

# PneumaticWalker™ Diabetic System



pneumatic (01PD-M, 01PD-MXW, 01PD-L, 01PD-LXW, 01PD-XL)

The PneumaticWalker Diabetic System provides pneumatic support for a "total contact" fit.

## The PneumaticWalker Diabetic System features:

- Multi-aircell support for a "total contact" fit
- Rocker sole for reduction of plantar pressures (Fig. 2)
- Graduated aircell compression for edema control (Fig. 1)
- Regulated aircell inflation with hand bulb pressure gauge
- Semi-rigid shell combined with full aircell coverage to:
  - maximize plantar unloading
  - regulate shear stress
  - provide protection and immobilization

## OPERATION

The PneumaticWalker Diabetic System is applied and the aircells are inflated in sequence (see instructions). The proximal aircell overlaps the distal, providing a gap-free pressure gradient. When walking, the air-cells provide pulsating, graduated compression that helps to control edema and offers exceptional support and comfort (Fig. 1).

## CLINICAL EXPERIENCE

Aircast pioneered the use of the pneumatics in functional splints.<sup>4,5</sup> The effectiveness of the PneumaticWalker in reducing plantar pressures has been documented in numerous studies. "The authors recorded the greatest average reduction in peak forefoot pressures with the Aircast [PneumaticWalker]".<sup>1</sup> When unweighting of the plantar foot and equalization of plantar foot pressures were compared in a total contact cast and the Aircast PneumaticWalker, the results supported the recommendation to use the PneumaticWalker "as an alternative to total contact casting to unweight the foot in the treatment of neuropathic ulceration."<sup>2</sup> (Fig. 2)

"PneumaticWalkers, which have air bladders in the [semi] rigid shell, can give a contact fit and reduce edema and shear forces... [they] immobilize the leg like a contact cast, but can be removed to allow clinicians and patients to evaluate wounds".<sup>3</sup>

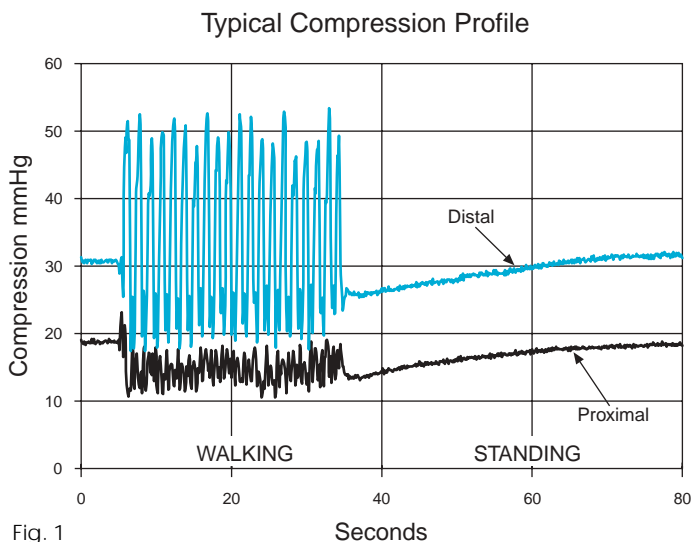


Fig. 1

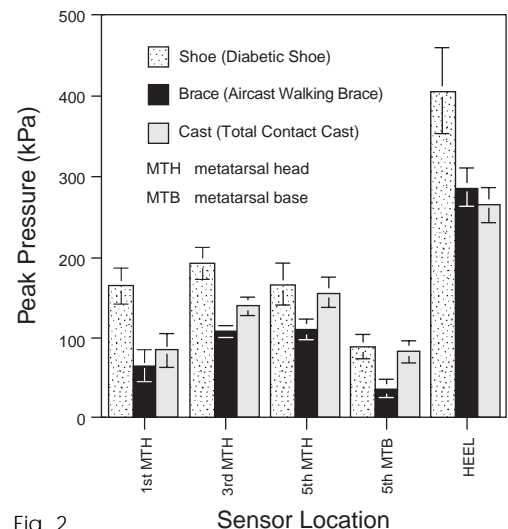


Fig. 2

# PneumaticWalker™ Diabetic System (01PD-M, 01PD-MXW, 01PD-L, 01PD-LXW, 01PD-XL)

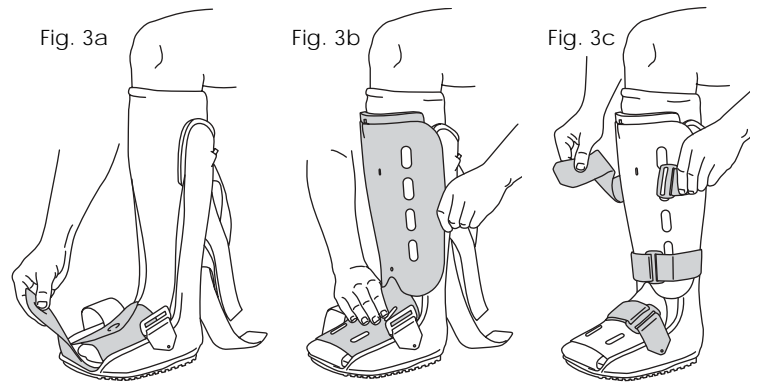
## Instructions:

### 1 Prepare brace

- Unfasten straps, remove front panel, and open foot flaps and toe cover.
- Put on stocking.

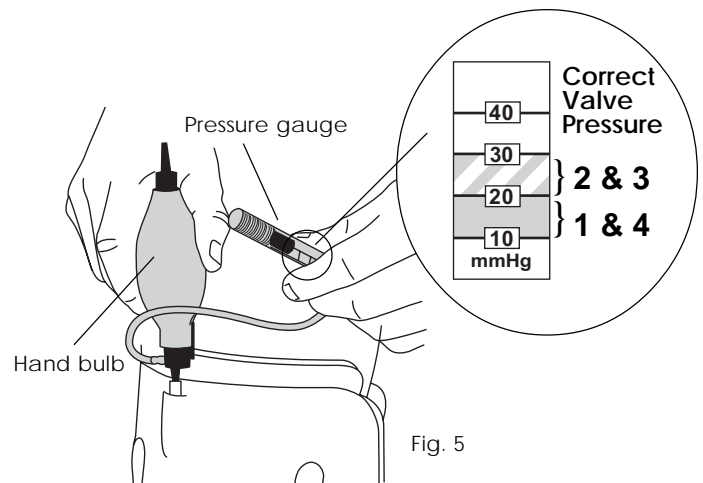
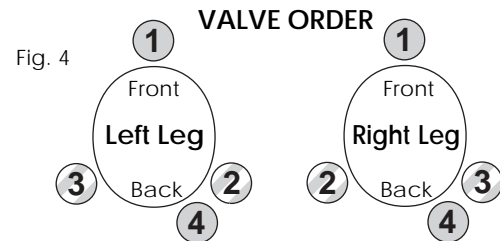
### 2 Apply brace

- While sitting, place leg in brace and place foot flat on insole with heel in back of brace (Fig. 3a).
- Smooth wrinkles in stocking and aircells.
- Wrap foot flaps over foot and toe cover around toes.
- Replace front panel: the lower part inside brace, upper part outside brace (Fig. 3b).
- Secure straps from bottom to top until snug (Fig. 3c).



### 3 Inflate aircells in correct order

- Look at **Valve Order** for appropriate leg and location of valve number one (Fig. 4).
- Firmly insert "inflate" tip of hand bulb into valve one.
- Squeeze hand bulb until the **bottom edge** of indicator is above the blue stripes (over 30) (Fig. 5).
- With bulb still in valve, stop squeezing and indicator will slowly fall (Fig. 5).
- Look at **Correct Valve Pressure** and find the area that has the same number as the valve that is being inflated.
- Remove hand bulb from valve when the **bottom edge** of the indicator falls within desired area.
- Repeat for valves two, three, and four.



Aircell compression should be checked with the pressure gauge whenever brace is adjusted and/or straps are tightened or loosened.

#### AIRCCELL DEFLATION

Aircells can be deflated by firmly inserting the "deflate" tip of the hand bulb into valve and squeezing bulb.

#### REPLACEMENT INSOLES AND STOCKINGS

The brace insole and stocking should be replaced in conjunction with and/or on the advice of a medical professional. Additional stockings and insoles are available in the Diabetic Replacement Kit (01R-M-MXW, 01R-L-LXW, 01R-XL).

#### ATTENTION

To prevent accidental abrasion, pull the top of the sock down over valves after inflation.

#### CAUTION

Federal law restricts this device to sale by or on the order of a licensed healthcare professional.

#### WARNING

Do not overinflate aircells. Improper aircell inflation may cause significant skin irritation in patients with diabetic neuropathy. Reduce aircell compression with any visual skin changes or reported discomfort. Do not use this device on patients incapable of communicating physical discomfort.

#### REFERENCES

1. Glod DJ, Fetting P, Gibbons RW: A Comparison of Weightbearing Pressures in Various Postoperative Devices. *J Foot and Ankle Surg* 35(2): 149-154, 1996
2. Baumhauer JF, Wervey R, McWilliams J, et al: A Comparison Study of Plantar Foot Pressure in a Standardized Shoe, Total Contact Cast and Prefabricated Pneumatic Walking Brace. *Foot and Ankle Int* 18(1): 26-33, 1997
3. Myerly SM, Stavosky JW: An Alternative Method for Reducing Plantar Pressure in Neuropathic Ulcers. *Adv Wound Care* 10(1): 26-29, 1997
4. Stover CN, York JM: Aircast/Air-Stirrup System for Graduated Management of Lower Extremity Injuries. Scientific Exhibit Paper, AAOS, San Francisco, 1979
5. Hubenet BJ: Aircast (Walking Brace). New England Orthopedic Society Meeting, 1975

US PATENTS: 3,955,565 5,577,998 AND OTHER PATENTS PENDING

#### PRESSURE GAUGE ACCURACY

Pressure Gauge accuracy is  $\pm 20\%$ .

#### LATEX

All Aircast products are latex-free.

#### WARRANTY POLICY

**Satisfaction**—Aircast will provide prompt refund for any product that does not satisfy the physician for any reason whatsoever.

**Durability**—Aircast braces are designed to last for as long as required by the original patient. Aircast may, at its discretion, furnish a replacement for any part that becomes unserviceable from normal use during this time, provided the defective part is returned to Aircast for analysis.

**AIRCAST**  
INCORPORATED

P.O. Box 709  
Summit, NJ/USA 07902-0709  
(908) 273-6349

**800-526-8785**

Fax (800) 457-4221

Fax (908) 273-1060

www.aircast.com

**CE** R 12/12/01  
0123 01P128M  
0123 0134