

Innovative Air Fluidized Support System

KEISEI LI-7

The Perfect Combination of Japanese Technology, Clinical Effectiveness, and Economic Value



KEISEI MEDICAL INDUSTRIAL CO., LTD.



Challenges in Treating Patients with Extensive Burns

Risk of Pressure Ulcers

High probability of deep necrosis development due to continuous pressure on the skin of immobile patients.

Complexity of Dressing Changes

Extremely high trauma and pain levels during repositioning and turning of patients with damaged skin.

Infection Control

Difficulty in maintaining sterility and high risk of secondary wound infection.

Psychological Stress

Critical levels of persistent pain and lack of basic comfort during long-term bed rest.

KEISEI LI-7: 'Zero-Pressure Treatment' Technology

KEISEI LI-7 (Life Island-7) is a Japanese air-fluidized therapy system for the treatment of severe burns, pressure ulcers, complex wounds, and post-operative rehabilitation.



Technology Core:

Warm airflow passes through a layer of ceramic microspheres, creating a 'floating' effect for the patient and providing ultra-low pressure on tissues. This improves blood circulation, reduces pressure ulcer risk, and promotes wound healing.



International Recognition:

- Complies with **ISO 13485:2016** standard
- **FDA cleared for clinical use**
- KEISEI LI-7 is currently installed in approximately 200 hospitals across Japan



How Fluidization Technology Works



Airflow

A powerful yet gentle compressor forces purified air upwards through a specialized distribution grid.



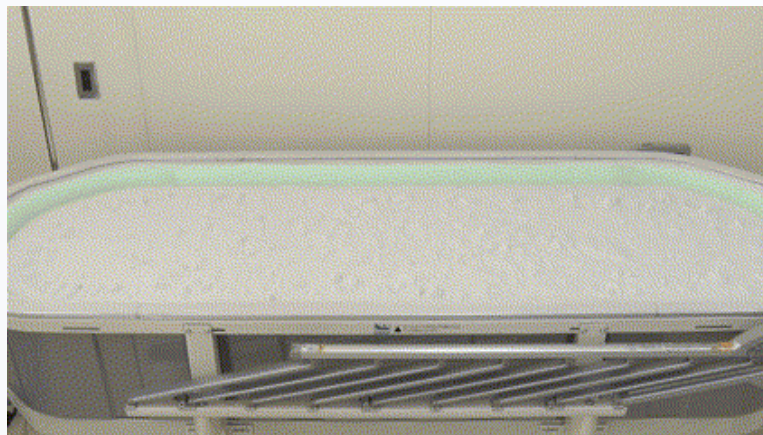
Siliconized Spheres

400 kg of microscopic ceramic microspheres transition into a suspended 'liquid' state under air pressure.



Immersion Effect

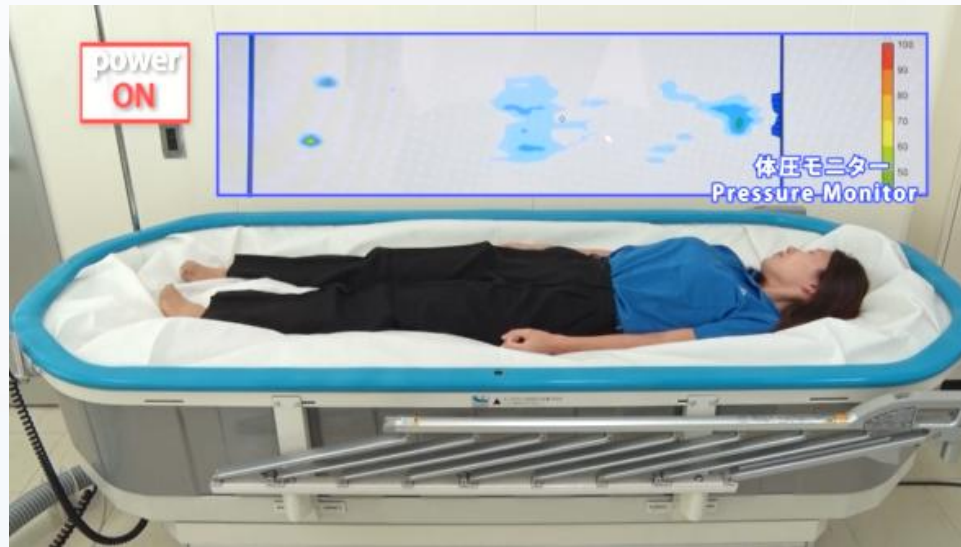
The patient's body gently submerges into the medium. Zero contact pressure and complete contouring of the body are achieved.



Patient Comfort During Treatment and Dressings

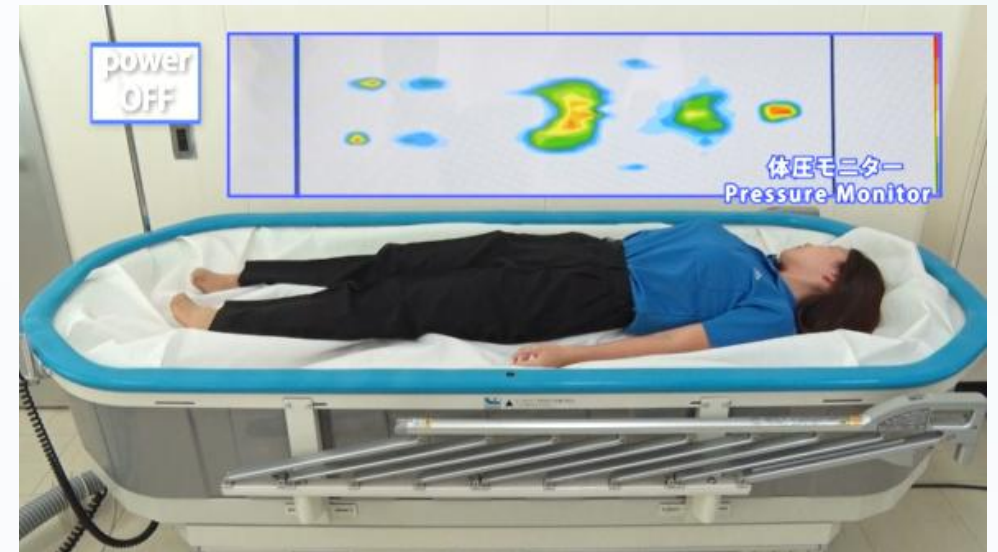
Weightlessness Effect

The patient literally submerges into the microsphere layer, reducing body pressure almost to zero. This prevents pressure ulcers, improves blood circulation, and minimizes pain.



Ideal Access

Access to any part of the body during complex dressing changes is facilitated without causing pain to the patient.



Pressure Ulcer Protection at the Cellular Level

Maintaining Capillary Blood Flow

The contact pressure of KEISEI LI-7 is approximately **10 mmHg**, which is significantly lower than capillary closure pressure (approx. 32 mmHg). For comparison, standard anti-decubitus mattresses exert pressure of 20-30 mmHg.

Uncompromising Prevention

The absence of weight concentration areas prevents tissue ischemia and necrosis. Comatose or critically ill patients are protected from pressure ulcers even without regular turning.



Free blood flow in damaged tissues even at the deepest contact points.

Clean and Comfortable Microclimate



Air Filtration

A powerful integrated air filtration system captures bacteria and impurities, creating a clean environment around the patient.



Thermoregulation

Temperature adjustment from 25°C to 40°C in 0.1°C increments helps effectively combat hypothermia caused by skin loss.



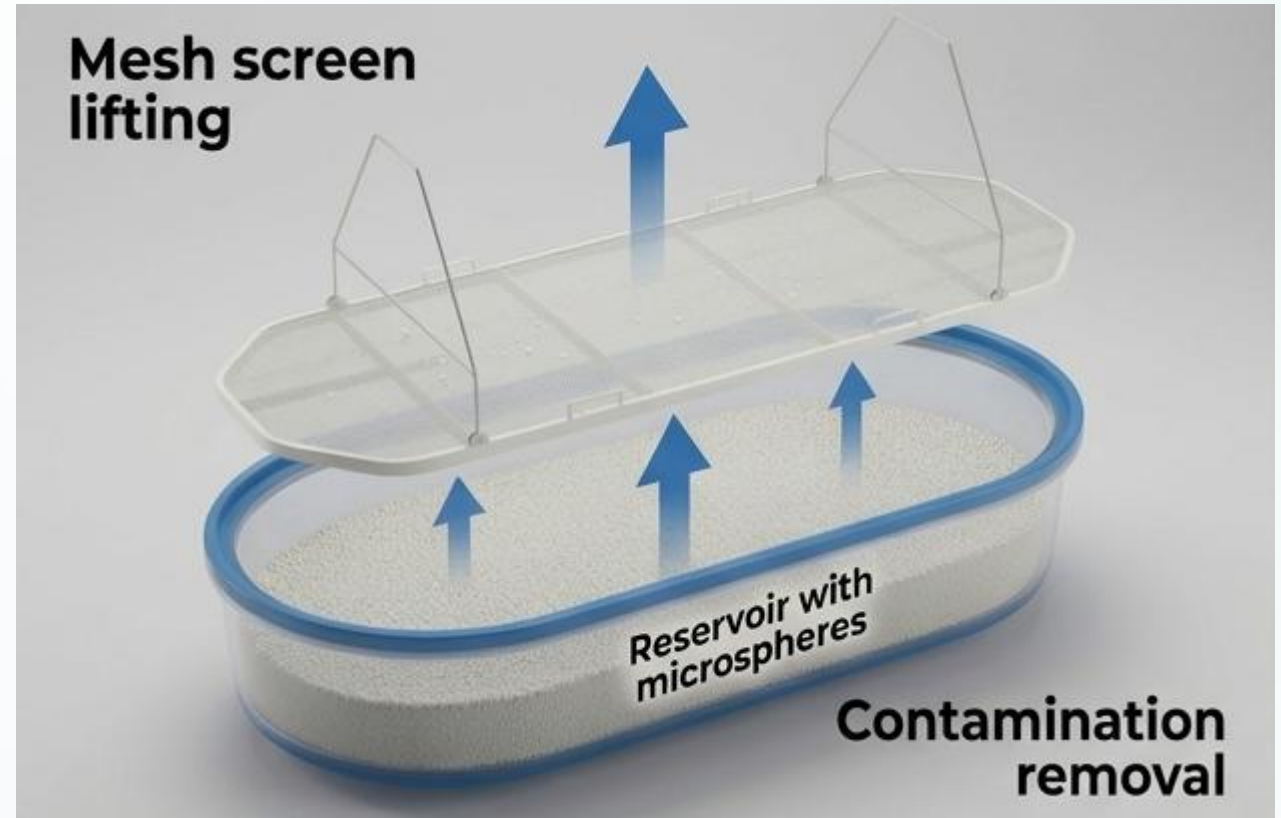
Antibacterial Environment

Ceramic microspheres release alkaline ions (pH $\approx$ 11) upon contact with wound exudates, creating an environment that inhibits bacterial growth.

Simple Microsphere Decontamination

In fluidization mode, the mesh filter (reflector) to be lifted up to remove dried contaminants accumulated at the bottom of the microsphere tank.

The procedure takes only a few minutes and ensures stable system operation.



Reusable Filter Sheet



Pore size: 37 microns

Microsphere size: 50 to 150 microns



Therapeutic Efficiency of the System



Pain Relief

Maximum reduction of body pressure minimizes patient discomfort and pain sensations.



Accelerated Healing

An optimal microclimate reduces the risk of infection and accelerates the regeneration of wound surfaces.



Improved Circulation

Maintaining stable blood flow promotes rapid tissue oxygenation.



Scar Minimization

The absence of friction and shear forces helps reduce the formation of rough scar tissue.



Antibacterial Environment

The alkaline environment of the microspheres (pH $\approx$ 11) prevents bacterial growth upon contact with bodily fluids.



Noise Insulation

System operation (under 50 dB) reduces the risk of hospital delirium and improves sleep quality.

Indications for Use



Burn Care

Effective treatment of extensive and severe burns of all degrees of complexity.



Traumatology

Multiple fractures, organ injuries, and skeletal traction.



Rehabilitation

After complex surgeries, including cardiovascular interventions.



Neurology

Relief of acute conditions, severe pain, and sleep disorder correction.



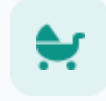
Geriatrics

Prevention and treatment of deep pressure ulcers in immobile patients.



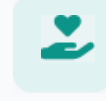
Palliative Care

Relief of suffering and quality care in the late stages of diseases.



Postpartum Rehabilitation

Recovery from severe birth injuries and pelvic bone diastasis.



Long-term Care

The preferred environment for long-term care of critical patients.

Radical Reduction in Operating Costs

The KEISEI LI-7 Advantage

0%

Microsphere Sterilization Costs

In traditional air-fluidized beds, microspheres require periodic, costly autoclave sterilization leading to ward downtime. With the LI-7, patient exudates pass through the filter sheet and enter the microsphere bed. The ceramic microspheres create an alkaline environment that suppresses bacterial growth. Moisture is continuously evaporated by the airflow.



Reduced Maintenance Costs: No recurring expenses associated with microsphere sterilization.



Continuous Treatment: The bed does not need to be decommissioned for medium maintenance.



Reduced Workload: Fewer labor-intensive technical procedures for hospital staff.

Comparison with Alternative Solutions

Feature	Inflatable Mattresses	Traditional Beds	Keisei LI-7
Pressure Distribution	⚠️ Cyclic	⚠️ Uniform Pressure	✅ Zero Pressure
Tissue Shear Risk	⚠️ Present	⚠️ Moderate	✅ Minimal
Microsphere Maintenance	No spheres	⚠️ Complex sterilization	✅ No sphere sterilization required
Operating Noise Level	⚠️ Moderate	⚠️ High (up to 65 dB)	✅ Low (≤50 dB)
Durability & Reliability	⚠️ Moderate	High	✅ Maximum (Japan)

'The LI-7 system not only provides the best clinical outcome but also creates a comfortable, quiet recovery environment for the patient.'

Japanese Quality in Every Detail

Technical Specifications

- **Power Supply:** AC 200–240 V, 50/60 Hz
- **Power Consumption:** 1.1 kW (LI-7 Standard type)
- **Temperature Range:** 25°C – 38°C (in 0.1°C steps)
- **Ceramic Microsphere Weight:** 400 kg
- **Noise Level:** ≤ 50 dB (comfortable for sleeping)

Safety

- **FDA Clearance**
- **ISO 13485:2016 Certification**
- Japanese Electrical Safety Standards Compliance
- Hypoallergenic Materials
- Reinforced Mobile Frame with Heavy-Duty Casters

Strategic Advantage of Your Department



High Prestige

Equipping the burn center or ICU with state-of-the-art premium-class Japanese equipment.



Clinical Power

Reduced length of stay (bed-days), minimized complications, and faster discharge of severe patients.



Efficiency

Lower operating and staffing costs compared to alternative solutions.

| MedExport – Your Reliable Partner

- ✓ Official Medical Equipment Distributor
- ✓ Custom configuration assistance and tender preparation support
- ✓ Medical staff training on care guidelines and system operation



Ready to Implement Innovations?

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