NEW GENERATION
LOW AIR PRESSURE MOTORISED THERAPEUTIC MATTRESS

Result of SYSTAM Know-How, the XTECH®25 is a concentrate of innovations that combines in the same hybrid product the best motorised and static technologies currently available in the prevention and treatment of bedsores.

INNOVATIVE HYBRID TECHNOLOGY
CROSSOVER TECHNOLOGY: THE BEST OF BOTH WORLDS, STATIC AND MOTORISED

Crossover technology is based on an optimised combination of the two technologies used for the prevention and aid in treatment of bedsores: static and motorised technologies. This combination of technologies enables us to optimise the therapeutic effect while at the same time providing extra comfort for the patient.
AN INTELLIGENT MATTRESS

PATENTED PENETRATION SENSOR

API sensor®

An intelligent mattress that analyses precisely and in real time the patient’s penetration in the mattress.

100% AUTOMATIC CONTROL

This automatic control of the ideal penetration by the patient is achieved by means of the API-SENSOR® penetration sensor (patented technology).

TARGETED OPERATION

INDEPENDENT CONTROL OF THE BODY ZONES

Targeted operation, independently controlled for each of the risk zones. The interface pressure forces are different throughout the body, and especially for the risk zones: the heels and the sacro-gluteal zone. Consequently it is essential to control them independently.

3 LOW PRESSURE TECHNOLOGY MODES

Low pressure technology with the possibility of choosing between 3 automatic modes all using API-SENSOR® technology:

- Continuous automatic low pressure “on demand” mode
- Automatic low pressure micro-alternating mode
- Automatic low pressure alternating mode
THE BEST FEATURES OF STATIC TECHNOLOGY:
THE GOAL OF PENETRATION INTO THE MATTRESS

The XTECH®25 uses the best of static technology: penetration

- The suppleness of the materials enables the patient’s body to penetrate into the mattress.
- This penetration results in an increase in the contact area between the mattress and the patient.
- The result is a spreading of the patient’s weight over a larger number of contact points which has the simple mechanical effect of reducing the pressure at each point, and especially the maximum pressures (P. Max) positioned at the high-risk zones for bedsores.

\[ \text{Penetration} = \text{spreading of pressure} = \text{reduction in risk} \]

A demonstration of the penetration of the body and the homogenous spread of the support zones on a mattress featuring penetration.

THE BEST FEATURES OF MOTORISED TECHNOLOGY:
CONTINUOUS OR ALTERNATING AUTOMATIC LOW PRESSURE

The XTECH®25, also uses the best of motorised technology: Continuous or alternating automatic low pressure

- Differential inflation of the air circuits creates a regular and alternating release of the zones in contact with the mattress. The pressures applied locally vary continuously, thus helping oxygenation of the tissues.
- This alternating action is gentle and controlled by low pressure technology to avoid risks of localised hyper-pressure.
- The inflation level is controlled automatically by means of a penetration sensor.

\[ \text{Alternating inflation} = \text{periodical release of the pressure zones} \]

A demonstration of the principle of alternating pressure zones in an alternating motorised mattress.
THE DOUBLE ADVANTAGE OF XTECH25 CROSSOVER TECHNOLOGY

Hence the XTECH®25 mattress combines, thanks to its hybrid technology, the best of both technologies: penetration and alternating or continuous automatic low pressure.

But this crossover technology also gives rise to another synergy, thanks to the principle of multi-bearing surfaces.

With a view to improving the patient's comfort and favouring support transfer, SYSTAM® made the choice of targeting zones at high risk of bedsores (heels and sacrum), enabling them to benefit from the low-pressure technology (alternating or continuous), while the lower risk zones (thighs, calves and back) are positioned on static areas favouring penetration and absorption of lift.

Hence the multi-bearing surfaces concept, that has long time been at the heart of SYSTAM® development, takes on a new dimension with XTECH®25 by combining static and motorised support areas. In this way it works to spread the pressures away from the high bed sore risk zones (situated over the motorised areas) towards the lower risk zones (situated over the static areas).

*Crossover / Combination of technologies
PATENTED PENETRATION SENSOR

Because every patient is unique

XTECH®25 is equipped with real-time customised automatic control of penetration in the sacro-gluteal zone, thanks to its API-SENSOR®: controlled automatic and continuous penetration of the risk zones, without ever bottoming.

- Whatever the morphology or weight of the patient, the automatic penetration control enables the system to obtain, both in the sitting and lying positions, the ideal penetration level of the sacrum zone, a guarantee that the load is spread to the best advantage.
- The API-SENSOR® acts as an anti-bottoming system, guaranteeing safety of use, even with the bust raised to 45°.
- It adapts to all body weights and all morphologies (no minimum weight, maximum weight 200 kg).
- Instant detection by the API-SENSOR® of changes in position or situation.
- It is the penetration (detected by the API-SENSOR®) that determines the inflation pressure, and not the opposite.

OPTIMUM PENETRATION

Independent of:
- the patient’s morphology,
- the patient’s weight,
- the patient’s position.

The height of the air under the sacrum zone is ideal, constant and controlled.

MOTORISED AIR TECHNOLOGY WITHOUT A PENETRATION SENSOR

No sensor to measure the patient’s penetration: risk of bottoming in the sacro-gluteal zone.
AN INTELLIGENT MATTRESS

A DEMONSTRATION OF THE INTERFACE PRESSURES ON VARIOUS TYPES OF MATTRESS

- Static visco-elastic foam mattress
- Alternating mode motorised air mattress

A DEMONSTRATION OF THE INTERFACE PRESSURES ON THE XTECH25

- Continuous automatic static mode, control "on demand"
- Automatic micro-alternating mode, cycles of 2 x 8 minutes
- Automatic alternating mode, cycles of 2 x 3 minutes

SYSTAM
LOW-PRESSURE TECHNOLOGY AVAILABLE IN 3 MODES

XTECH*25 LOW-PRESSURE TECHNOLOGY PROVIDES A CHOICE OF 3 AUTOMATED MODES:

**CONTINUOUS AUTOMATIC STATIC MODE, CONTROL “ON DEMAND”**
Maximised body contact area

The whole of the therapeutic area remains at continuous low pressure. The 164 pneumatic cells are inflated. XTECH*25 measures the patient’s penetration and automatically adjusts the inflation of the sacro-gluteal zone precisely. The heels zone is managed independently with inflation specially designed for this zone.

Once setting is achieved, the XTECH* 25 goes into sleep mode, thus eliminating all disagreeable noise or visual disturbance, or disturbance caused by movements of the mattress. As soon as any movement or change in position is detected, the XTECH*25 readjusts the settings automatically (ideal when the patient is asleep).

**AUTOMATIC MICRO-ALTERNATING OR ALTERNATING MODE**
Release by penetration and micro-alternating

These 2 modes provide low amplitude alternating of the support points, by successive inflation and deflation of the air circuits in pairs. It is only the cycle duration that differentiates between these 2 alternating low pressure modes.

- **Phase 1** : circuits 1 and 3 are the most inflated
- **Phase 2** : circuits 2 and 4 are the most inflated

In all situations the API-SENSOR® remains predominant in order to avoid any risk of bottoming during the alternating phases, even with the bust raised to 45°. It guarantees a customised setting and an adjustment (one per patient) by monitoring the penetration.

**Automatic micro-alternating mode**
This mode is characterised by gentle alternating of the support points over time. It takes place over a cycle consisting of 2 phases of 6 minutes each, i.e. approximately 12 minutes in total.

**Automatic alternating mode**
This mode is characterised by frequent changes of the support points with short alternating periods. Its cycle duration is approximately 6 minutes (2 phases of 3 minutes each).
2 RISK ZONES CONTROLLED INDIVIDUALLY (heels and sacro-gluteal zones)

The interface pressures are different over the whole of the body area in the lying position, especially in the risk zones: the heels and sacro-gluteal zone. Hence it is essential to control these zones individually.

- 1 sacro-gluteal zone fitted with an API-SENSOR®
- 1 dedicated heels zone
- Each air cells section is designed into two distinct circuits, i.e. 4 air circuits in all.
- 11 cm of air spread over 92 cells under the heels zone and 72 cells under the sacro-gluteal zone.
- A honeycomb layout to obtain the greatest possible pressure spread.

No need for CPR

As the patient's trunk is on a static technology zone that allows cardiac massage at any time, there is no need to deflate the mattress before performing cardiac massage.
**FUNCTIONALITIES**

- **100% automatic.** Simple and easy starting: quick pre-inflation (4 minutes maximum) without accessories such as a quick inflator, followed by self-calibration (~2 minutes). It is simply necessary to position the patient. Because every patient is unique, the automatic penetration management by the API-SENSOR® adapts the inflation to perfection whatever the weight, morphology or position of the patient.

- **3 low pressure modes:**
  - Continuous Automatic Low Pressure "On Demand" Mode
  - Automatic Low Pressure Alternating Mode (Cycle of 2.2 minutes)
  - Automatic Low Pressure Alternating Mode (Cycle of 2.2 minutes)

- **Treatment mode:** provides finer inflation of the cells to facilitate treatment and patient transfer. Can be activated or deactivated manually at any time. Automatic deactivation after 30 minutes.

- **API-SENSOR® indicator:** a fixed green light confirming presence and operation of the penetration sensor (flashing during calibration phases).

- **Keyboard locking/unlocking function.** Manual locking and unlocking.

- **Mains alarm:** automatically triggers in the event of a power cut. The controlled air circuit is then locked, ensuring the autonomy of the mattress for several hours (a minimum of one week, the same as a POLYAIR® cell cushion). The audible alarm, programmed to last one minute, can be deactivated manually.

- **Alarm systems available:** there are several alarm warning lights:
  - Inflation and/or air circuit fault
  - Connector and/or control unit fault
  - API-SENSOR® sensor fault

- **Audible alarms with manual cut-out:** can be deactivated with the noise deactivation key.

- **Transport mode:** automatically activates when the mattress is disconnected. The controlled air circuit is then locked, ensuring mattress autonomy for many hours (a minimum of one week, the same as a POLYAIR® cell cushion).
CONTROL UNIT FEATURES

- Super-silent motor (both acoustic and vibrational) guaranteeing the patient’s acoustic comfort.
- Choice of internal components according to criteria of reliability, durability and longevity.
- Overall the motor is required to work less often when compared to 100% air mattresses:
  - because the air volume in the XTECH 25 mattress is smaller
  - because in the continuous mode, the motor only works “on demand”
  This contributes to extending the lifespan of the components.
- 2 universal hooks for attaching the control unit to most types of bed.
- An adapter is available as an accessory to adapt to beds with thick panels.
- Fitted with an easy access replaceable air filter.

SYSTEM FOR HOLDING THE MAINS PLUG IN PLACE

- Prevents unexpected stoppages of the appliance because of accidental disconnection of the supply cable.

ADAPTER FOR BEDS WITH THICK PANELS

- Available as an accessory.
OVERALL VIEW

MATERIALS

LAXPRENE®
- 11 cm of therapeutic air
- A material specially developed by SYSTAM®
- Totally antiallergic
- Ultra supple and very strong
- Precise-to-measure moulding of the body

MOULDED VISCO-ELASTIC MEMORY FOAM
- 9 cm of very high density (80 kg/m³) visco-elastic memory foam
- A material that is characterised by its capacity to mould the patient’s body precisely and gently, providing a better spread of the support and effective reduction in the pressure applied in bed sore risk zones (PMax).

MOULDED HIGH RESILIENCY (HR) FOAM
- 7 cm of moulded high resiliency high-density (40 kg/m³) foam with mechanical properties (elasticity, lift and longevity) eliminating all risk of patient crushing or collapse of the mattress.
- Raised edges to maintain the patient in the middle of the bed, with a reduction of the lateral height under the sacro-gluteal zone to facilitate transfer and getting out of bed.
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Ref. PXTM/25C2ZAGHI2</th>
<th>XTECH®25 mattress: Low air pressure motorised mattress with control unit, full protective silver cover and internal protection for the visco-elastic element (delivered flat / 2 boxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref. PXTM/25C2ZAGHI2R</td>
<td>XTECH®25 mattress: Low air pressure motorised mattress with control unit, full protective silver cover and internal protection for the visco-elastic element (delivered rolled / 3 boxes)</td>
</tr>
</tbody>
</table>

**User weight**
- No minimum weight. Maximum weight 200 kg.

**Mattress weight**
- Weight of mattress with cover: 20.5 kg. Weight of control unit with cable sleeve: 3.9 kg

**Mattress size**
- 198 x 88 x 18 cm

**Air cell height**
- 11 cm

**Number of air cells**
- Sacral-gluteal zone: 72 cells / heel zone: 92 cells.

**Mattress material**
- **Motorised therapeutic zones (air cells):** Laxprone®
- **Static (foam) therapeutic zones:** polyurethane viscoelastic moulded memory foam, 80 kg/m³.
- **Bottom foam support:** high resiliency (HR) moulded polyurethane foam, 40 kg/m³

**Cover material**
- **Top part:** polyurethane coated polyester (PU), treated with Silver Ag® technology (antibacterial, antimicrobial)
- **Bottom part:** polyurethane coated polyester (PU), antibacterial, antimicrobial and anti-fungus treated.
- **Viscoelastic foam cover (option):** polyurethane coated polyester (PU) (antibacterial, antimicrobial and anti-fungus treated).

**Modes**
- Static automatic “on demand”
- Alternating automatic
- Micro-alternating automatic
- Treatment mode
- Transport mode

**Autonomy in transport mode**
- 1 week minimum

**100% automatic adjustments**
- By sensor according to the patient’s morphology and penetration

**Mattress inflation time**
- 4 minutes maximum + self calibration = 2 minutes (quick inflator not required)

**Cardiac massage / CPR**
- The patient’s trunk, positioned over a static technology zone, allows cardiac massage at any time. It is not necessary to deflate the mattress in advance, hence the absence of CPR.

**Air inlet filter**
- Yes (interchangeable)

**Fault indicator**
- Visual and audible (audible with manual cut-out)

**Supply cable length**
- 5 m + base attachment straps

**Electricity supply**
- 230 V ± 10 %, 50-60 Hz

**Noise level**
- 31 dBA (NF EN ISO 3746 : 2009-11)

**Average power consumption**
- 25 VA

**Protection against electric shocks**
- Class II, type: BF

**Fuses**
- **Mains fuse:** T1A 250V 5x20mm 1500AL
- **Secondary fuse:** T1A 125V 2x7 mm 50AL

**Mattress fire resistance**
- NF EN ISO 597 1 & 2

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**INDICATIONS:**
- Prevention: Up to a very high risk
- Treatment aid: Stages 1 to 4 (inclusive)

**WARRANTY:**
- 2 years against manufacturing faults
- (does not cover faults caused by incorrect use)
A COVER SPECIALLY DESIGNED FOR THE XTECH®25

The XTECH®25 cover is designed for single patient or multi-patient use, satisfying the same requirements in terms of hygiene and the prevention of risks of contamination in both cases.

- A coating of antiallergenic polyurethane on knitted polyester treated with Silver Ag²⁺ technology (antibacterial including MRSA) and antimicrobial.
- Waterproofed bi-extending and very breathable fabric to reduce the effect of ageing.

COMPOSED OF TWO SEPARATE COMPARTMENTS

Upper compartment:
- Covers 5 faces completely.
- Full opening on 4 sides.
- Marking to show the direction of use.

Lower compartment:
- Completely encases the high resilience support.
- Manufacture that maximises the waterproof properties.
- Marking to show the steps for assembling the XTECH®25 and fitting the cover.
- 4 carrying handles.

The cable sleeve cover protects the connectors and keeps them fixed to the inside of the mattress by a dedicated attachment system.

MAINTENANCE / DECONTAMINATION

The XTECH®25 mattress can be dismantled is easily and completely to allow its parts to be cleaned and disinfected.

Decontamination
With a surface disinfectant detergent suitable for medical devices (following the method recommended by the manufacturer).

Cover washing

>> For more information, please refer to maintenance sheet or instructions leaflet.
ACCESSORIES: CARRYING BAGS

“FLAT TRANSPORT” CONFIGURATION (REF: PSACO2)
Containing bag for carrying the mattress flat, plus a bag for the control unit.

- Mattress bag:
  - Tough material, easy to clean / decontaminate.
  - 14 handles for ease of handling
  - 8 castors to facilitate transport.
  - Two sided “dirty / clean” label provided.

- Control unit bag:
  - Specially designed for the XTECH®25 control unit.
  - Attaches to the mattress bag to facilitate carrying.

“ROLLED TRANSPORT” CONFIGURATION (REF: PSACO3)
Containing a bag for carrying the mattress rolled, a carrying bag for the air cells and a bag for the control unit.

- Mattress bag:
  - Tough material, easy to clean / decontaminate
  - 14 handles for ease of handling
  - 8 castors to facilitate transport.
  - Two sided “dirty / clean” label provided.

- Control unit bag:
  - Specially designed for the XTECH®25 control unit.
  - Attaches to the mattress bag to facilitate carrying.

- Air cell element carrying bag:
  - Specially designed for the air cell elements
  - Portfolio design for ease of transport
  - Dedicated pocket for the cable sleeve