



# Virtuoso<sup>®</sup> Series 2

For patients who need more and carers who demand the best



virtuoso



## EFFECTIVE, PROVEN PREVENTION AND THERAPY

Effective & proven pressure ulcer prevention and therapy for the highest risk patients in all nursing environments.

## SAFETY OF CARE

Patient and carer safety are key factors in this system design. Virtuoso provides many features specifically to enhance the safety of all who come into contact with this product.

## OPTIMISATION OF CARE

The Virtuoso mattress system has been designed to meet the most demanding of your nursing needs when caring for very high risk patients. Its special features and options create a flexible 24 hour care package that makes it a product of choice for Intensive & high dependency nursing.

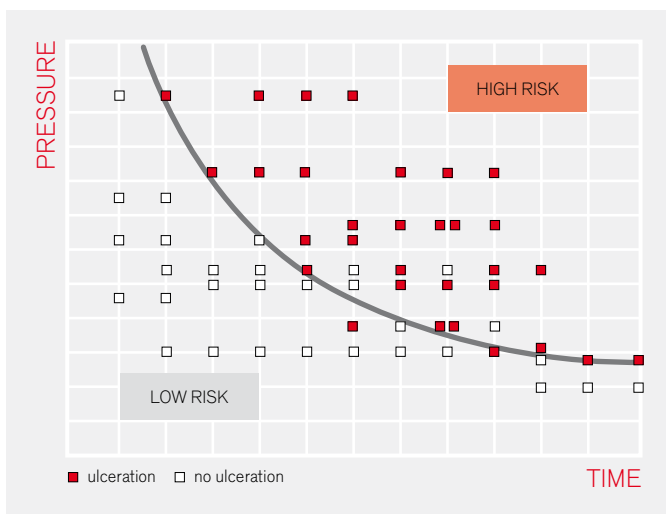
## EFFORTLESS PERFORMANCE OF SERVICE

Based on many years of experience supporting mattresses in different healthcare settings worldwide, we have developed our service features to make your engineers life easier and keep repair costs down.



# Effective, proven prevention & therapy

Virtuoso with 3 cell technology provides the benefits of “**Zero Pressure**” for maximum prevention and “Regular application and removal of pressure” for maximum therapy. The 7.5 minute cell cycle simulates the body’s normal response to pressure for natural protection.



[01]

## [01] ZERO PRESSURE

Kosiak<sup>1</sup> studied the link between pressure and time and showed that even very low pressure when being unrelieved will over a long period of time lead to tissue damage. He concluded that since it is impossible to completely eliminate all pressure for a long period of time, it becomes imperative that the pressure be completely eliminated at frequent intervals in order to allow circulation to the ischaemic tissues.



[02]

## [02] REGULAR APPLICATION AND REMOVAL OF PRESSURE

The innovative design and construction of the connected air cells allows effective removal and application of pressure. This has been proven to increase the therapeutic effect of the system and promotes accelerated wound healing<sup>2,3</sup>.

## REFERENCES

- 1 Kosiak, M., Etiology of pressure ulcers. Archives Physical Medicine and Rehabilitation. 1961; 5: 19–29.
- 2 West, J. et al. The effect of a unique alternating pressure mattress on tissue perfusion and temperature. Presented at the European Tissue Repair Society Conference 1995
- 3 Gunter, R.A. and Clark M. The effect of a dynamic pressure redistribution bed support surface upon systemic lymph flow and composition. Trend of Tissue Usability 10(3):10–15.

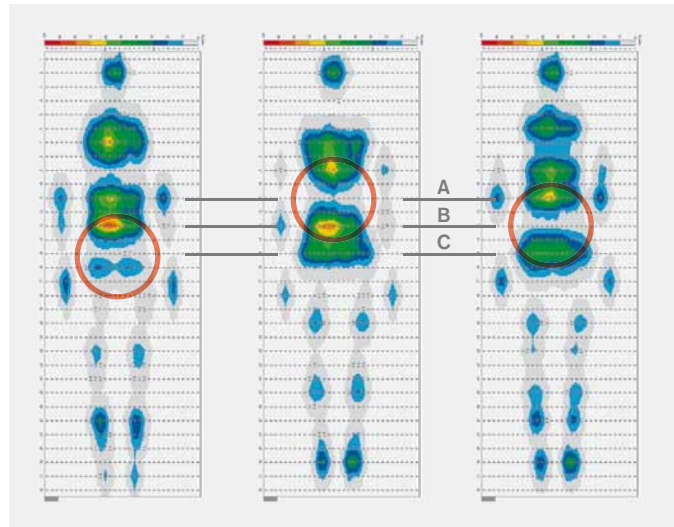
Effectiveness of an active system is a key issue in dealing with pressure sores. Carers should be well aware of what equipment they are using and should put their patient solely on proven therapy products.

[03] 3 CELL TECHNOLOGY [A, B, C]

The patient body weight is distributed onto two thirds of the surface thus allowing the mattress to be soft and comfortable without compromising its clinical outcome. Moreover, since only one third of the surface is active at a time (inflating/deflating) it provides optimum stable support to the body enabling maximum pressure relief to be achieved.

7.5 MINUTE CYCLE

Exton-Smith and Sherwin studied number of movements in healthy subjects while sleeping in order to find out what is the natural body behavior<sup>4</sup>. They found out that none of the patients who moved more than 56 times during the night developed tissue damage. This frequency is equivalent to about one movement each 7,5 minutes.

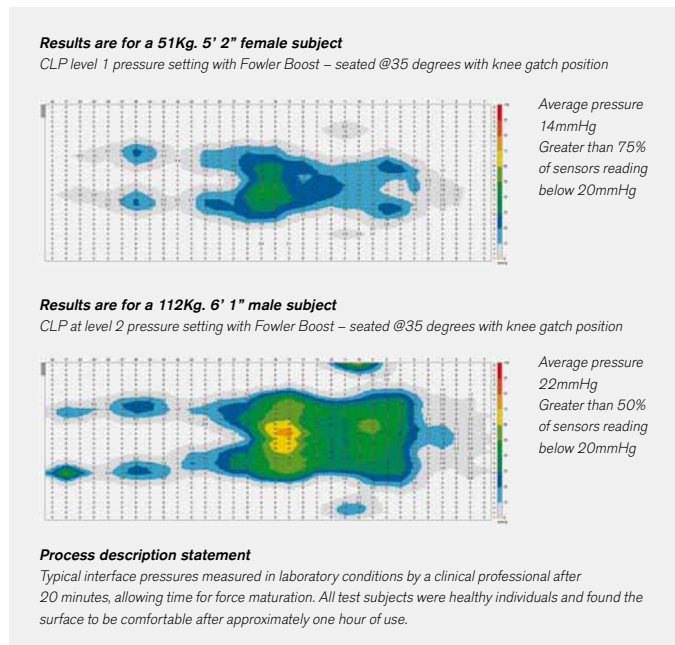


[03] "Zero Pressure" 3 cell [A, B, C] cycle

[04] CONSTANT LOW PRESSURE

Automatically maintains the selected pressure regardless of changes in the patients weight distribution or position to achieve constantly good levels of pressure redistribution.

The use of active pressure redistribution products, such as CLP, is recommended for use for patients at higher risk of pressure ulcer development where frequent manual repositioning is not possible and is supported by direct scientific evidence from properly designed and implemented clinical studies<sup>5</sup>.



[04] Constant Low Pressure (CLP)

4 Exton-Smith, AN, Sherwin RW. The prevention of pressure ulcers: significance of spontaneous bodily movements. Lancet. 1961; 2: 1124–1126.  
 5 EPUAP and NPUAP Prevention and treatment of pressure ulcers: Quick reference guide 2009.

# Safety of care

Patient and carer safety are key factors in this system design. Virtuoso provides many features specifically to enhance the safety of all who come into contact with this product.



## [01] **CARDIO PULMONARY RESUSCITATION (CPR)**

Operated by one hand, CPR enables rapid deflation for emergency situations and is accompanied by visual and audio alarms to prevent inadvertent use.



[01]

## [02] **CABLE MANAGEMENT**

Easy to use cable management system eliminates tripping hazard for staff and visitors. Also reduced potential power cable damage increases equipment availability and decreases repair costs.



[02]

## [03] **AIR FILLED SIDE FORMERS**

Full length air filled side formers for improved patient & carer safety & security both in and while getting out of bed.



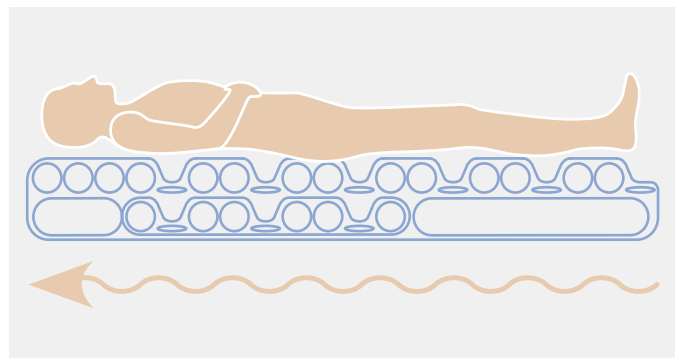
[03]

## **WATER PROOF AND VAPOUR PERMEABLE COVER**

Two way stretchable Dartex cover is fully water proof and vapour permeable. Prevents the infection control risk from fluid being absorbed into the mattress surface . Also reduces the risk of skin maceration due to liquid absorption and patient perspiration.

## [04] **WAVE ACTION**

Three cell inflation cycle working from the foot to the head of the mattress helps prevent the patient from sliding down in bed and requiring nursing assistance to reposition.



[04]

## **GO BUTTON**

Locks out controls when they have not been used for 3 minutes lowering the chance of human errors and accidental operation.

## **AUTOMATIC PRESSURE ADJUSTMENT**

Fully automatic cell adjustment ensures optimum patient protection and easy system installation.

# Virtuoso® System Control Unit

HANDLING AND OPERATING THE SYSTEM | The Virtuoso® System Control Unit (SCU) is designed with ergonomics and ease of handling in mind. It is easy to carry and easy to mount on the bed. The unique air connector socket is approached easily from above reflecting the natural carer's posture. Simple to use front panel controls with their clear graphical symbols make operation easy to learn and remember.



## [01] ALTERNATING PRESSURE THERAPY (APT) MODE

Once turned on, the mattress automatically switches to alternating mode and adjusts the pressure inside mattress according to each individual patient's weight and position for their optimum pressure relief.

## [02] RAISED BACKREST INDICATOR

Virtuoso® specifically adjusts its internal air pressure if the backrest is raised or lowered in order to respond to more or less intense loading of the pelvic area.

## [03] MAX INFLATE

Provides firm and steady surface for various nursing procedures like wound cleaning,

changing linen etc. It is equipped with an automatic safety time out to return the system to alternating mode after half an hour.

## [04] CONSTANT LOW PRESSURE (CLP) MODE

Five different settings enable the caregiver to select the best level for their patient based on their clinical judgment taking into consideration the physiological factors, BMI, body position, weight and their psychosocial needs. The SCU automatically maintains the selected pressure regardless of changes in the patient's weight distribution or position. This achieves constant good levels of pressure redistribution. The smooth pressure adjustment cycle is designed for patient comfort with

2-stage reaction levels, allowing for large pressure changes caused by any sudden extreme increases in the mattress loading.

## [05] "GO" BUTTON

The "GO" button concept with its 3 minute time out when control have not been used lower the chance of human errors and allow the nurses to concentrate on delivery of care to the patient.

## [06] CUSHION MODE INDICATOR

A visual indication on the front panel confirms to the carer that cushion has been successfully connected.

# Optimisation of care

The Virtuoso mattress system has been designed to meet the most demanding of your nursing needs when caring for very high risk patients.

## [01] 4 WORKING MODES – OPTIMISING CARE

ALTERNATING PRESSURE THERAPY is the basic therapeutic mode simulating the natural movement of a patient and thereby helping prevent and treat pressure ulcers.

MAX INFLATE presents firm and stable support for patient care. After 30 minutes it automatically switches to the alternating mode to prevent the risk of pressure ulcers.

CONSTANT LOW PRESURE automatically maintains the selected pressure regardless of changes in the patient's weight distribution or position to achieve constant good levels of pressure redistribution.

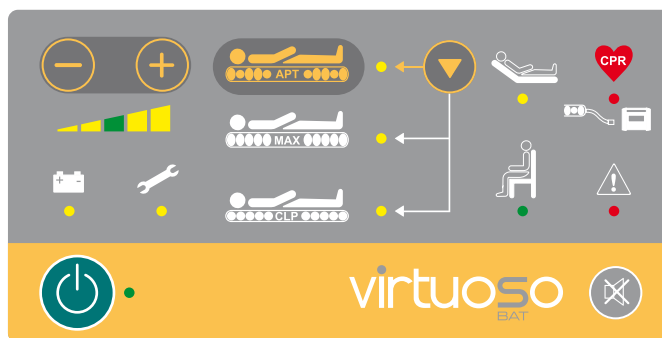
TRANSPORT MODE facilitates the transport of the patient in the bed as the mattress remains inflated for 24 hours when disconnected from the SCU.

## [02] INNOVATIVE DOUBLE AIR DECK

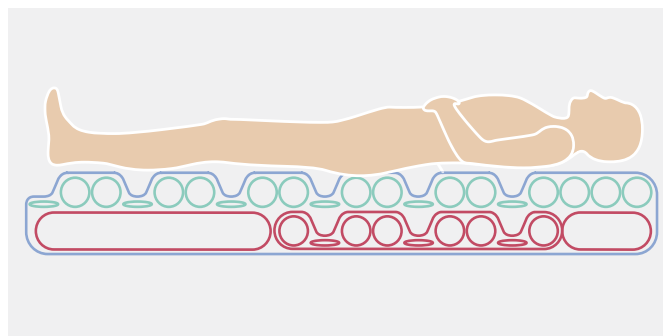
The innovative double air deck construction and fully integrated cell structure of the Virtuoso provides superior pressure care performance for patients weighing up to 254 kg.

## [03] DYNAMIC CUSHION – 24 HOUR CARE

The optional alternating pressure dynamic seat cushion facilitates 24 hour care. Uses the same System Control Unit (SCU) as the mattress. SCU automatically changes to cushion mode when cushion connected, no manual adjustment required.



[01] 4 working modes



[02] Innovative double air deck



[03] Dynamic cushion – 24 hour care



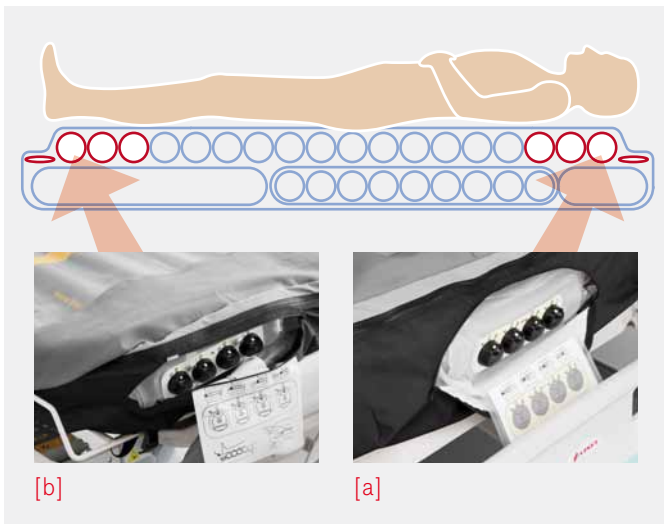
Its special features and options create a flexible 24 hour care package that makes it a product of choice for Intensive & high dependency nursing.



[04] Battery back up option

[04] **BATTERY BACK UP OPTION**

Easy to use battery back up feature provides active therapy while moving the patient's bed & safety in case of loss of power.



[05a, b] Head and Heel Zoner option

[05a] **HEAD ZONER OPTION**

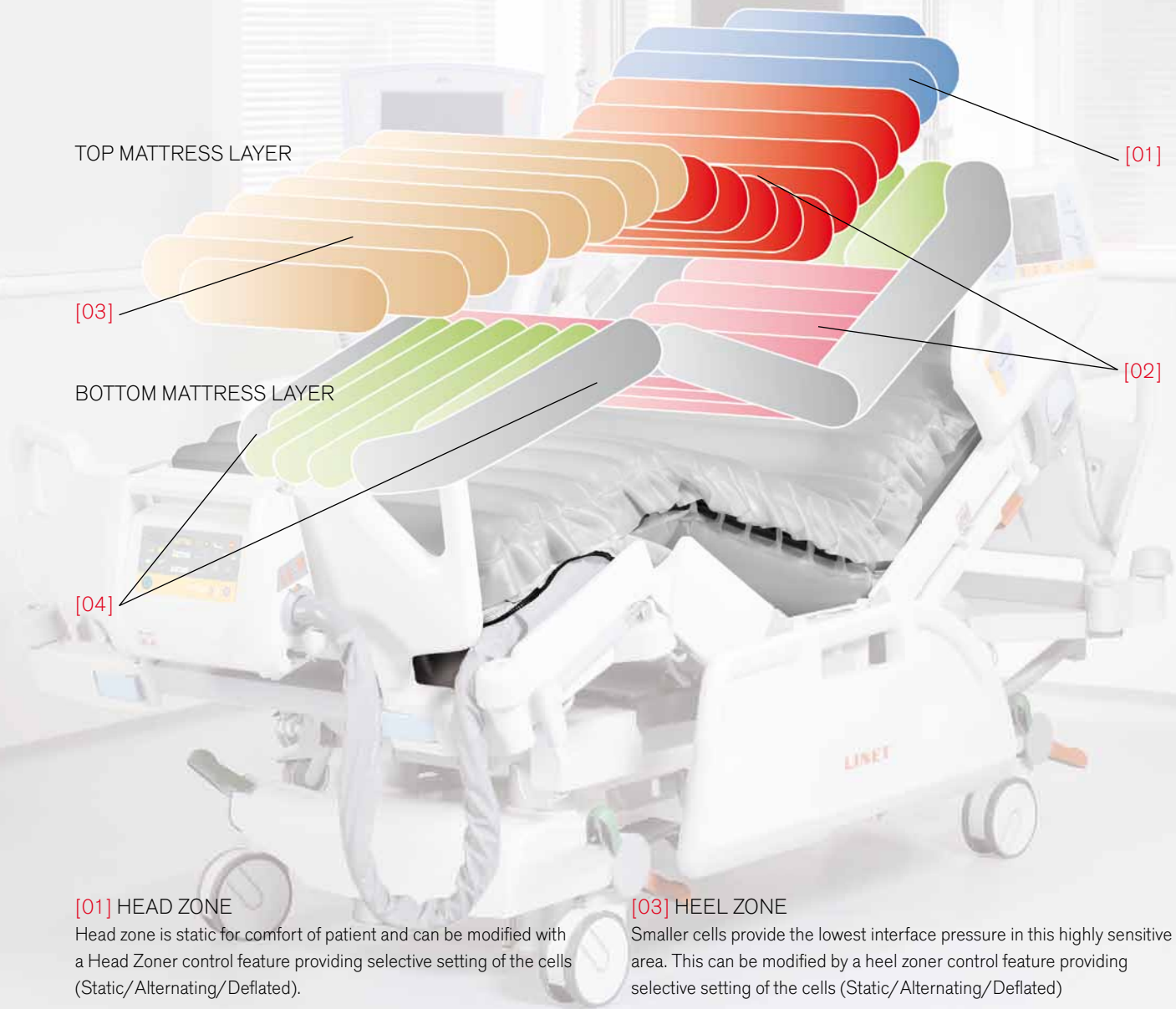
Provides choice of alternating or Static modes to best suit the needs of your patient. Also cell deflation function aides with specialist or day to day procedures such as intubation or hair washing.

[05b] **HEEL ZONER OPTION**

Selective deflation feature to maximise pressure elimination in the very risk area of the patients heels. Also aides with muscle flexing to help prevent 'heel drop' in highly immobile patients.

# Virtuoso® Working Zones

**SURFACE ZONING** | The Virtuoso® top deck modules are designed to create specific zones addressing the needs of different parts of the patient's body.



**[01] HEAD ZONE**  
Head zone is static for comfort of patient and can be modified with a Head Zoner control feature providing selective setting of the cells (Static/Alternating/Deflated).

**[03] HEEL ZONE**  
Smaller cells provide the lowest interface pressure in this highly sensitive area. This can be modified by a heel zoner control feature providing selective setting of the cells (Static/Alternating/Deflated)

**[02] TORSO ZONE**  
The active therapy is maximised by simultaneously alternating both lower and top deck cells.

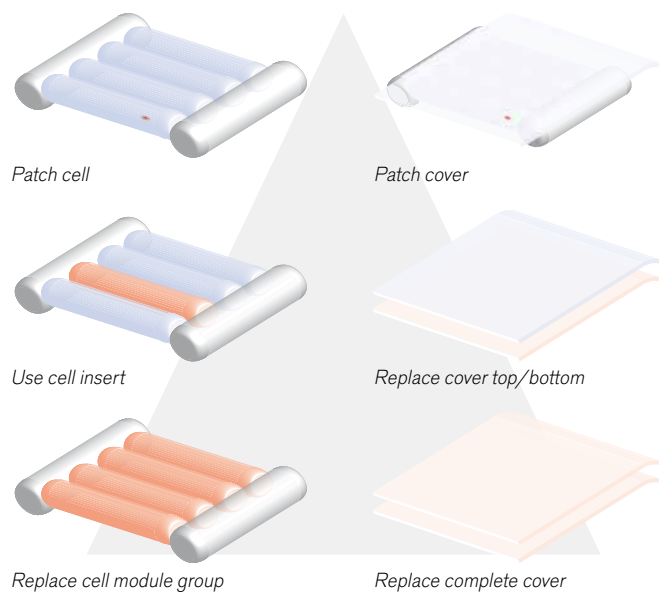
**[04] INTEGRATED SIDEFORMERS**  
Sideformers create a firm mattress edge to give a stable surface for patient transfer. Moreover, they increase the patient's feeling of security by cradling them when laying down.

# Effortless performance of Service

Based on many years of experience supporting mattress in different healthcare settings worldwide, we have developed our service features to make your engineers life easier and keep repair costs down.

## [04] REPAIR STRATEGY

Three level repair strategy, patches, single cells or modules, enables cost effective mattress air cell and cover maintenance.



[04] 3 level repair strategy

## [05] SERVICE DATA INTERFACE UNIT (SDIU)

Service Data Interface Unit (SDIU) with infrared connection helps keep maintenance costs and times down to a minimum.

### TECHNICAL PARAMETERS

Mattress dimensions	2040×860×230 mm
Cushion dimensions	450×500×125 mm
SCU dimensions	136×360×290 mm
Max. patient weight	254 kg
Mattress weight (including compressor)	13 kg

### ELECTRICAL PARAMETERS

Feed	220/240 Vac 50 Hz
Electrical safety	EN 60601-1
Protection against electrical current	Class II, Type B



[05]

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and carers who demand the best



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