paraffin tersebut merupakan bahan utama bagi produk kami, oleh itu kami berusaha bergerak dari sebuah hospital ke sebuah hospital untuk mencari pembekal yang dapat membekalkan paraffin tersebut kepada kami. Masalah yang dihadapi ialah paraffin yang kami perlukan adalah dalam sukatan yang sedikit. Oleh itu, pihak pembekal tidak mahu berurusan dengan kami.

Kami tetap meneruskan rancangan kami dengan menyiapkan bekas lutsinar bagi perumah komponen pendawaian. Pendawaian juga dilakukan termasuk menyiapkan laporan bagi pembentangan projek. Usaha yang dilakukan membuahkan hasil dan

masalah yang dihadapi dapat diatasi iaitu paraffin yang diperlukan telah kami perolehi. Ini adalah hasil kerjasama yang diberikan oleh En.Tan dari Hospital Kajang.

Setelah produk yang kami rancangkan siap sepenuhnya, ditambah dengan bahan utama yang diperlukan telah diperolehi, kami telah melakukan percubaan dan percubaan kami berjaya untuk kami bentangkan pada penyelia kami iaitu Miss Wee Soo Lee.

BAB 6

6.1 PERBINCANGAN

- 1) Wax Bath heater mempunyai kapasiti yang tinggi, ia boleh menyerap dan menyimpan haba yang tinggi. Haba akan mengalir kepada bahagian teras yang mengalami kesakitan tersebut. Apabila lilin itu cair, ia akan bertukar ke bentuk cecair dan ia boleh menyimpan lebih banyak haba. Ketika tangan, kaki atau siku dicelupkan ke dalam wax bath heater tersebut, paraffin akan mengelilingi bahagian yang dicelup dan bertukar menjadi mampat. Ia akan melancarkan peredaran darah.
- 2) Masa yang diperlukan bagi menggunakan wax bath ini adalah terpuang kepada pesakit tersebut. Penggunaan yang kerap adalah lebih baik bagi menghilangkan kesakitan dan ia juga melembutkan kulit.
- 3) Penggunaan wax tersebut disarankan agar tidak digunakan semula kerana ia mengandungi sejenis bahan yang mewujudkan sisa – sisa pada bahagian bawah unit ini.
- 4) Wax bath ini tidak terdapat suis buka dan tutup kerana masa yang diambil bagi memanaskan dan mencairkan paraffin tersebut cepat dan selamat.
- 5) Paraffin adalah bahan yang tidak mengeluarkan rerambut.
- 6) Dengan 6 pound paraffin, 42 tangan (kedua – dua tangan) dan 32 kaki (kedua – dua kaki) dengan menganggarkan 3 celupan untuk sebelah tangan atau kaki.

BAB 7

7.1 CADANGAN MASA DEPAN

Dalam penyediaan projek kami ini, terdapat sedikit cadangan yang ingin kami sarankan memandangkan ianya adalah satu instrumen yang penting dalam membantu mereka yang memerlukan. Di antara cadangan kami ialah:

- Mencipta keluaran mesin Wax Bath yang tercanggih di Negara Malaysia sendiri agar tidak lagi kita mengharapkan instrument yang diimport dari negara luar memandangkan negara kita sebenarnya mempunyai aset yang sangat berguna iaitu pelajar kejuruteraan elektronik perubatan ini sendiri dan mampu mencipta mesin ini juga.
- Mencipta sebatang paip yang boleh menjadi laluan wax dari mesin wax bagi memudahkan penggunaannya.

BAB 8

8.1 KESIMPULAN

Konklusinya , alhamdulillah Syukur kami ke hadrat ilahi dapat kami menyiapkan projek ini dengan jayanya dengan bantuan sifu kami sendiri yang bertungkus lumus dalam memberi tunjuk ajar tanpa jemu iaitu Pensyarah kami yang juga merupakan penyelia projek kami iaitu Miss Wee Soo Lee serta pensyarah yang lain.

Apa yang dapat kami simpulkan di sini bahawa, penciptaan mesin Wax Bath ni telah pun sukses mengikut apa yang telah di rancang walaupun pada mulanya bermacam dugaan yang kami hadapi yang mana ianya kami harunginya memandangkan ianya adalah adat dalam sebuah pertarungan.

Mesin Wax Bath ini juga dapat berfungsi dengan baik dan ianya telah pun didemokan dan kesannya sangatlah merangsangkan . Konsep mesin ini dicipta adalah selaras dengan keperluan kepenggunaannya dalam era globalisasi masa kini yang inginkan satu instrumen yang fleksibel, senang digunakan, lebih efektif, dan menjimatkan masa serta wang.

Kami merasa sangat seronok dan bangga dengan hasil kejayaan kami mencipta mesin ini dengan sokongan padu yang kuat oleh Miss Wee Soo Lee.

RUJUKAN

RUJUKAN

- 1) PENYELIA PROJEK
Miss Wee Soo Lee
Cik Mariana Rosdi
- 2) INTERNET (LAMAM WEB)
www.therabathpro.com/education.html
www.therabthpro.com
www.sitincomfort.com/thertatperwa.html
- 3) DOKTOR
Dr. Ahmad Sufian.
Dr. Surej.
- 4) JURURAWAT
Sister Bee Chung Hwak
Sister Manjit Kaur.
Jururawat Lee Kun Tek.
Jururawat Fadzilah Ahmad.
Jururawat Zuraida Ali.
- 5) HOSPITAL KAJANG
Jalan Pekan Kajang,
43000 Kajang.
- 6) KAJANG MEDICAL CENTRE,
No. 7 & 9, Taman Majlis Jaya,
Sungai Chua, 43000 Kajang.
- 7) HOSPITAL AMPUAN RAHIMAH
41200 Klang.

LAMPIRAN

Therabath*PRO* Professional Grade Paraffin Bath

Operator's Manual, Version 6.0

Model TB5 (100- to 125-volt) and Model TB4
(220- to 240-volt)

Indications

Useful in symptomatic relief of pain caused by medically diagnosed arthritis, bursitis, and chronic joint inflammation. Relaxes muscles, relieves stiffness and muscle spasms, and stimulates circulation. May be prescribed for post-fracture or post-dislocation treatment, for sprains, strains, for restriction of motion due to scar tissue, and for other conditions for which heat is indicated. Commonly used prior to therapeutic exercise and massage. May be prescribed in certain peripheral vascular diseases. Consult your physician if you have any questions.

Contraindications

Should not be used in the presence of open cuts or wounds, inflammatory skin conditions, neoplasm (growths), peripheral vascular disease where circulation is impaired, acute inflammation, or when sensation of the extremity is reduced or absent (such as in some cases of diabetes). If there is any question about peripheral vascular disease or decreased sensation of the extremities, consult a physician or physical therapist before using. Should not be used on areas subject to hemorrhaging or in cases involving abnormal sensitivity to heat. Discontinue use if dermatitis due to paraffin sensitivity occurs. Discontinue use if wax feels too hot or cool, which could indicate health problems with the user. Do not allow children or those with severe physical disabilities to use the device.

Warnings

1. Do not use while bathing or put unit where it can fall into a bathtub or sink.
2. Do not pour water or other liquid into the unit.
3. Do not reach for a unit that has fallen into water. Unplug immediately.
4. Supervision is necessary when this product is used by, on, or near children or handicapped individuals.
5. Use this product only for its intended use as described in this manual or as recommended by a healthcare professional.
6. Never operate this product if it appears damaged, has been dropped in water, or is otherwise not working properly.
7. Do not use other products or attachments not recommended by the manufacturer.
8. Use paraffin wax that is formulated for use in a paraffin warmer. Paraffin that has a higher or lower melting point should not be used in this unit.
9. Use an electrically grounded (3-pin) receptacle that conforms to the applicable local and national electrical codes.
10. Do not operate in the presence of flammable anesthetic mixtures, oxygen, or nitrous

Limited Lifetime Guarantee

WR Medical Electronics Company (Warrantor) warrants this product solely to the original owner (Purchaser) to be free from defects in material and workmanship under normal use and service for as long as the original purchaser owns and uses the product. (Normal use includes the use of TherabathPRO or Theraffin* brand paraffin and no other brand.) Warrantor's sole obligation and Purchaser's sole remedy in any instance is limited to repairing the product at Warrantor's factory to correct any such defect reported to Warrantor. At Warrantor's option, the product may be replaced rather than repaired. This warranty does not apply to any defects in the appearance of the product (including paint peeling), nor to any damage or defects resulting from accidents, improper use, misuse (including the use of another brand of paraffin), or alterations to the product, nor to any products altered or repaired by anyone other than Warrantor.

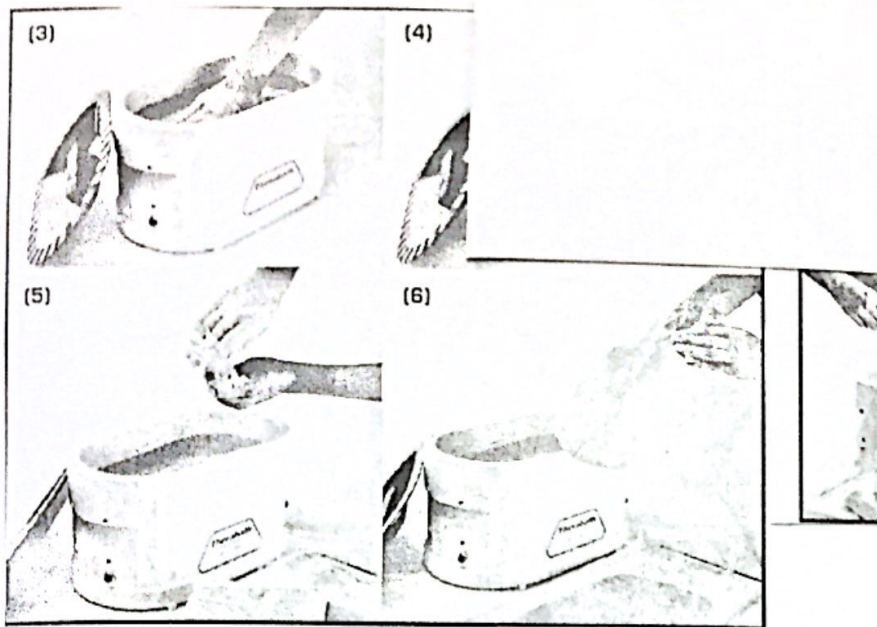
This warranty is expressly in lieu of all other express warranties. All warranties, express or implied, expire at the end of this limited warranty period. Some states or countries do not allow limitations on how long an implied warranty lasts so the above limitation may not apply to you.

WR Medical Electronics Company shall in no way be responsible for any incidental or consequential damages arising as a result of proper or improper use, prescription, or maintenance of this product, and in no event shall Warrantor's liability for such damages exceed the purchase price paid by the Purchaser. Some states or countries may not allow the exclusion or limitation of incidental and consequential damages, so the above limitation may not apply to you.

This warranty gives you specific rights, and you may also have other rights which vary from state to state or country to country.

The Purchaser must obtain prior approval from WR Medical Electronics Company before returning the product for warranty service. Phone, fax, mail, or e-mail a description of the claimed defect (including serial number), to WR Medical Electronics Company. The Warrantor will promptly determine the validity of the warranty claim and will notify the Purchaser of its determination. If you obtain approval that your claim is valid, send the product, prepaid and insured, by any delivery service to the Warrantor for warranty service. The Purchaser is responsible for paying shipping expense to and from Warrantor's facility.

Void where prohibited.



Treatment Guidelines

- Cleanse and dry the skin before applying paraffin.
 - Keep clothing and jewelry away from the treatment area.
 - Do not remelt used paraffin. Discard used paraffin.
 - Keep the lid on when unit is not in use.
 - Refer to contraindications before use.
1. Apply Sanitizing Spray." (Do not use spray near the eyes, nose, or mouth.)
 2. Apply Hydrating Cream."
 3. Slowly dip hand, foot, elbow, or other treatment area into the paraffin.
 4. Remove and wait a few seconds. Repeat 3 to 10 times.
 5. Cover hand or foot with a plastic liner."
 6. Slip on an insulated mitt or boot to retain heat."
 7. Keep paraffin in place for 10 to 15 minutes.
 8. Remove. Discard used paraffin and plastic liner (if used).

"OPTIONAL: Sanitizing Spray, Hydrating Cream, plastic liners, mitts, boots, and more are sold separately. Call your dealer or WR Medical Electronics: www.therabathpro.com.

Cleaning Instructions

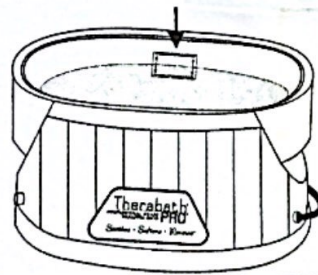
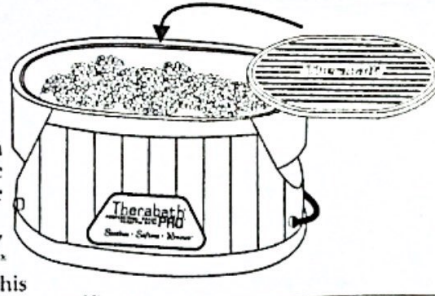
- Clean the unit after every 40 treatments, when the paraffin is no longer clear, or whenever sediment accumulates on the bottom.
- Do not scratch or damage the inside tank

Operating Instructions

1. Unpack the unit and place it on a flat, secure surface.
2. Open the bags of paraffin and place the contents inside the tank.
3. Place the plastic grille on TOP of the UNMELTED paraffin.
4. Rest the lid on top of the paraffin and grille. The paraffin will compact as it melts.
5. Plug the unit in.
6. The paraffin will melt in about 4 to 6 hours.
7. Keep the unit plugged in all the time so it is ready for use.

Adding Refill Paraffin

1. Keep the paraffin level in between the lines (on the inside of the tank).
2. Use only Therabath*PRO brand paraffin in this unit. Other types of paraffin may cause improper operation or damage, and may void the warranty.
3. Do not overfill the unit.



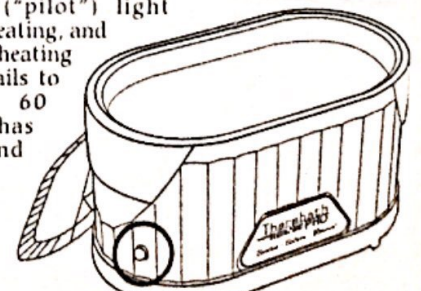
Technical Information

- Power, Model TB5: 100-125V, 1.10-1.25A, 50-60Hz
- Power, Model TB4: 220-240V, 0.55-0.65A, 50-60Hz
- Heater: 40-90 watts
- Operating temperature: 125°-135° F. (51.6°-57.2° C.)
- Size: 14.375" L x 8.5" W x 7.75" H (36.2 x 21.6 x 19.7 cm)
- Capacity: 6 lbs. (2.72 kg.)
- Melt time: 6-8 hours
- Ambient air temperature: 65°-80° F. (18.3°-26.6° C.)
- Duty cycle: continuous operation
- Degree of protection against moisture ingress: IPX0

CAUTION: Grounding reliability can be achieved only when this equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade"

Heating System and Pilot Light Operation

- Automatic temperature control heats the paraffin to 130° F. (55.4° C.), with about $\pm 3^\circ$ F. (2.8° C.) variation.
- The emergency "fail safe" high temperature shut off will automatically shut off the heater in the case of thermostat malfunction. Return the Therabath*PRO to the manufacturer for servicing.
- The illuminating ("pilot") light indicates the unit is heating, and is lit only during the heating cycle. If the light fails to illuminate after 60 minutes, the unit has malfunctioned and requires servicing.



THERABATH®

Increase range of motion and apply relaxing heat to joints, muscles and soft tissue.

Provides soothing heat treatment for arthritis pain and other joint ailments. Effective as a warm-up prior to exercise or daily activities. Moisturizes dry, cracked skin. Safe, portable and easy to use at home, in a hospital or clinic. Easily accommodates hand, foot or elbow. Inner tub measures 13" x 7" x 5" (33 x 18 x 13 cm). Holds 6 lbs. (2.7 kg) of wax. Professional quality with a hospital-grade 3-prong plug, extra insulation, and a fiberglass-reinforced outer case. Paraffin temperature is maintained between 126°F and 130°F (52° and 54°C). A safety grill at the bottom of the Therabath® helps prevent burns. Includes North Coast™ Wintergreen or ScentFree™ Paraffin Wax Beads. These easy-to-pour, quick-melting beads are specially formulated for use in all paraffin baths. North Coast™ Paraffin Wax Beads also are available in four new scents: Lavender, Melon, Orange and Peach. Additional wax is sold separately in six, 1 lb. (.45 kg) packages. Replacement grill and testing thermometer are sold separately. Available in 110 or 220 volt. IEC 320 International Standard cords are available for 24 countries. Call for more information. Lifetime manufacturer's warranty and UL Listed (Medical Equipment Professional).

Therabath®

NC15494	110 volt unit with Wintergreen Wax	159.95
NC15450	110 volt unit with ScentFree™ Wax	159.95
NC15494-220V	220 volt unit with Wintergreen Wax (cord not included)	220.00

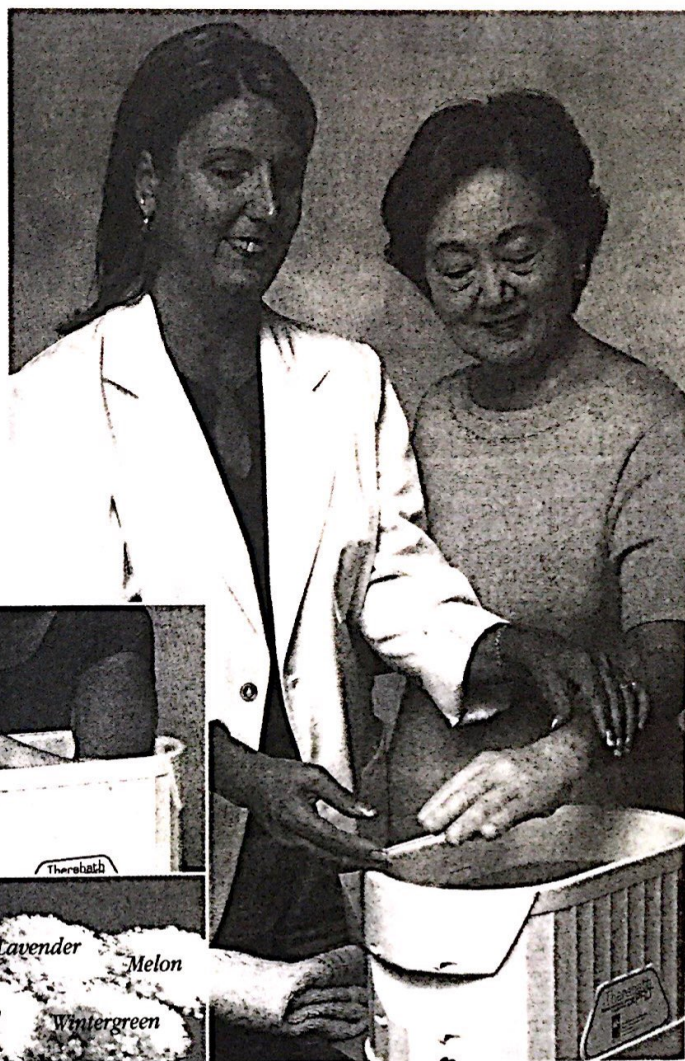
North Coast™ Paraffin Wax Beads: Six 1 lb. (.45 kg) pkgs.

NC15496	Wintergreen	19.95
NC15496-L	Lavender	19.95
NC15496-M	Melon	19.95
NC15496-O	Orange	19.95
NC15496-P	Peach	19.95
NC15496-US	ScentFree™	19.95

For use with all paraffin baths!

Therabath® Accessories

NC15494-G	Replacement Grill	7.50
NC15494-T	Testing Thermometer	27.95



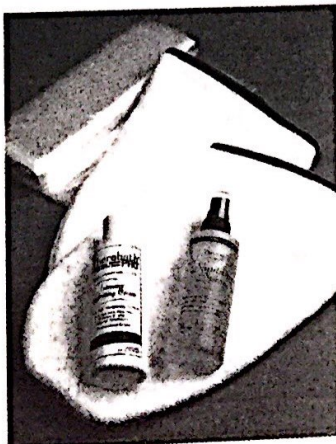
Pure, clean North Coast™ Paraffin Wax Beads are available in a variety of scents.

NEW! HAND COMFORTKIT™

Enhance the effects of paraffin treatments.

Thinsulate®-lined, terry cloth mitts allow the penetrating, soothing heat of paraffin treatments to last even longer. Intensive Hydrating Cream enhances the deep moisturizing treatment. Sanitizing Spray cleanses skin prior to paraffin application, with a refreshing, spiced peach scent. Kit includes two Thinsulate®-lined Easy Slip-On Mitts, 100 Easy Tear-Off plastic liners, one 4 oz. (120 ml) bottle of Sanitizing Spray and one 4 oz. (120 ml) bottle of Intensive Hydrating Cream. Mitts can be machine washed and dried.

NC15494-15 35.95



NEW! HEAT THERAPY ACTIVATOR

Heat-activated, aloe-based pain relief spray.

Penetrates fast to relieve arthritis pain, joint stiffness and muscle aches using all-natural ingredients. No menthol, camphor, salicylate or alcohol. Easy, "no mess" spray application. Odorless and stainless. Improves circulation, reduces painful inflammation, and soothes and revitalizes skin when used with moist heat therapy.

NC70050	4 fl. oz. (118 ml)	8.95
NC70051	8 fl. oz. (237 ml)	12.95



Compact, portable whirlpools are ideal for clinics with limited space.



Molded acrylic, butyl styrene tank is easily removed when turbine is raised.

Model AW-611



Reinforced water evacuator hose

Fixed low tank is ideal for foot and leg hydrotherapy.

Model AW-610



Fully welded, coved bottom tank can be removed from the stand without removing the turbine.

Model AW-612

NEW! AQUA/WHIRL WHIRLPOLLS

Simple lever controls agitation, flow and drainage.

The Aqua/Whirl turbine produces water flow up to 60 gallons (227 liters) per minute at a velocity of 3000 linear feet (914m) per minute premixed with 20,000 cubic inches (129000 cubic cm) of pre-heated force air. The turbine is powered by a 1/2 h.p. motor with automatic overload protector and has sealed, permanently lubricated bearings for operation on 115 volts, 50/60 cycles AC. The ground fault circuit interrupter is placed in the line cord to provide optimum electrical protection. The turbines for all Aqua/Whirl models have a reversing flow valve and a long, reinforced evacuating hose. The other end of the hose has a heavy nozzle that can be placed in a tub, bucket or drain to accommodate evacuated water. Evacuates at approximately 10 gallons (38 liters) per minute. Aqua/Whirl tanks have an indentation in the bottom that accepts the pump housing and accumulates any remaining water.

Aqua/Whirls have a one-year warranty and are UL, C-UL and CE listed. and are constructed under the applicable parts of U.S. Patent Nos. 5,289,598 and 5,335,375.

Model AW-611 has turbine mounts on a variable-height post. The tank is made of acrylic butyl styrene and provides comfortable side rest areas with a capacity of eight to fifteen gallons. Water is evacuated through the hose and nozzle assembly with a simple flip of the control lever. By raising the turbine to its highest position, the empty tank is easily removed from the stand for cleaning.

The inside of the tank is nominally 20" (51cm) wide at the front, 11" (28cm) at the rear, 30" (76cm) long and varies from 11 1/2" (29cm) deep at the back to 14 1/2" (37cm) deep at the front. The tank lip is 1/2" (13mm) wide. The stand's footprint is 35" x 25" (89 x 64cm).

The stand is on locking casters and is constructed of heavy-gauge steel tubing with a very hard, epoxy finish. The cranking mechanism allows for easy adjustment of the tank height. In the down position, the tank bottom is 6" (15cm) and the maximum up position is 21" (53cm) from the floor.

Model AW-612 is similar to AW-611, except it is equipped with a covered, seamless steel tank, rather than a plastic tank. The tank is approximately 24" long x 14 1/2" wide x 15" high (61 x 37 x 38cm) with a coved, seamless bottom. The stand's footprint is 28 1/2" x 22" (72 x 56cm).

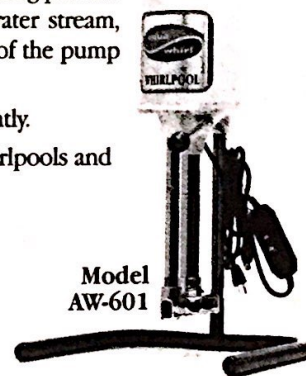
Model AW-610 is constructed with the same turbine and tank as the AW-612 but is on a permanently low stand that is designed for the treatment of the foot, ankle and lower leg. The turbine is placed on a gas-assisted raising and lowering post for proper vertical positioning of the air/water stream, easy removal of the tank, and lowering of the pump assembly into the water accumulator.

Model AW-601 turbine sold independently.

Shipping discounts do not apply for whirlpools and turbines. Call for freight quote.

NC92601-1	AW-610	2230.00
NC92601-2	AW-611	2274.00
NC92601-3	AW-612	2733.00

Turbine only		
NC92601	AW-601	1100.00



Model AW-601

CHLORAZENE®

Reduce the bacteria that may be present in whirlpools.

Effectively limit the potential for auto-infection and cross-contamination. Disinfect and reduce bacteria in contrast baths or whirlpools. Use only 15 grams for 13 to 20 gallons (49 to 76 liters), 50 grams for 44 to 66 gallons (167 to 250 liters) and 80 grams for 70 to 105 gallons (265 to 398 liters). Sold in individually wrapped packs.

NC70442	15g packs	(48)	53.95
NC70443	30g packs	(36)	59.95
NC70444	50g packs	(24)	62.95
NC70445	80g packs	(24)	69.95



SANIZENE® HARD SURFACE DISINFECTANT

Clean whirlpools and hard surfaces easily.

Features a quaternary ammonia compound that contains a germicidal detergent and deodorant. Noncorrosive on hydrotherapy equipment. Meets all standard government regulations.

1 gallon (3.8 liters)	
NC70455	29.95

D-FOAM

Reduce excessive foam during hydrotherapy.

Control sudsy hydrotherapy with D-Foam additive. Add a few ccs to a whirlpool bath to help eliminate excessive foaming, even when a detergent or other soap is used.

16 fl. oz. (473ml)	1 gallon (3.8 liters)
NC70441	14.95
NC70441-1	92.95

NEW! FLUIDOTHERAPY® UNITS

Thermal therapy units help relieve local pain and stiffness while increasing blood circulation.

These Fluidotherapy® units feature specially designed fluidized beds that combine precisely controlled dry heat temperature and inflow with dry heat medium. This combination produces the mechanical effects of kin desensitization and limb buoyancy.

Clinical benefits include local pain relief, treatment of minor pain and stiffness due to non-rheumatoid arthritis, increased local blood circulation and joint ROM management when combined with exercise.

All units are electronically programmable. Treatment time (1-99 minutes), temperature range of 110°F to 125°F (43° to 52°C), air speed (0 to 100%) and pulse mode (pressure oscillation) all can be adjusted to user preferences. In addition, these 110 volt units feature an automatic treatment timer, wake-up/preheat mode and casters for mobility.

Each unit is shipped complete with dry heat medium and operating instructions. One-year warranty. Shipping discounts do not apply. Call for freight quote.

NC70369-1 Model 110 5352.00

NC70369-2 Model 115 6691.00

NC70369-3 Model 210 7066.00

Replacement Dry Heat Medium

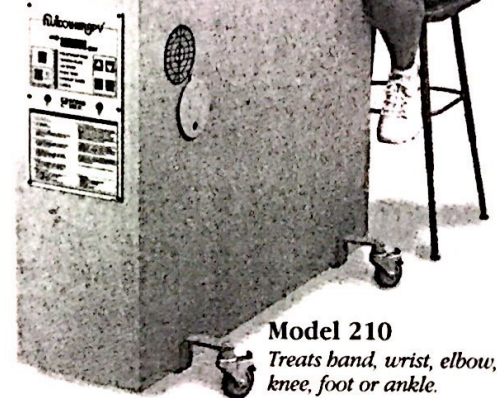
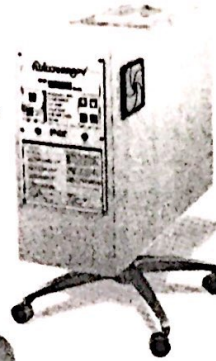
NC63150 10 lbs. (4.5kg) 59.95

Model 110

Treats hand, wrist, elbow, foot or ankle.

Model 115

Treats up to two hands or two feet. Unit can be removed from stand for easier lower extremity applications.



Model 210

Treats hand, wrist, elbow, knee, foot or ankle.

	Model 110 NC70369-1	Model 115 NC70369-2	Model 210 NC70369-3
Overall size	34" x 11½" x 33" (86 x 29 x 84 cm)	34" x 18½" x 33" (86 x 47 x 84 cm)	44" x 12½" x 35¼" (112 x 32 x 91 cm)
Ports	One top, one rear	Two top, two rear	One top, one rear
Medium capacity	30 lbs. (14kg)	40 lbs. (18kg)	60 lbs. (27kg)

NEW! THERMO-THERAPY UNITS

Warms and massages for improved circulation, wound healing and comfort.

These units combine dry heat and airflow to suspend cellulose particles. A hand, wrist, foot, ankle, or with larger units, the lower leg, can be immersed for treatment via the flexible Velcro® tightening sleeves.

Treatment time is controlled by a built-in electronic timer. Thermostatically-controlled, 900 watt, finned heater quickly heats medium to a maximum of 125°F (52°C). All units are 110 volts and feature a noise-reduced, variable speed blower. The TT-202 has an additional blower, sound muffling and a storage compartment under the control panel.

Each unit is shipped complete with dry heat medium and operating instructions. One-year warranty. Shipping discounts do not apply. Call for freight quote.

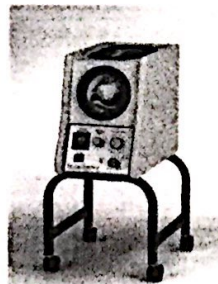
NC72110-1 Model TT-101 2495.00

NC72110-2 Model TT-201 3995.00

NC72110-3 Model TT-202 4995.00

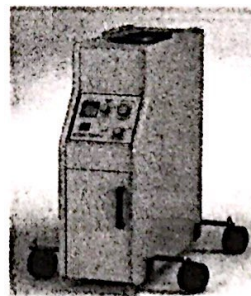
Replacement Dry Heat Medium

NC63150 10 lbs. (4.5kg) 59.95



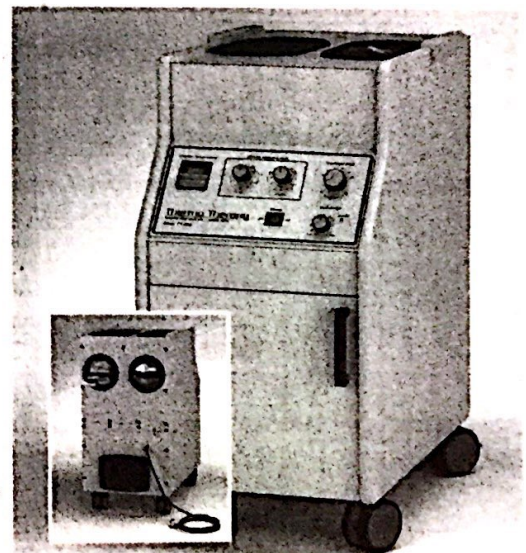
Model TT-101

Compact model designed to rest on a table, stand or floor.



Model TT-201

Mobile unit features a much deeper chamber than the TT-101.



Model TT-202

Features two blowers and additional sound muffling. Rests on four locking casters.

	Model TT-101 NC72110-1	Model TT-201 NC72110-2	Model TT-202 NC72110-3
Overall size	19" x 11" x 15" (48 x 28 x 38 cm)	29" x 12" x 32" (74 x 30 x 81 cm)	29" x 20" x 32" (74 x 51 x 81 cm)
Ports	One top, one front	One top, one rear	Two top, two rear
Medium capacity	10-12 lbs. (4.5-5.4kg)	20-25 lbs. (9.0-11kg)	40-50 lbs. (18-23kg)

HYDROCOLLATOR® HEATING UNITS

convenient models to meet individual clinic needs.

These high-quality, stainless steel units are thermostatically controlled and are rated at 1000 watts. Mobile units feature 3" (7.6cm), rubber casters that swivel for silent, friction-free movement. UL and cUL listed. No plumbing required. Heat Packs sizes refer to the "Norco" Moist Heat Packs shown below.

Model SS-2 (mobile) offers versatility for smaller clinics. Heating unit measures 20 $\frac{3}{4}$ " x 15 $\frac{1}{2}$ " x 33" (53 x 39 x 84cm). Includes (8) Standard Heat Packs.

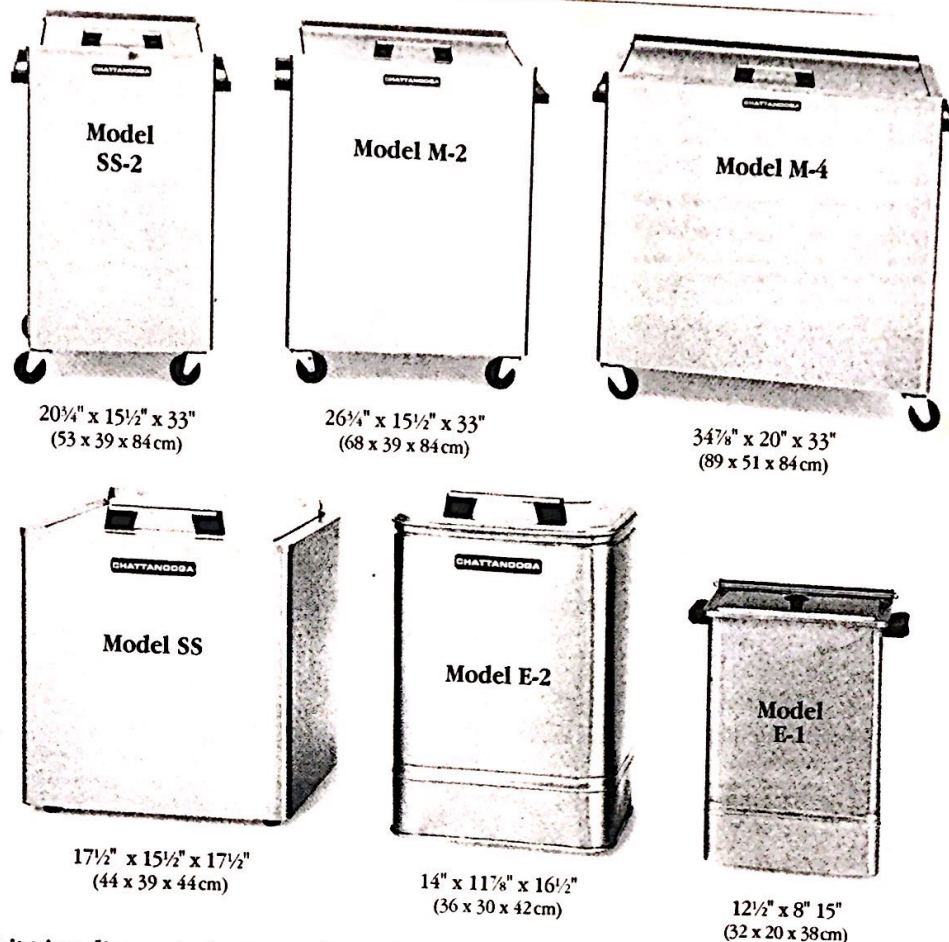
Model M-2 (mobile) medium-size unit has an extra large tank. Heating unit measures 26 $\frac{3}{4}$ " x 15 $\frac{1}{2}$ " x 33" (68 x 39 x 84cm). Includes (12) Standard Heat Packs.

Model M-4 (mobile) is the largest mobile unit. Requires just 20" x 32" of floor space. Extra-large tank with oversized drain. Heating unit measures 34 $\frac{7}{8}$ " x 20" x 33" (89 x 51 x 84cm). Includes (24) Standard Heat Packs.

Model SS is a great unit for smaller departments or clinics. Unit measures 17 $\frac{1}{2}$ " x 15 $\frac{1}{2}$ " x 17 $\frac{1}{2}$ " (44 x 39 x 44cm). Includes (8) Standard Heat Packs.

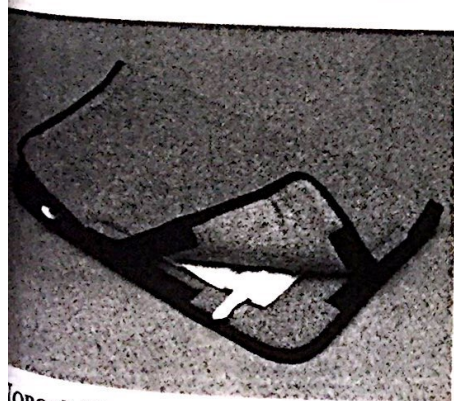
Model E-2 (non-insulated) accommodates large heat packs. Unit measures 14" x 11 $\frac{7}{8}$ " x 16 $\frac{1}{2}$ " (36 x 30 x 42cm). Includes five Heat Packs: (1) Contour Cervical, (2) Oversize, and (3) Standard.

Model E-1 (non-insulated) is ideal for tabletop use. Unit measures 12 $\frac{1}{2}$ " x 8" x 15" (32 x 20 x 38cm). Includes (4) Standard Heat Packs.



Shipping discounts do not apply. Call for a freight quote.

NC70350-SS2	Model SS-2	1250.00	NC70350-SS	Model SS	1075.00
NC70350-M2	Model M-2	1375.00	NC70350-E2	Model E-2	755.00
NC70350-M4	Model M-4	2950.00	NC70350	Model E-1	395.00

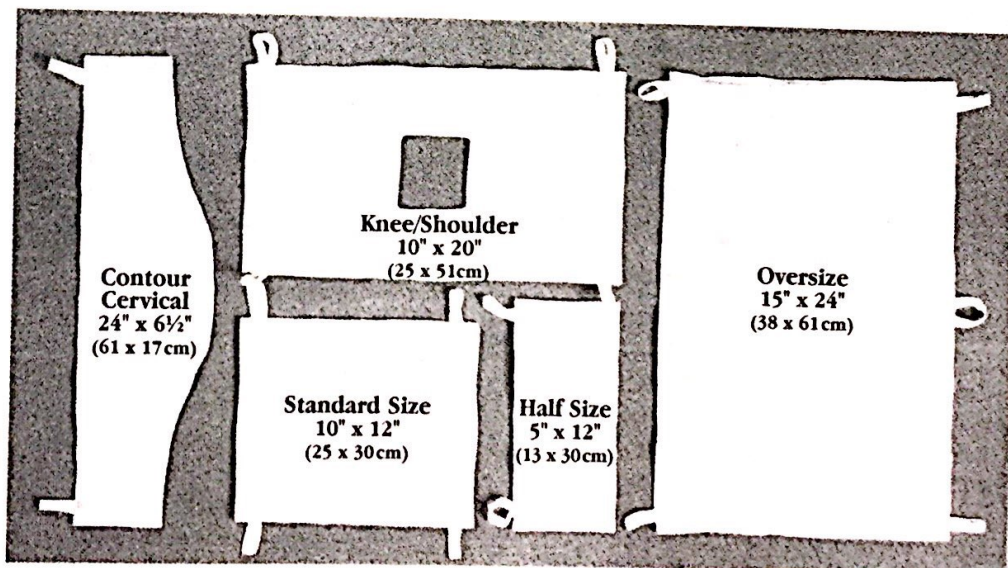


NORCO™ MOIST HEAT PACK COVERS

helps retain heat while providing moisture release.

The Standard, Cervical and Oversize Covers are made of insulating foam covered with terry cloth. The Combination Cover's top section is made of insulated vinyl and the bottom section is made of foam-covered terry cloth. Velcro® fasteners ensure an easy fit over the heat pack. The Standard Cover and the Combination Cover fit the Standard Size Heat Pack.

63110	Standard Cover	17.95
63111	Cervical Cover	15.95
63112	Combination Cover	26.95
63113	Oversize Cover	29.95



NORCO™ MOIST HEAT PACKS

Money-saving heat packs are available in a variety of sizes.

Easily heat packs in hot water or in the Hydrocollators® sold above. Provides a minimum of 30 minutes of moist heat. Ideal for treatment of muscle and tissue injuries. Use repeatedly for hundreds of applications. Instructions are included with each pack. Heat packs are available in five sizes.

NC63100	Half size	7.75
NC63102	Standard size	10.50
NC63103	Contour Cervical	11.95
NC63104	Knee/Shoulder	19.95
NC63105	Oversize	22.95

"Whisper Quiet" turbines are so well constructed they can be "run dry" without water.

NEW! DAKON MOBILE WHIRLPOOLS

Reversing-style turbines evacuate the used water with a flip of the switch.

The Dakon turbine can produce 60 gallons (227 liters) of swirling water per minute at a rate of 3000 linear feet per minute. "Whisper Quiet" mobile whirlpools have self-lubricating underwater bearings that would freeze up even if operated without water! These turbines are made with thick, chromium nickel and copper plating on heavy bronze castings and tubing. Both water pressure and velocity can be controlled.

Dakon whirlpools are constructed with a heavy, 18-gauge stainless steel outside "skirt" and an even thicker 16-gauge "inner wall," that provide extremely strong double-walled sides. The seamless inner wall is arc-welded to a fully covered bottom, and ground and polished to a satin finish.

The 1/2 h.p. motors are UL, C-UL and C.E. listed for 115 volt service. The built-in Ground Fault Circuit Interrupter provides maximum electrical protection. The 3" (7.6cm) diameter, dual-range thermometer is encased in a heavy sheath that protects the sensitive thermometer stem from inadvertent bumping.

The turbine becomes a pump with the flip of a lever. In the pump mode, used water is forced out of the tank through a flexible, stainless steel sheathed hose to an available drain at a quick 10 to 15 gallons (38 to 57 liters) per minute and virtually eliminates all used water. Base of tank has a 1" deep x 7" diameter (2.5 x 18cm) recessed area that automatically captures any residual water for easy sponge drying. This system eliminates the need for a separate drain, which often accumulates debris and can be a source of contamination.

Shipping discounts do not apply. Call for freight quote.

Mobile Whirlpool	Extremity	Dimensions L x W x D	Floor to Rim Height	Approx. Capacity	Dakon DS Model #	
NC92602-01	Foot/Ankle	25" x 14" x 14" (64 x 36 x 36 cm)	21" (53 cm)	14 gallons (53 liters)	DS-2514	2193.00
NC92602-02	Foot/Ankle	23" x 14" x 16" (64 x 36 x 41 cm)	23" (58 cm)	16 gallons (61 liters)	DS-2516	2273.00
NC92602-03	Foot/Ankle	28" x 16" x 18" (71 x 41 x 46 cm)	26" (66 cm)	25 gallons (95 liters)	DS-2818	2405.00
NC92602-04	Hand/Arm*	25" x 14" x 16" (64 x 36 x 41 cm)	30" (76 cm)	16 gallons (61 liters)	DS-2516H	2395.00
NC92602-05	Hand/Arm**	28" x 16" x 18" (71 x 41 x 46 cm)	36" (91 cm)	25 gallons (95 liters)	DS-2818H	2560.00
NC92602-06	Leg/Knee	28" x 16" x 21" (71 x 41 x 53 cm)	28" (71 cm)	27 gallons (102 liters)	DS-2821	2537.00
NC92602-07	Leg/Knee	28" x 16" x 25" (71 x 41 x 64 cm)	32" (81 cm)	36 gallons (136 liters)	DS-2825	2533.00
NC92602-08	Leg/Knee	28" x 16" x 28" (71 x 41 x 71 cm)	34" (86 cm)	41 gallons (155 liters)	DS-2828	2593.00
NC92602-09	Leg/Knee	32" x 16" x 25" (81 x 41 x 64 cm)	32" (81 cm)	45 gallons (171 liters)	DS-3225	2625.00

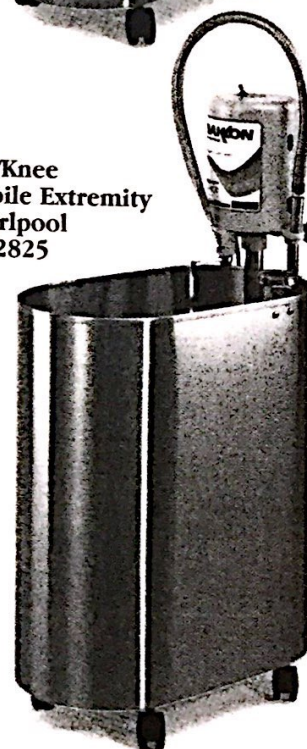
* This configuration results in the the tank bottom being 14" above the floor.

** This configuration results in the the tank bottom being 18" above the floor.

Foot/Ankle
Mobile Extremity
Whirlpool
DS-2514



Leg/Knee
Mobile Extremity
Whirlpool
DS-2825

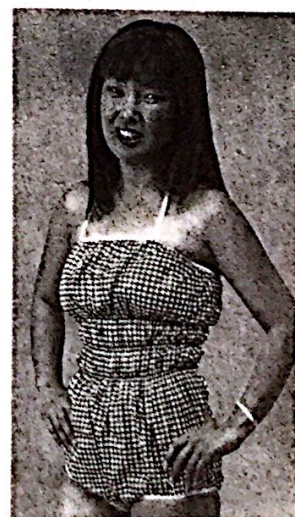


NEW! DIPSTERS® HYDROTHERAPY WEAR

Disposable, but strong enough to be washed and reused up to 10 times.

Ideal wear for whirlpool hydrotherapy, these comfortable, fast-drying garments are opaque even when wet. Dipsters® for men are boxer shorts with an elastic waist and full supporter. Sizes measure waist circumference. Dipsters® for women are one-piece with a stretchable waist and elasticized legs. Top is held in place with elastic and a tie at the neck. Women's Dipsters® are sized according to dress size. Sold in packages of 12.

Men's Boxers		Waist Circumference	
NC70405-1	Small	30" to 33" (76 to 84 cm)	(12) 51.95
NC70405-2	Medium	34" to 37" (86 to 94 cm)	(12) 51.95
NC70405-3	Large	38" to 41" (97 to 104 cm)	(12) 51.95
NC70405-4	X-large	42" to 45" (107 to 114 cm)	(12) 58.95
NC70405-5	XX-Large	46" to 49" (117 to 124 cm)	(12) 58.95
NC70405-6	XXX-Large	50" to 52" (127 to 132 cm)	(12) 58.95
Women's One-Piece Dipsters®		Dress size	
NC70420-1	Small	6 to 8 (12)	106.95
NC70420-2	Medium	10 to 12 (12)	106.95
NC70420-3	Large	14 to 16 (12)	106.95
NC70420-4	X-large	18 to 20 (12)	114.95
NC70420-5	XX-Large	22 to 24 (12)	114.95
NC70420-6	XXX-Large	26 to 28 (12)	114.95



C9236-51
Ultra115



Fluidotherapy®. Fluidotherapy units heat and circulate Cellex® particles resulting in a warm massage for treat extremities. All units are electrical programmable. Adjustable controls the regulation of temperature (maxin temperature 125°), airflow (particle speed) and pulse mode (pressure oscillations). Each unit has an autom timer, a wake-up pre-heater mode, an locking casters. UL, CSA approved. ▮

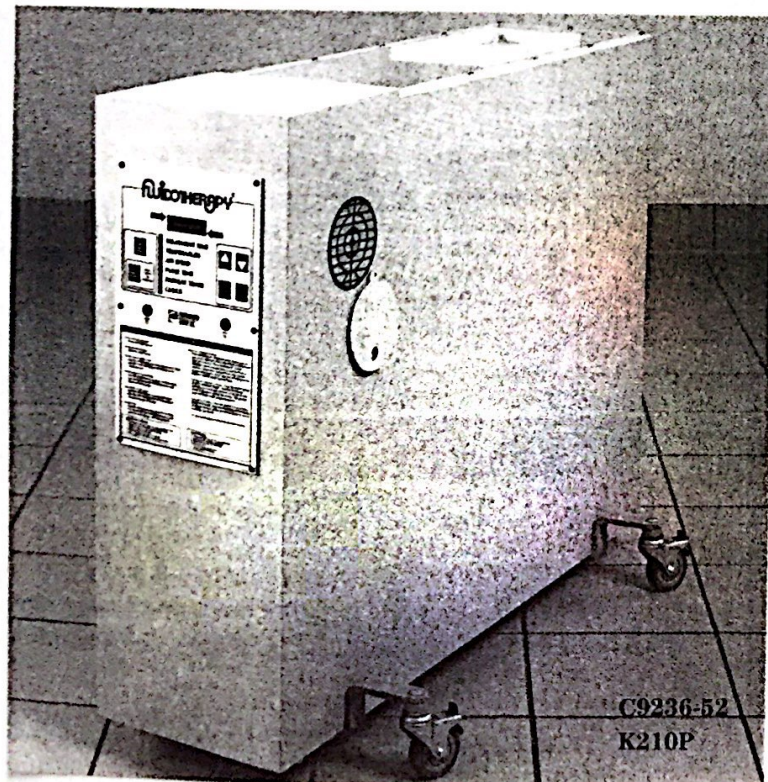
Choose from three models:

FT110 Single extremity unit for treat the hand, wrist, elbow, ankle or foot. Requires 20 amp-dedicated circuit. (Includes 30 lbs. of Cellex® mediu C9236-50 FT110

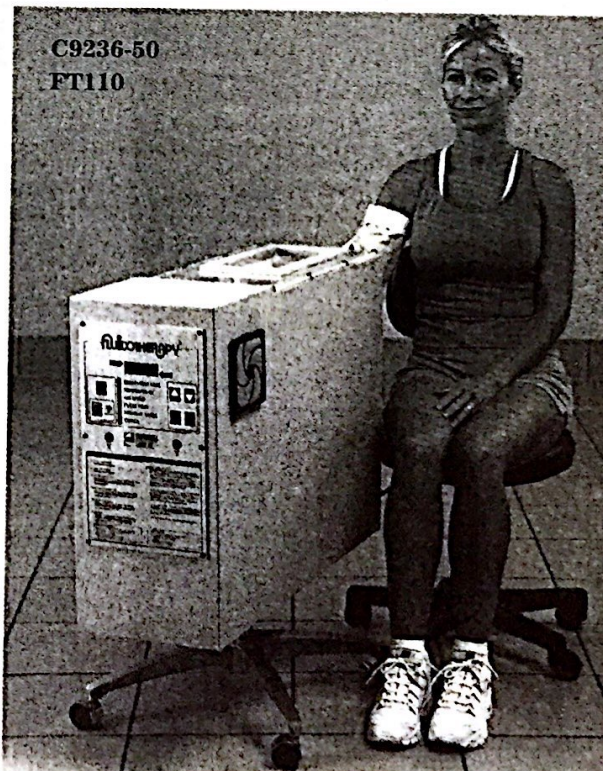
K210P Large single extremity unit fo treating the knee, hand, elbow, foot a ankle. (Includes 75 lbs. of Cellex® medium.) C9236-52 K210P

Ultra115 Double extremity unit for treating two hands or two feet independently or simultaneously. (Includes 40 lbs. of Cellex® mediu C9236-51 Ultra115

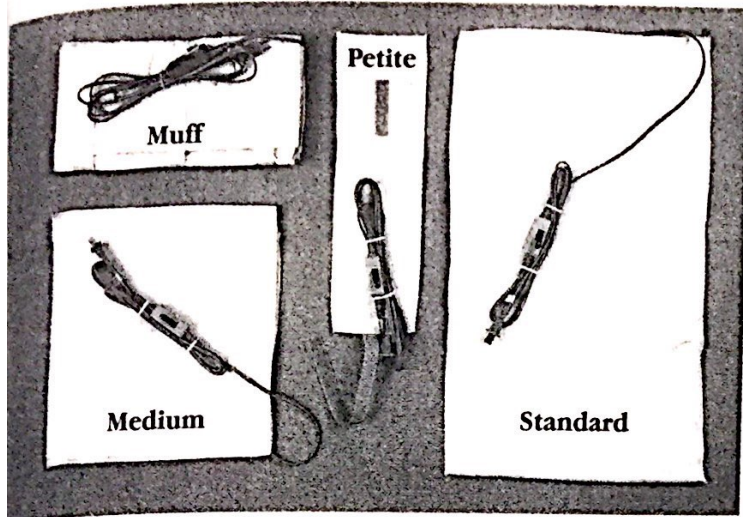
C9236-53 Replacement Cellex® medium, 10 lb. bag



C9236-52
K210P



C9236-50
FT110



NEW! THERMOPHORE AUTOMATIC MOIST HEAT PACKS™

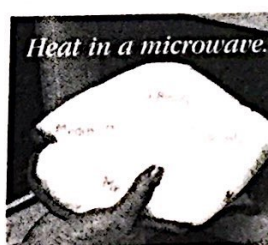
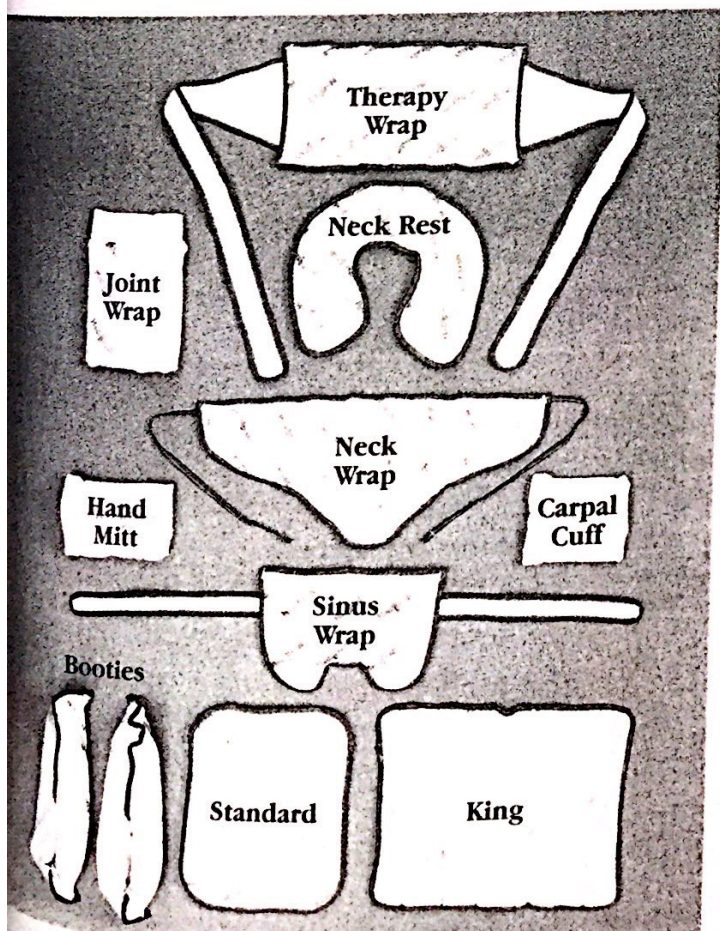
Penetrating moist heat therapy packs.

Unique flannel cover draws humidity from the air and retains it. Then, when the heat is turned on, the moisture is forced out of the flannel and onto the treated area. Use the heat pack directly on the skin, build up heat quickly and maintain the preferred temperature for 15 to 30 minutes. Pack conforms to body contours. A spring-loaded "on" switch allows the patient to control the heat for maximum safety. If the user falls asleep, the heat automatically turns off.

Available in four sizes. The Petite pack measures 4" x 17" (7.6cm x 43cm) and is designed for use on the neck, throat, sinuses and jaw. The Medium pack measures 14" x 14" (36 x 36cm) and is useful for pediatric use, or on smaller parts of the body like hands, feet, elbows, shoulders or knees. The versatile Standard pack measures 14" x 27" (36 x 69cm) and is ideal for large areas of the body like the back, shoulders and legs. The convenient, open-ended Muff measures 8½" x 16½" (22 x 42cm) and is designed to deliver moist-heat therapy to the hands, elbows and ankles. One-year warranty.

NC70371	Medium	14" x 14"	(36 x 36cm)	59.95
NC70373	Standard	14" x 27"	(36 x 69cm)	74.95
NC70370	Petite	4" x 17"	(7.6 x 43cm)	49.95
NC70372	Muff	8½" x 16½"	(22 x 42cm)	49.95

*Spring-loaded
"on" switch
for safety.*



NEW! MEDI BEADS™ MICROWAVE MOIST HEAT PACKS

Clinically proven, all-natural pain relief.

Packs are filled with non-toxic beads made from natural materials. Permanent, anti-microbial agent inhibits odors, mildew and bacteria buildup. Soft packs conform easily to body contours. Microwave for approximately one to two minutes. Moisture-creating beads provide deep, penetrating moist heat therapy without water. Heat lasts for up to 30 minutes. After treatment, the beads rejuvenate themselves naturally by recovering moisture from the air. Hand wash and air dry. Reusable packs are extremely durable.

NC81040-01	Standard	9" x 12"	(23 x 30cm)	19.95
NC81040-02	King	12" x 16"	(30 x 41cm)	29.25
NC81040-03	Neck Rest	10½" x 14"	(27 x 36cm)	22.95
NC81040-04	Hand Mitt	5½" x 7"	(14 x 18cm)	11.25
NC81040-05	Carpal Cuff	4½" x 4½"	(11 x 11cm)	9.00
NC81040-06	Booties (Pair)	5" x 13"	(13 x 33cm)	38.95
NC81040-07	Neck Wrap	8" x 22"	(20 x 56cm)	22.95
NC81040-08	Sinus Wrap	7" x 11"	(18 x 28cm)	11.25
NC81040-09	Therapy Wrap	7" x 14"	(18 x 36cm)	22.95
NC81040-10	Joint Wrap	6" x 8"	(15 x 20cm)	14.25



Biofreeze® Pain-Relieving Gel. Helps relieve pain from aching joints, arthritis, bursitis, back and neck distress, muscle spasms, and sports injuries. Biofreeze gel with Ilex is greaseless, stainless and leaves no lingering scent. Enhances therapy by reducing swelling and stiffness. Mixes with massage oils and lotions. Apply directly to skin. Active ingredient: menthol (3.5%). Latex free.

- C5220-01 16 oz. Pump Bottle
- C5220-02 32 oz. Pump Bottle
- C5220-03 4 oz. Tube
- C5220-05 3 oz. Roll-on
- C9221-90 Gallon
- C9221-91 Box of 100, 5 Gram Packs



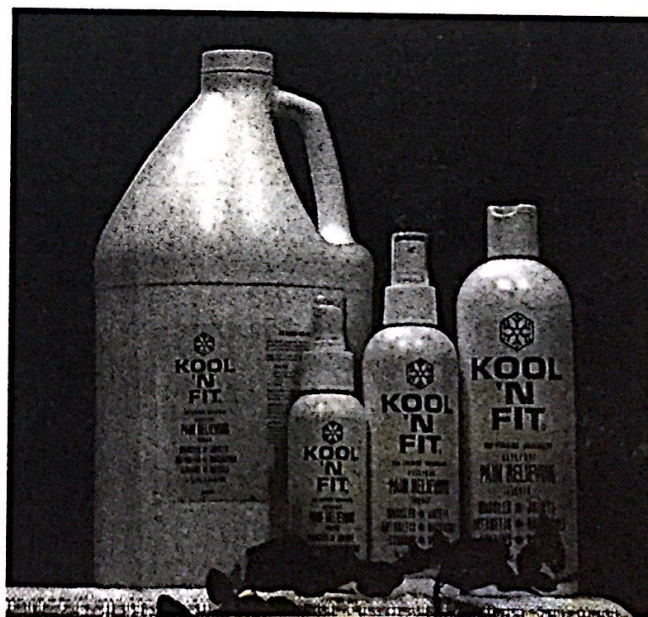
Flexall®. Flexall topical pain relieving gels can help to enhance ultrasound, cryotherapy, T.E.N.S., and massage therapies. Flexall (7% menthol) and Maximum Strength Flexall (16% menthol) are unique aloe vera gel formulas with natural oils and vitamin E. Flexall gels absorb quickly and completely, are greaseless, non-staining, and gentle on the skin.

- C286-01 Flexall, 16 oz.
- C286-02 Flexall, 7 lbs.
- C286-03 Maximum Strength Flexall, 16 oz.
- C286-04 Maximum Strength Flexall, 7 lbs.



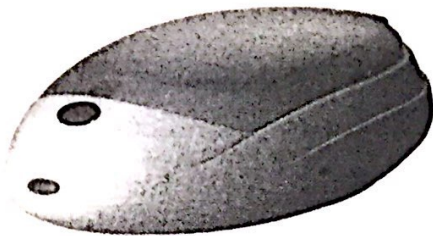
Polar Frost®. Water-based gel includes a combination of menthol and aloe vera to keep the skin smooth and moist during each application. Appropriate for soft tissue, joint, stress injuries and muscle tension. Polar Frost® is non-greasy and will not stain the skin. Not tested on animals. Latex free.

- C9221-22 75ml Roll-On
- C9221-24 150ml Tube
- C9221-47 500ml Pump
- C9221-48 1 gallon
- C9221-49 200 6g Individual Packets

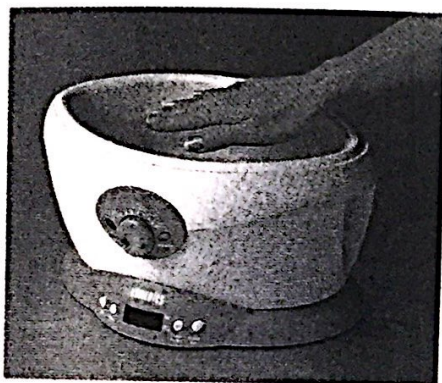


Kool 'N Fit® Pain Relieving Liquid. Just spray on – no need to touch or rub in. Greaseless, non-staining, pain-relieving liquid compliments chiropractic treatments. Can be used before spinal adjustments; with ultrasound; during electrical stimulation; after cold therapy; prior to moist heat therapy; before, during and after massage.

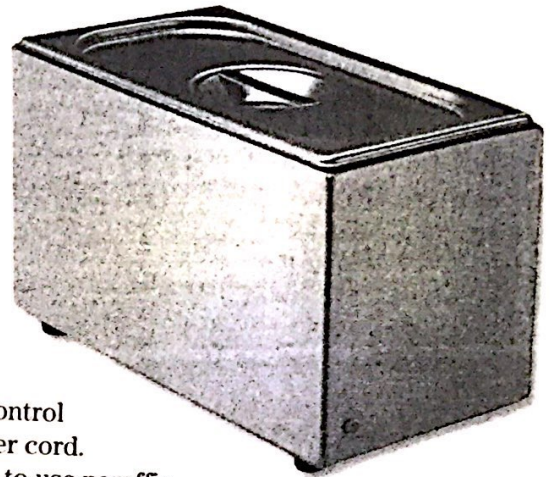
- C5513-20 4-oz.
- C5513-21 8-oz.
- C5513-22 16-oz.
- C5513-23 1 gallon
- C5516-23 Kool n Fit Sample Display



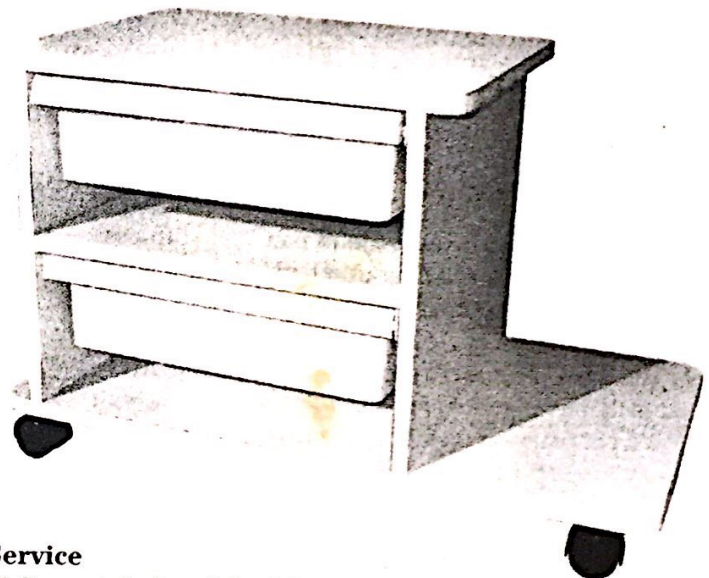
ParaSpa Plus Paraffin Bath. Hand paraffin bath stimulates circulation and soothes arthritic pain. Includes 2 lbs. of unscented, hypoallergenic wax and 20 liners. Features adjustable temperature control. C9214-78



ParaSpa Select Paraffin Bath. Features adjustable temperature control and a timer feature that allows you to select a later time that you would like the unit to be ready rather than keeping the unit on at all times. L.E.D. light indicates when light is on and unit is heating. Comes with 3 lbs. of unscented, hypoallergenic paraffin wax and instruction manual. C9214-79



Sammons Preston Rolyan® Large Paraffin Bath. Durable stainless steel tank has double-walled insulation. Features an automatic thermostat control and hospital grade power cord. Includes 18 lbs of ready-to-use paraffin. Outside measures 21" x 13" x 8 1/2". Inside measures 19 1/4" x 11 1/2" x 6". Latex free. C3552



Paraffin Service Cart. Specialty cart designed for 6 lb. paraffin baths. Two drawers store supplies. Bottom shelf extends 10 1/2" beyond drawers to position bath for foot treatments. Includes two swivel and two locking casters. Measures 17"D x 30"W x 19"H. Weighs 47 lbs. C9251-36

NEW Amber Total Kleen Paraffin Wash. This gentle skin cleansing wash is designed to be used prior to any paraffin treatments and is a must at any hand washing station. This broad-spectrum antimicrobial agent is designed to reduce bacterial flora while keeping the skin soft and supple. 8 oz. C5541-46



Performa™ Insulation Garments. Terry cloth, machine-washable wraps to prolong the therapeutic heat generated by paraffin treatments. The system consists of a plastic liner covered by an insulation mitt, boot or wrap (the wrap is great for elbow treatments). One size fits most adults. CA819-83 Mitt CA819-81 Boot CA819-82 Wrap CA819-80 100 Protective Liners



Modalities > Paraffin Baths

Choose the Paraffin Bath that Accommodates Your Therapeutic Treatments

Both the Deluxe Arm, Hand and Foot Paraffin Bath and the Standard Paraffin Bath provide effective insulation with chrome-plated, heavy-gauge, double-walled, highly corrosion-resistant, metal tanks and plastic covers that prevent heat loss. Attractive mahogany molding around the top and bottom of tank helps prevent burns. Deluxe model accommodates larger capacities, enabling more extensive treatment of arms, hands and feet. Paraffin and oil refills are premeasured to fit each tank's capacity. Paraffin and oil also sold separately in standard measurements.

Standard Paraffin Bath. Tank measures 14" x 7" x 9½" (35.5 x 18 x 24 cm). Stand with casters makes unit portable. Paraffin capacity: 22 lbs. UL listed.

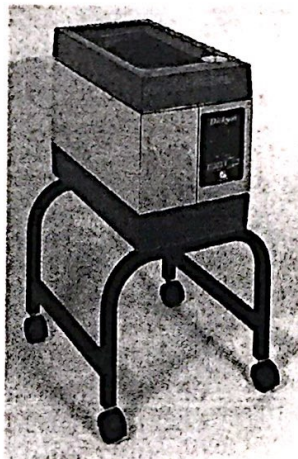
C3554 Bath 

C3554A Paraffin, Oil and Aromatic Blend Refill

Deluxe Arm, Hand and Foot Paraffin Bath. Tank measures 25" x 11½" x 10" deep (63.5 x 29 x 25 cm). Paraffin capacity: 50 lbs. UL listed.

C3550 Bath 

C3550A Paraffin, Oil and Aromatic Blend Refill



C3550

Paraffin Bath Features:

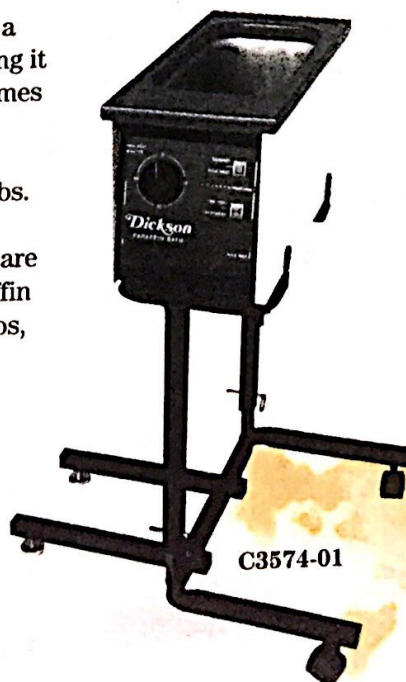
- Automatic thermostat control
- Sturdy, epoxy-coated stand
- Ball-bearing swivel casters
- Patented drain
- Automatic timer
- Thermometer
- Paraffin & Oil

Clinic Paraffin Bath. Compact unit has a timed melting or sterilizing circuit, making it ideal for hospitals, clinics, or nursing homes where sterilization is important. Tank is constructed with corrosion-resistant stainless steel. Includes plastic cover, 6 lbs. of paraffin, and a bottle of oil. Measures 17" x 8½" x 8½". Interior tank dimensions are 12" x 6" x 6". Height on stand: 27½". Paraffin capacity: 6-8 lbs. Electrical: 110V, 1.7 amps, 50/60Hz. Circuit wattage: 50 (treatment), 200 (sterilizing). UL, CUL, and CE approved.

C9235-74 Clinic Paraffin Bath

C3574-01 Stand for Clinic and Office Paraffin Baths

C5541-43 Clinic Paraffin Bath with Casters



C3574-01



Office/Home Paraffin Bath.

Economy version of the Clinic Paraffin Bath has a dial to switch between high heat and low heat. This bath does not have a sterilizing circuit. All other specifications are identical.

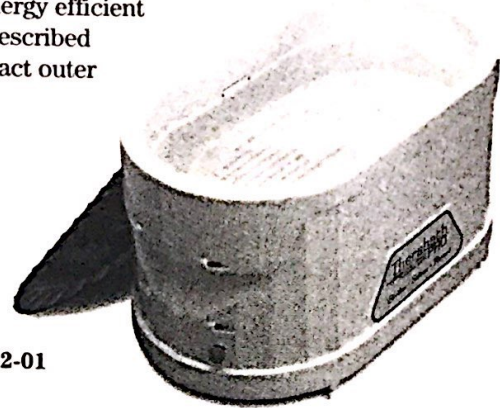
C3574 Office/Home Paraffin Bath

C3574A Paraffin, Oil and Aromatic Blend Refill

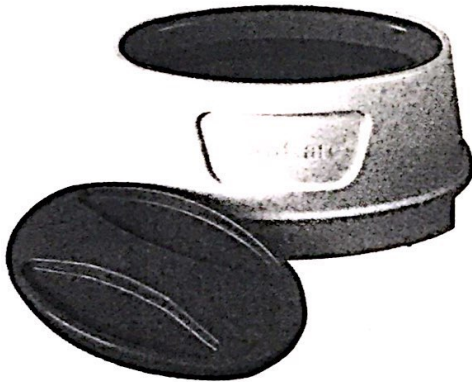
Paraffin Baths < Modalities

Therabath® PRO®. Professional-grade paraffin bath is the industry standard and the only lifetime guaranteed unit available. Fully insulated, this heavy-duty bath is energy efficient for low-cost operation, with thermostatic control to maintain a medically-prescribed temperature. The large inner tank fits hands, feet, and elbows, yet the compact outer case requires little counter space (14½" x 8" x 7¼"). CUL listed.

- C5142 Therabath PRO with 6 lbs. Wintergreen Paraffin
- C5142-01 Therabath PRO with 6 lbs. ScentFree™ Paraffin
- C9252-84 Insulated Mitts (pair)
- C9252-85 Insulated Moots (pair)
- C5142-05 Liners for Mitts or Boots, 100



C5142-01



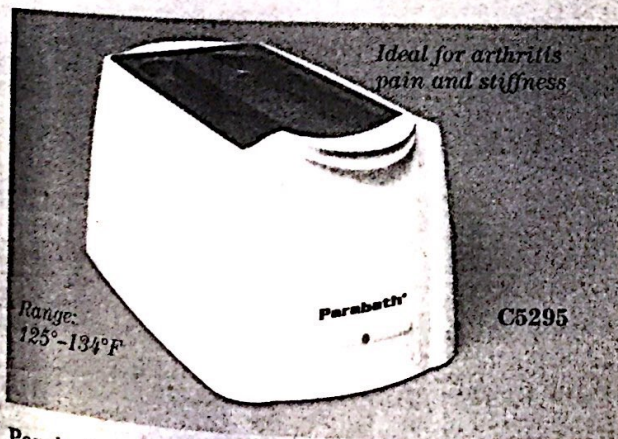
Para-Care™ Paraffin Bath. Relieve joint pain and stiffness with this portable, high-capacity paraffin bath. Functions at low wattage to maintain optimal therapeutic temperature range. Shuts off automatically if temperature range is exceeded. The outer shell is constructed from durable ABS plastic that is flame retardant and easy to clean. Comes with six 1 lb. blocks of ready-to-use paraffin. Measures 24" x 15" x 9". Two year warranty. UL approved and CE marked.

C5225



Therma-Spa® Paraffin Bath. Includes 6 lbs. of unscented paraffin, terry cloth mitt, one insulated foot bootie, and 65 disposable glove liners. Interior dimensions measure 13"L x 7"W x 6"D.

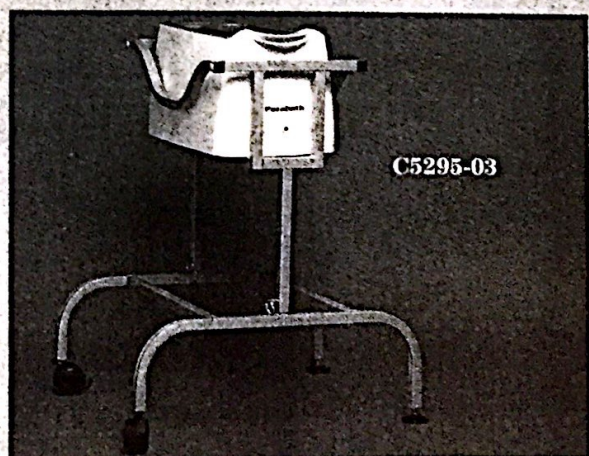
C9254-13



C5295

Parabath® Paraffin Bath. Ideal for relief of pain and stiffness due to arthritis or injury. Thermostatically controlled from 125°-134°F. Safety switch prevents overheating. Stainless-steel tank measures 12" x 6" x 6" deep and accommodates hand, foot or elbow. Hospital-grade plug and cover. UL® listed and CSA approved.

- C5295 Standard Parabath
- C5295-01 Parabath Refill



C5295-03

Mobile Parabath® Stand. For safe, secure positioning of electric Parabath unit 5295 during treatment. Adjusts from 25" to 30", the ideal height for sitting or standing. Distance from floor to bottom of stand is 18" to 23", depending on adjusted height. Casters do not lock. Black.

C5295-03

Soothing Paraffin Wax and Oils for Professional Use

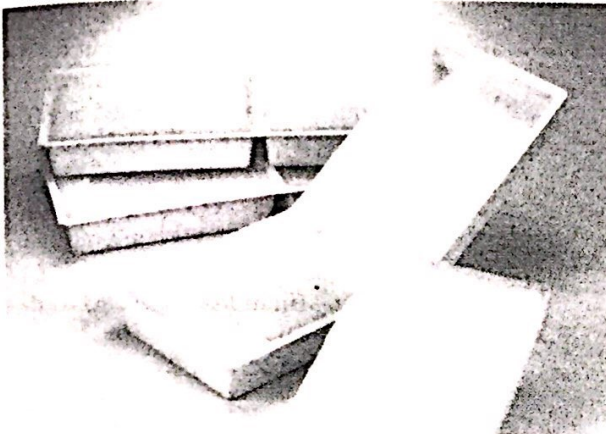
Sammon's Preston Rolyan's paraffin wax is the purest, most refined paraffin in the industry. Since our paraffin wax is medical grade quality, it is extremely pure, which is evident by the clarity of the wax when it is in liquid form. Our paraffin wax and oil is available in four different scents as well as unscented.

Wintergreen

Citrus

Lavender

Peach



Six 1-lb. Blocks. Blocks come in convenient, easy-to-separate trays.

- C5142-03 Unscented Refill 6-1 lb. Cubes
- C5142-02 Wintergreen Refill 6-1 lb. Cubes
- C9251-43 Citrus Refill 6-1 lb. Cubes
- C9251-44 Lavender Refill 6-1 lb. Cubes
- C9251-45 Peach Refill 6-1 lb. Cubes



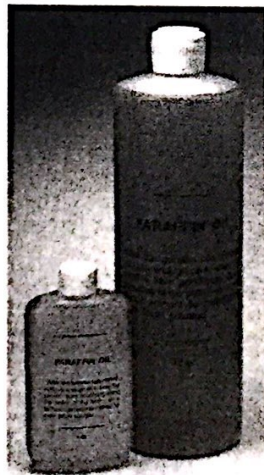
Six 1-lb. Bags of Paraffin Beads.

Formulated to not stick together.

- CA819-2 Unscented Beads
- C5541-84 Wintergreen Beads
- C5541-85 Citrus Beads
- C5541-86 Lavender Beads
- C5541-87 Peach Beads

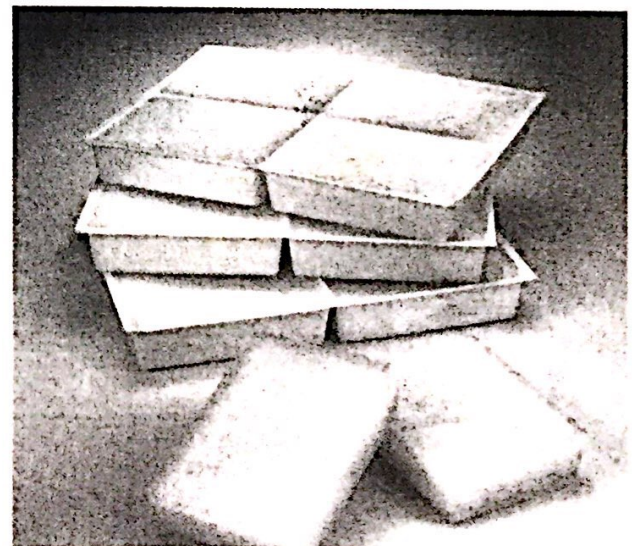
Paraffin Oils.

Increase the scent and viscosity of paraffin wax to your desired level, or use the oils to massage the hands and feet, leaving the refreshing scent with the client throughout the day. Available in 4 oz. or 1 quart bottles.



- CA8198-03 Unscented 4 oz.
- C3581 Unscented 1 Quart
- C5541-76 Wintergreen 4 oz.
- C5541-80 Wintergreen 1 Quart
- C5541-77 Citrus 4 oz.
- C5541-81 Citrus 1 Quart
- C5541-78 Lavender 4 oz.
- C5541-82 Lavender 1 Quart
- C5541-79 Peach 4 oz.
- C5541-83 Peach 1 Quart

C3586 Paraffin Thermometer. Glass-enclosed; calibrated 20° - 220°F



Economy 11-lb. Blocks.

Each block is delivered in three trays, and each tray has 3.7 lbs. of paraffin separated into four sections that easily pops out when you're ready to use it.

- C3580 Unscented
- C5541-88 Wintergreen
- C5541-89 Citrus
- C5541-90 Lavender
- C5541-91 Peach

