

The equipment is arranged in the order that it is discussed in the manual.

Pneumobelt

"Turtle" Chest Shell

Negative Pressure Ventilation

NEV-100 negative pressure ventilator

MV Maxivent portable negative/positive pressure ventilator

Companion® 2500 portable volume ventilator

BiPAP® S Airway Management System

BiPAP® S/T Ventilatory Support System

Vintil+ Bi-level nasal ventilation

Mouthpieces and Nasal Masks

Softwear™ Nasal Mask & the Custom Nasal Masks

The Sullivan™ Nasal CPAP System & Bubble Cushion Nasal Mask

CPAP-100 System

ADAM® CPAP Circuits & Companion® ADAM Circuits

Companion® Nasal CPAP Masks & Companion® Nasal CPAP System

Companion® 2801 volume ventilator

LP10 & LP6-Plus volume ventilators

Accessories for Aequitron ventilators

LIFECARE PLV-102 & PLV-100 volume ventilators

Positive Pressure Ventilation for infants

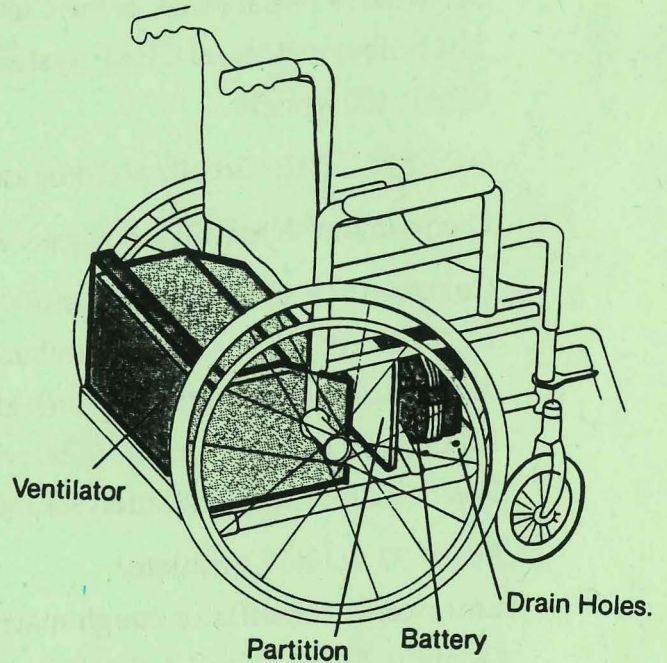
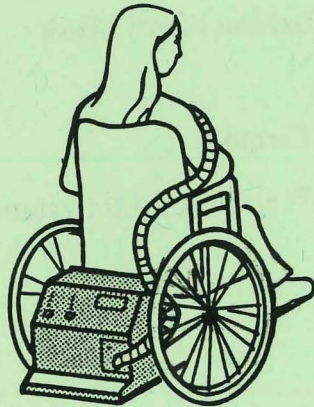
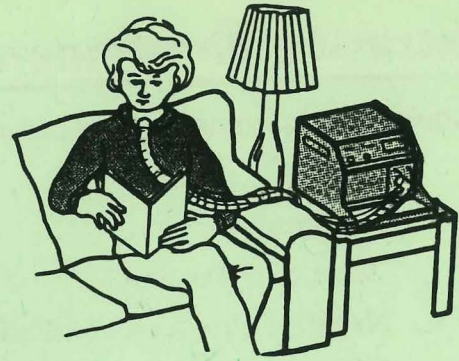
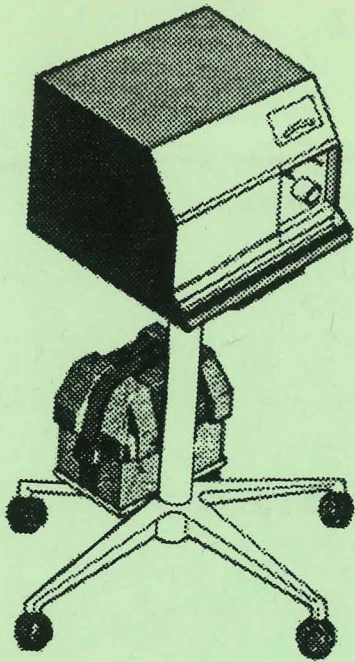
Bear® 33 volume ventilator

Emerson In-Exsufflator cough machine

Olympic Trach-Talk™ & Olympic Trach-Button™

The Passy-Muir Tracheostomy & Ventilator speaking valve

- We appreciate the cooperation and support from these companies who generously provided illustrative materials for the manual at our request .



Various Methods to Set-up the Small Portable Home Ventilator:

Some examples of how people set-up their ventilator for convenient use and to allow mobility out of the home: stationary at home when sitting up, or at the bedside; on a pedestal with wheels; and on a wheelchair or a cart.

Note: When a portable ventilator is mounted on a wheelchair or a cart, with an external battery, care should be taken so that the ventilator is not placed too near to a lead acid battery. The ventilator could be damaged by fumes from charging the lead acid battery. On a wheelchair the ventilator should be mounted above the rear wheels using a tray designed for this purpose that protects it from debris from the floor as well as from damage by battery fluids that may leak or boil over. The marine gel cell 12 volt battery is safer; fumes and fluid leaks are less likely.

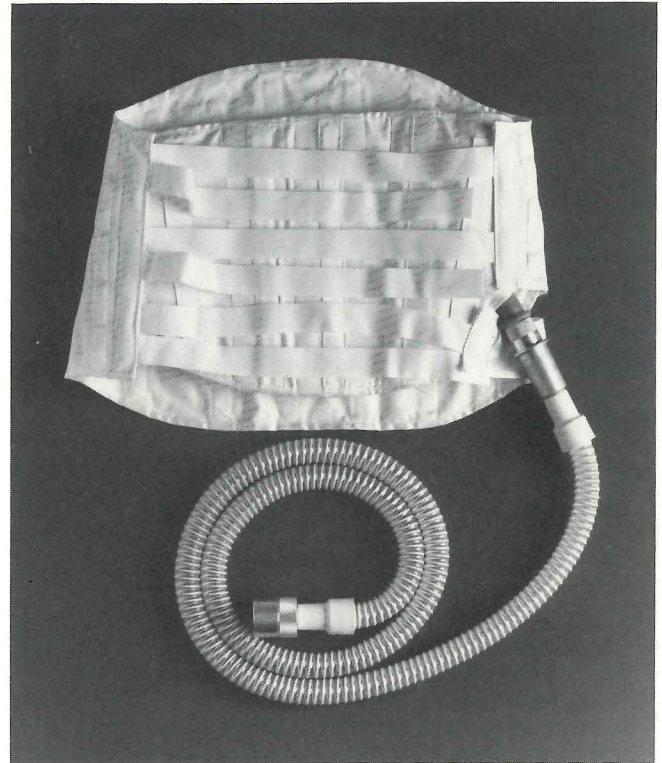
Artificial Breathing by forced diaphragm exhalation

The pneumobelt is an exsufflation belt used in diaphragm-displacement type breathing action. Inside the comfortable supporting girdle is a bladder which, when inflated, depresses the abdomen so the diaphragm rises and exhalation occurs. As the pneumobelt-bladder deflates, the diaphragm falls and inspiration follows. The pneumobelt is most effective when the patient is in a vertical or near vertical position, although some patients are ventilated adequately at 25° to 45° degrees to the horizontal.

The pneumobelt can be worn comfortably under clothing to avoid conspicuous or cumbersome restrictive apparatus. The entire upper body is free for muscular rehabilitation.

The pneumobelt bladder has a useful life of up to 12 months depending upon the pressures used, the orientation of the corset concerning abrasion on its bladder, and the type of atmosphere and temperature in which it is used. Bladders should be stored in a black polyethylene bag large enough so the bladder can lie flat. This package should be placed flat in a cardboard carton. Air pollution, ozone, sunlight or heat can shorten the bladder's life to a few weeks. Use of pressures in excess of 35 cm water will also shorten the useful life of the bladder.

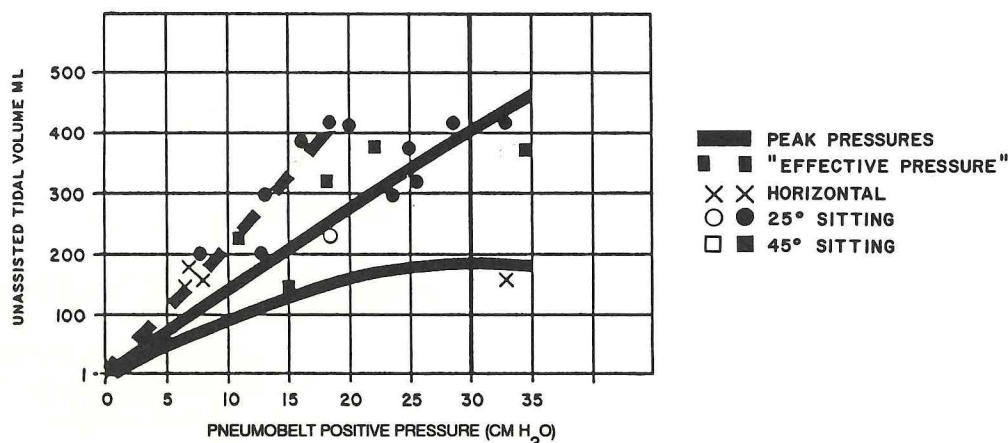
Pneumobelt

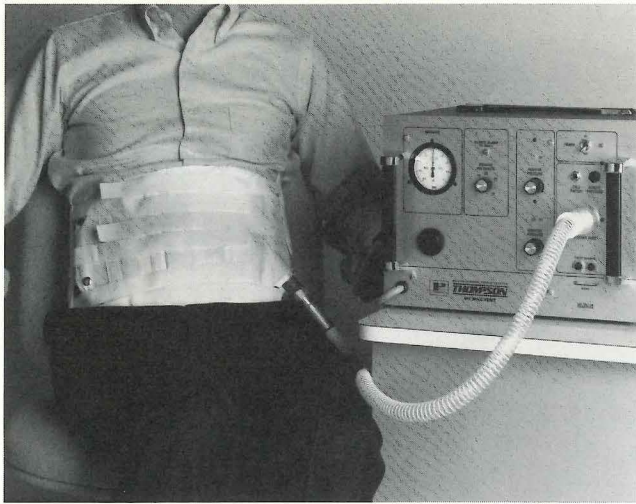


Patient Application of the Pneumobelt

1. The front section of the pneumobelt containing the bladder is placed over the abdomen just high enough to cover the lower ribs.
2. Center the back of the pneumobelt on the patient. Attach the velcro straps so that the belt with bladder deflated will be just tight enough to prevent undesirable shifting of the pneumobelt. If the pneumobelt is too tight or too loose, a loss of efficiency in artificial respiration results. Try the belt at several adjustments for the best fit.
3. Check the patient's respirated volume to ensure adequate patient ventilation. Be sure the pneumobelt connector is inserted fully into the hose connector so that it will not pull out easily. The stiffening stays in the pneumobelt may annoy the patient. If so they can be partially or completely removed.

Typical Expired Volume In Relation To Intra-bladder Pressure In The Pneumobelt





Pneumobelt Installation and Care

The pneumobelt bladder is made of high grade surgical type rubber which is durable and resists tears and cracking. It should be placed into service when received to obtain the longest life.

This bladder is made in a single piece to help eliminate leaks. The rounded edge has folds or bellows to allow easier expansion of the bladder. This should improve the bladder life since the edge does not have to stretch as much for the same amount of ventilation. The ease of expansion also means you can get better breathing action with the same or less pressure from your respirator. This, in turn, means longer service life from your equipment.

When placing the bladder in the pneumobelt corset, be sure that it is smooth without wrinkles. To obtain the best breathing action at the lowest pressure and for longest equipment life, be sure that you are using the proper size pneumobelt and that it is adjusted as snugly as possible while still being comfortable. The corset should be smooth under the straps. Be sure that the bladder does not have any wrinkles or creases as the straps are tightened. Experience shows that most premature bladder leaks occur where there are wrinkles and creases. It is important for proper inflation and deflation of the bladder that the hose be positioned to avoid any kinking which restricts air flow to and from the pneumobelt. Careful adjustment of the pneumobelt should eliminate wear from the corset and bladder rubbing back and forth on clothing or anything else that will abrade it.

Generally, it is recommended that the pneumobelt be placed so that it overlaps the rib cage only a small amount and does not restrict the rib cage from moving thereby reducing the effectiveness of the pneumobelt. Consult your doctor or respiratory therapist if you have questions regarding proper fit, adjustment and ventilation with a pneumobelt.

Small air leaks in the bladder can be repaired with bicycle tire patches. However, when repairs occur more frequently than every three months or require higher respirator settings to produce the desired ven-

tilation, the bladder should be replaced. The expected life of the pneumobelt bladder is up to 12 months under the conditions described above. Bladder life generally decreases as pressure increases and also as the breathing rate increases.

Ordering Information

How To Order The Correct Size Pneumobelt

Waist up to 27" - Small

Waist 27-34" Medium

Waist over 35" - Large

- | | | |
|--------|---|---|
| T10713 | — | Pneumobelt w/Bladder, Small (waist sizes up to 27") |
| T10714 | — | Pneumobelt w/Bladder, Medium (waist sizes 27" to 34") |
| T10715 | — | Pneumobelt w/Bladder, Large (waist sizes 35" and up) |
| T10716 | — | Pneumobelt replacement Bladder, Small |
| T10717 | — | Pneumobelt replacement Bladder, Medium |
| T10718 | — | Pneumobelt replacement Bladder, Large |
| T10759 | — | Pneumobelt Hose, for MV Maxivent (1.3" Connection) |
| T11365 | — | Pneumobelt Hose, for M25B (22mm Connection) |

**PB PURITAN
BENNETT**

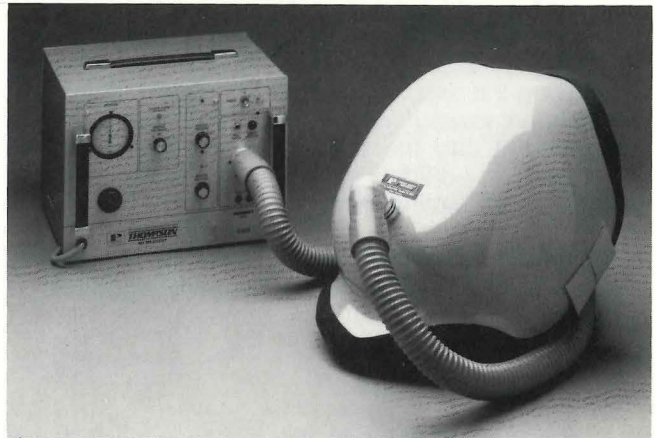
PORTABLE VENTILATOR DIVISION
4865 STERLING DRIVE BOULDER CO. 80301
AC 800-248-8833 303-443-3350

Features

For the MAXIVENT Negative Pressure Ventilator

- Strong, laminated fiberglass shell is flexible to insure seal against body.
- Universal hose connector offers three positions and fits most negative pressure respirators.
- Velcro straps and fasteners allow infinite variation in strap positions and total adjustment for patient comfort.
- Many sizes are available so that the best possible fit may be found for each patient.

"Turtle" Chest Shell



Turtle Shell						
TURTLE SHELL Size	A. Overall Length	B. WIDTH			C. Total Depth	D. Cavity Depth
		Est. Min	Normal	Est. Max.		
20	11 1/2"	3"	4"	7"	6"	2 1/2"
25	13 1/2"	4"	5"	8 1/2"	6 1/2"	3"
30	15"	4"	6"	9 1/2"	7 1/2"	4"
35	15 1/2"	4"	6 3/4"	9 1/2"	7 1/2"	4"
35D	15 1/2"	4"	6 3/4"	9 1/2"	9"	5 1/2"
40	16"	6"	8"	10"	8"	4"
40D	16"	6"	8"	10"	9 1/2"	5 1/2"
40DXL	19"	6"	8"	10"	9 1/2"	5 1/2"
40L	17 1/2"	6"	8"	10"	8"	4"
40XL	19"	6"	8"	10"	8"	4"
45	17"	7"	10"	13"	9"	4 1/4"
45D	17"	7"	10"	13"	10 1/2"	5 3/4"
45DL	18 1/2"	7"	10"	13"	10 1/2"	5 3/4"
45DXXL	21 1/2"	7"	10"	13"	10 1/2"	5 3/4"
45L	18 1/2"	7"	10"	13"	9"	4 1/4"
50	18"	8"	11"	15"	9"	4 1/2"
50D	18"	8"	11"	15"	10 1/2"	6"
55	19"	9"	11"	15"	10"	4 1/2"
55D	19"	9"	11"	15"	12"	6"
55XD	19"	9"	11"	15"	12"	8"
55XL	21"	9"	11"	15"	10"	5"
60	20"	9"	11 1/2"	14"	10"	4 3/4"
60D	20"	9"	11 1/2"	14"	11 1/2"	6 1/4"
60XD	20"	9"	12"	14"	13"	8"
65	21"	10"	12 1/2"	15"	11"	6"
65D	21"	10"	12 1/2"	15"	13"	8"

See measuring instructions on other side

How To Select The Correct Size Turtle Chest Shell

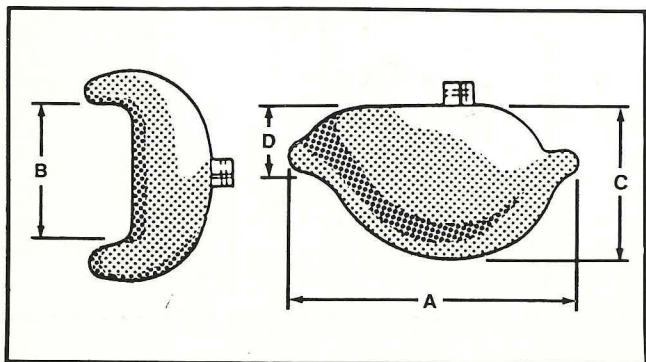
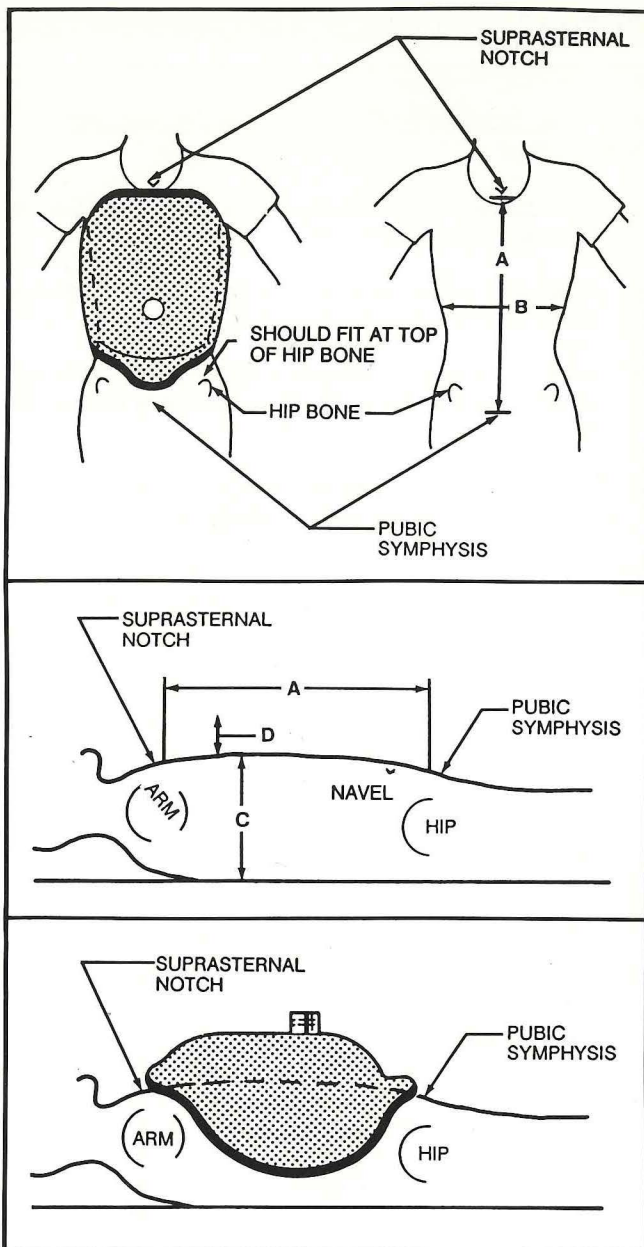
Select the largest Turtle Shell which will fit the patient comfortably, noting particularly that the topmost part of the shell rests on the collar bone area and the lower sides fit comfortably around the top of the hip bone area. The flexibility of the shell permits considerable leeway across the rib cage.

The shell should fit comfortably around the shoulders and permit free arm movement. Using a shell too small will produce a reverse effect on the rib cage (opposing the expansion of the rib cage). If the shell is too short, lower diaphragm and abdomen action will be retarded and the patient will not be adequately ventilated. In addition, the shell will be uncomfortable and cause abdominal pain.

Velcro straps are attached and may be adjusted as necessary for breathing action and patient comfort.

With patient horizontal:

- A. Measure straight line distance from suprasternal notch (indentation in the middle of the neck just above collar bone) to pubic symphysis (3 1/2" below navel).
- B. Measure distance across patient halfway between the armpit and hipbone area. Do not measure around entire waist or the sides of the body.
- C. Put a yardstick across the patient's breast bone at its fullest point. Measure distance from bed up to stick (to indicate total depth).
- D. If the patient has a deformed or unusually deep chest (including large-busted females), this must be indicated when ordering shell so that the cavity depth will be adequate.
- E. Provide height, weight, age, and sex of patient.
- F. If the patient has any scoliosis to left or right or front to back, this should be indicated. Also, any deformed areas where the collar of the shell will rest.



Ordering Information

Turtle Chest Shell

T10562

Turtle Shell-Numerous sizes available for the MV Maxivent

T10722

Hose for chest shell



PURITAN-BENNETT CORPORATION

PURITAN GROUP
PORTABLE VENTILATOR DIVISION
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