



**SAIRAN**   
**MEDICAL**  
**COMPANY**

MEDICAL  
PRODUCTS  
CATALOGUE



# ***SAIRAN MEDICAL COMPANY***

**SA IRAN MED Company** as a subsidiary of Isfahan Optics Industries was found in Isfahan in 1986 with the mission of delivering high quality, competitively priced medical devices to Iran market in order to improve healthcare system and make it more accessible and affordable. Our company goal is developing its international market in the near future too.

More than twenty years of experience in production of different medical devices and being the first performer of Smart Hospitals in the country, make us the leading company in Iran Medical Market. Due to years of research and over 180 experts who work in R&D department, we have been able to manufacture high-tech medical systems and various medical products such as patient Monitors, Surgical Suctions, Telemedicine Solutions, Defibrillator/Monitor, Surgical Light, ElectroEncephaloGram (EEG) and Surgical Implants.

We are honored to acknowledge implementation of quality systems as well as achievement of CE , a dramatic quality promotion . Taking advantages of EFQM excellence model we are driving towards being more competitive implementing ISO 9001 quality system and ISO 13485 were to most important promotion factors in response to customer's needs in recent years. We believe that satisfaction of customer's needs requires drawing line beyond the standard necessities.





00:1509:1963 - Input signal-OK

SCAN

FILTER

PATIENT FILTER

John Smith 4388

A-F

G-L

M-R

T-Z



Connection status  
RESEARCHER ID: 4492  
Los Entry: 0019  
00:1509:1963 - Input signal-OK - Connection

00:03:42 - Connection Time: 00:03:42  
00:1509:1963 - Input signal-OK - Connection Time: 00:03:42



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**Section 1**

# **Cardiovascular**





### **OEM Modules**

- OEM Modules



1.5

### **Defibrillator/Monitor**

- RELIVE DM5



1.6



1.4

### **Telemedicine Solutions**

- Health Care SADRA A15
- SAMA
- Web Based
- T220
- T110



1.1



1.3

### **Central Station**

- Live W110

### **Patient Monitor**

- ARAD P10+
- SmartView
- ARAD P10
- FX7
- LX110
- Sina 5



1.2

### **Patient Monitor Accessories**

- IOA Vision
- Mi-Cap C1
- Capnography & Multigas Accessories
- Monitor Accessories
- Trolley & Stand





## 1.1 Section 1 Cardiovascular

### Patient Monitor

- ARAD P10+
- SmartView
- ARAD P10
- FX7
- LX110
- Sina 5





## Cardioset ARAD P10+

### Parameters

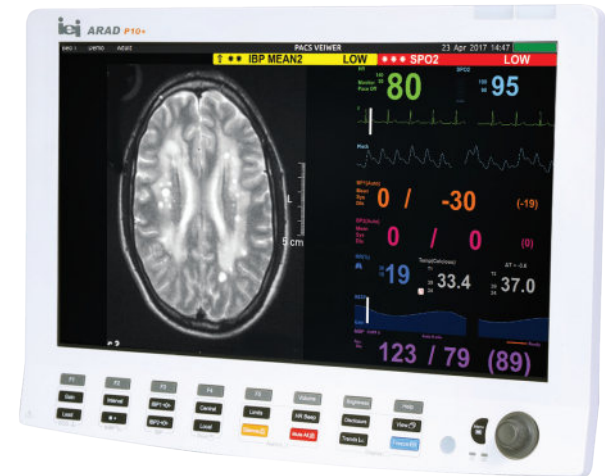
- Waveforms: ECG (3, 7, 12 leads), RESP, Pleth, EEG (One line), IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- EMG & BIS
- CO<sub>2</sub> (SideStream)
- Multigas Analyzer (N<sub>2</sub>O, O<sub>2</sub>, AA1, AA2)
- ECG Out
- 2.0" Thermal Recorder
- Remote Patient Monitoring

### Key Features

- Intuitive 19" Wide Multi Touch Display
- Wi-Fi / Bluetooth Communication Support
- New Graphical User Interface
- Full HD External Display Support
- Full Customizable Screen Views
- Dynamic Auto Size Waves
- Dual Bed Monitoring



- *Reliable PACS & HIS Support*



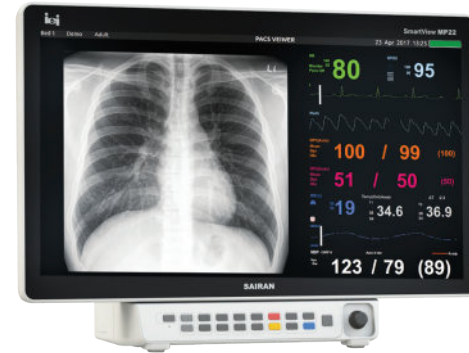
## SmartView Vital Signs Monitors

### Parameters

- Waveforms: ECG (3, 7, 12 leads), RESP, Pleth, EEG (One line), IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- EMG & BIS
- Impedance Cardiography (ICG)
- CO<sub>2</sub> (SideStream)
- Multigas Analyzer (N<sub>2</sub>O, O<sub>2</sub>, AA1, AA2)
- ECG Out
- 2.0" Thermal Recorder
- Remote Patient Monitoring
- Two Additional IBP Channel



■ SmartView MP22



■ Smartview MP19



NEW  
PRODUCT

■ SmartView MP15

NEW  
PRODUCT

■ SmartView MP12

## Key Features

- Equipment Class: Class I, Internally Powered, IPX1, Continuous Operation
  - PACS & HIS Support
  - Wi-Fi / Bluetooth Communication Support
  - Intelligent Integrated Software with Comprehensive Vital Signs Monitoring
  - Humanized Operation Interface
  - High Resolution Display Option Improves Viewing
  - Replaceable Wide Displays (12, 15 ,19, 22 Inch)
  - Capability of Using Both Multi-Touch Screen Display & Keypad
  - Fully Customizable Modules
  - Dynamic Auto Size Waves
  - Mother & Baby Patient Monitor
  - Comprehensive Care with Vitals and Viewing
  - Dual Bed Monitoring
  - Wired and Wireless Networking with Continues Data Transfer
  - External USB/Wi-Fi Printer Support
- *Multi-touch Screen, Stylish New Design*



## Cardioset ARAD P10

### Parameters

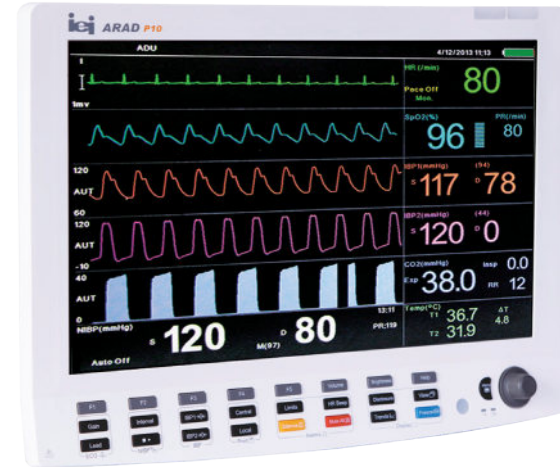
- Waveforms: ECG (3, 7, 12 leads), RESP, Pleth, EEG (One line), IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- EMG & BIS
- CO<sub>2</sub> (SideStream)
- Multigas Analyzer (N<sub>2</sub>O, O<sub>2</sub>, AA1, AA2)
- ECG Out
- 2.0" Thermal Recorder
- Remote Patient Monitoring

### Key Features

- 19" Wide Screen Display
- User Friendly Software
- Convenient Rotary Knob & Shortcut Keys
- ECG Recording, NIBP Report and Trend for All Parameters
- Printable Disclosure
- Lightweight (< 5 Kg Including Battery)



- *All You Expect from a Vital Signs Monitor*



## Cardioset FX7

### Parameters

- Waveforms: ECG (3,7 leads), RESP, Pleth, IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- CO<sub>2</sub> (Sidestream)
- 2.0" Thermal Recorder

### Key Features

- 15" color TFT Display
- Simple and User Friendly Operation
- ECG Recording, NIBP Report and Trend for All Parameters
- Lightweight (< 5 Kg Including Battery)



- *Fast boot less than 5 seconds*





## Cardioset LX110

### Parameters

- Waveforms: ECG (3,7 leads), RESP, Pleth, IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- CO<sub>2</sub> (Sidestream)
- 2.0" Thermal Recorder

### Key Features

- 12.1" color TFT Display
- ECG Recording, NIBP Report and Trend for All Parameters
- Lightweight (< 5 Kg Including Battery)



- *Compact & Impressive Design*



## Cardioset Sina 5

### Parameters

- Waveforms: ECG (3,7 leads), Pleth, RESP, IBP (2 channels)
- Numeric Parameters: HR, RR, SpO<sub>2</sub>%, PR, NIBP, Temp, IBP (2 channels)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- CO<sub>2</sub> (Sidestream)
- GPS / GPRS
- 2.0" Thermal Recorder

### Key Features

- 5" color TFT Display
- ECG Recording, NIBP Report and Trend for All Parameters
- Extra Lightweight (< 2 Kg Including Battery)



- *Minimum Size, Maximum Portability*



# 1.2

Section 1  
Cardiovascular

## Patient Monitor Accessories

- IOA Vision
- Mi- Cap C1
- Capnography & Multigas Accessories
- Monitor Accessories
- Trolley & Stand





## BIS Monitoring IOA Vision

### Measurement

- Index of Consciousness
- SQI, ESR, EMG and BIS Measurement

### Technical Highlights

- Compliance with Europe Standards
- Offered Accessories and Peripherals by SAIRAN Medical Equipment Industries
- Easy Installation and Utilization
- Bluetooth Interaction with SAIRAN Patient Monitors
- Waveform Display on Patient Monitor and Saving as Trend
- Graphical Low Consumption LCD
- Minimum 6 Hours Operation Time Using External Rechargeable Battery



- *What Does Complete the Operating Room ?*





## Capnograph Mi-Cap C1

### Measurement

- Mainstream Sensor Type
- Non-Dispersive Infrared Gas Analysis Technique
- Compact Multi-Channel Infrared Detector

### Technical Highlights

- CO<sub>2</sub> Measurement Range: 0 -19.7%, 0 -150 mmHg, 0 - 20 kPa
- CO<sub>2</sub> Resolution: 0.1 mmHg
- CO<sub>2</sub> Measurement Accuracy:
  - 0 - 40 mmHg:  $\pm 2$  mmHg
  - 41 - 70 mmHg:  $\pm 5\%$  of Reading
  - 71 - 100 mmHg:  $\pm 8\%$  of Reading
  - 101 - 150 mmHg:  $\pm 10\%$  of Reading
- Respiration Rate: 3 -150 Brpm
- Respiration Rate Accuracy: 1%  $\pm 1$  Brpm
- Circumstance Pressure: 86 to 106 kPa
- Power Demand: 5 V  $\pm 5\%$  (max ripple 200 mVp-p)
- Power Consumption: <150 mA
- Storage Condition: 40°C to 70°C , < 90 % RH, Non-Condensing
- Operating Condition: 5°C to 50°C , < 10 to 90 % RH, Non-Condensing



- *Analyze Each Cycle of Respiration System*



## Capnography & Multigas Analyzer Accessories

- Respironics CO<sub>2</sub> Probe
- Extension Cable
- Adapter & Nomoline



- IRMA CO<sub>2</sub> Probe
- Extension Cable
- Adapter & Nomoline



- ISA CO<sub>2</sub> Probe
- Extension Cable
- Adapter & Nomoline





## Monitor Accessories

### Nellcor / Nonin SpO<sub>2</sub>

- Adult, Pediatric and Neonate
- Adhesive, Reusable and Multisite Sensors



### NIBP CUFFs

- Cuff for Adult, Pediatric and Neonate
- Single Use Cuffs



### IBP

- Periodical Reusable Transducers
- Dome, Clamp and Bracket
- Extension Cable



**Temp**

- Temperature Probe-Skin (Adult, Pediatric and Neonate), YSI Compatible
- Temperature Probe-Rectal (Pediatric), YSI Compatible

**ECG**

- ECG Patient Cable 3,5,10 Wires
- Extension Cable (3m, 5m)

**Battery**

- Li-ion 12 v / 2.3 Ah
- Sealed Acid 12 v / 2.3 Ah







## Trolley & Stand

### Monitor Trolley

- Left and Right Rotation
- Bracket Horizontal/Vertical



### Monitor Stand

- Easy to Use
- Excellent Quality Material & Design



A close-up photograph of a person in a white lab coat holding a bright red heart in their cupped hands. A stethoscope is visible around their neck. The text 'SAIRAN medical company' is overlaid in red on the image.

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# 1.3

Section 1  
Cardiovascular

## Central Station

- Live W110  
Wide Screen  
Central Station





## Live W110

### Parameters

- Vital Signs of 16 Telemetry Systems or Bedside Patient Monitors through Wireless Network/LAN
- Up to 5 Graphs Simultaneously for Each Patient Including ECG (I, II, III, aVL, aVR, aVF, V), SpO<sub>2</sub>%, Pleth, RESP, IBP1 and IBP2
- Patient Information, Continuous Records History and Nurse Calls

### Key Features

- Wide 20" Touch Screen Display
  - Two-Way Communication with Patient Monitors
  - Arrhythmia Analyzer
  - Portable Thermal Recorder & LaserJet Printer Support
  - User Friendly & Elegant Interface
- *Intensive Care of All Patients Simultaneously*







# 1.4

Section 1  
Cardiovascular

## Telemedicine Solutions

- SADRA A15
- SAMA
- Web Based
- T220
- T110





## HealthCare SADRA A15

### Parameters

- ECG (3, 7, 12 leads), RESP, Pelth, IBP, SpO<sub>2</sub>%, NIBP, Temp, CO<sub>2</sub>
- Glucose, Lipid and PCG Measurement

### Key Features

- Touch Screen 10.1" Color TFT Display
- Real Time Patient Monitoring
- GSM (2G, 3G, 4G), LAN and Wi-Fi Data Interface
- Support all UVC Standard Otoscopes
- One Channel Audio-In for Connecting Stethoscope
- Video Telephony and Consultation
- Real-Time Transmit Information to Central Viewer Station

- *Transfer Information Instead of Moving Patient*

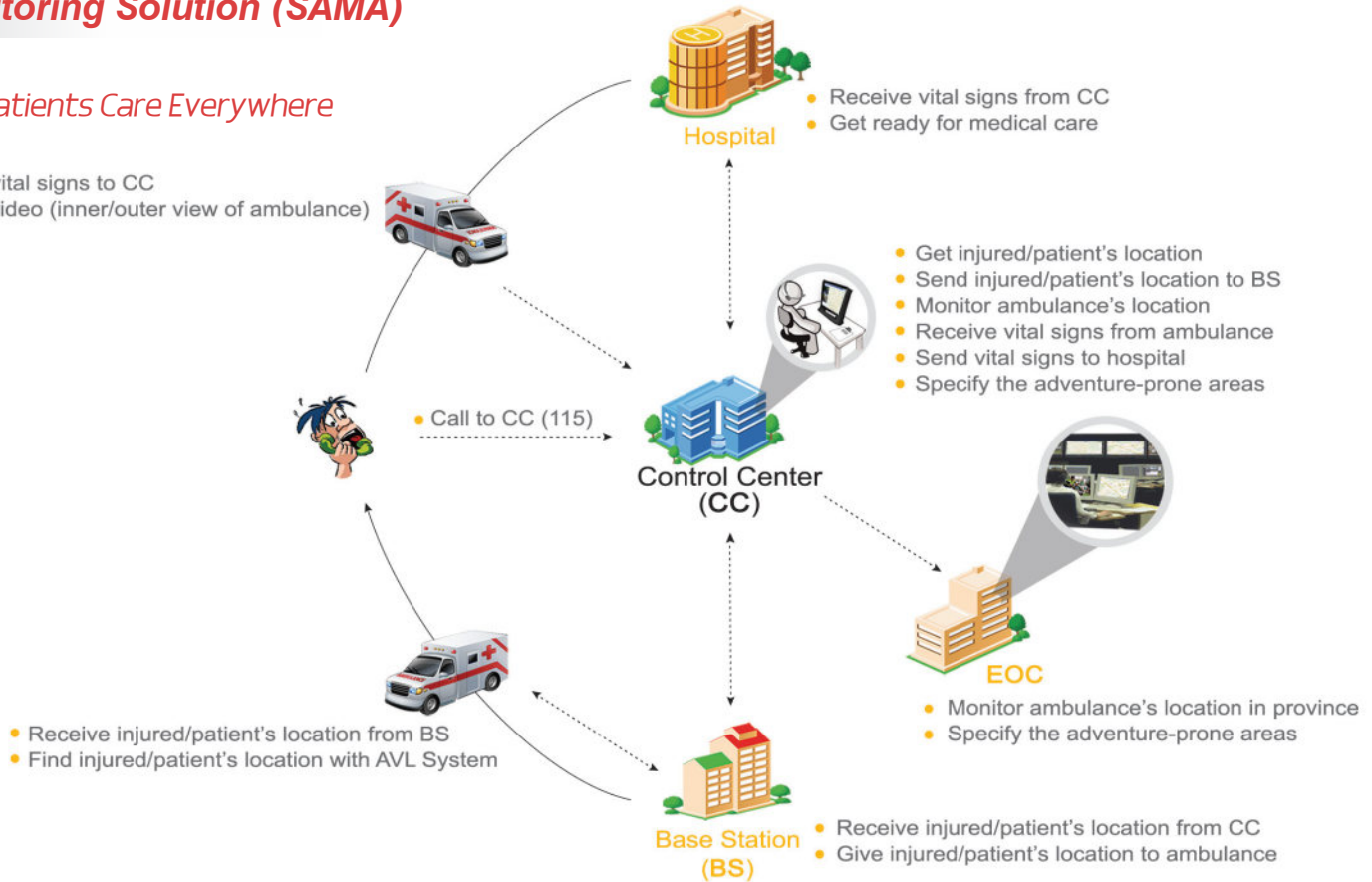




## TeleMonitoring Solution (SAMA)

### Extend Patients Care Everywhere

- Send vital signs to CC
- Save video (inner/outer view of ambulance)

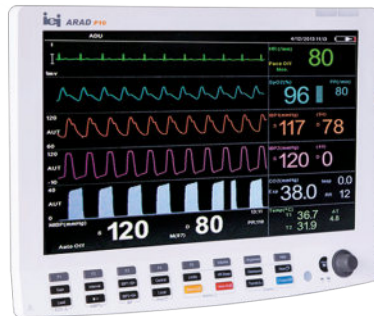




## Web Based Patient Monitors

### Technical Highlights

- Access to Web Monitoring from [www.sairanmed.ir](http://www.sairanmed.ir) Website
- Showing All Vital Signs from SAIRAN Patient Monitors
- Define Permission and Accessibility for the User
- 24 Hours Patient Care



- *Monitor Patients around the World*







## Cardiopack T220

### Telemetry Monitoring System

- Transmission of ECG Graph (I,II,V)
- Storing Data for 48 Hours on microSD Memory (up to 16 GB)
- 24 hours Operating Time for Transmission ECG Using Only 1\*AA Battery
- Provides a Graphical Screen to Display All Monitored ECG Leads
- Nurse Call Button on the Transmitter
- Enhances Patient Comfort with a Compact, Lightweight Design
- Up to 16 Telemetry Transmitters Can Be Used Simultaneously in a Cardiac Care Center
- 8 Channels Receivers with Internal Antenna
- Frequency/Power Settings Can Be Modified in Accordance with the Local Country Regulations
- High Reliability, Narrowband Wireless Transmission and Digital Modulation
- In Accordance with EN60601-2-27, ANSI/AAMI EC13, IEC 60601-1, IEC 60601-2 Standards



- *Don't Confine Patient for Cardiac Care*



## Cardiopack T110

### Telemetry Monitoring System

- Transmission of ECG Graph (I,II ,III), SpO<sub>2</sub>%, Pulse Rate, Plethysmograph
- Provides a Graphical Screen to Display All Monitored ECG Leads
- Nurse Call Button on the Transmitter
- 8 Channels Receivers with Internal Antenna
- High Reliability, Narrowband Wireless Transmission and Digital Modulation
- Up to 16 Telemetry Transmitters Can Be Used Simultaneously in a Cardiac Care Center
- 48 Hours Operating Time for Transmission of Both ECG and SpO<sub>2</sub>% Using Only 2\*AA Batteries
- In Accordance with EN60601-2-27, ANSI/AAMI EC13, IEC 60601-1, IEC 60601-2 Standards



- *More Vital Signs Are Available Now with Cardiopack*



# 1.5

Section 1  
Cardiovascular

## Defibrillator/ Monitor

- RELIVE DM5





## RELIVE DM5

### Defibrillator

- Energy: 1-200 J
- Waveform: Biphasic Truncated Exponential
- Mode: Manual, Cardioversion, AED
- Charging Time: Less than 6 Seconds

### Noninvasive Pacing

- Waveform: Rectilinear, Constant Pulse
- Current: 0 - 200 mA
- Rate: 30 - 180 ppm
- Refractory Period: 340 ms (30-80 ppm); 240 ms (90-180 ppm)
- Mode: Demand or Fixed Rate

### Numeric Parameters

- Waveforms: ECG, Pleth, IBP (2 channels), CO<sub>2</sub>
- Numerical Parameters: HR, PR, SpO<sub>2</sub>%, Temp, IBP (2 channels), NIBP, EtCO<sub>2</sub>



- *Saving Life is our Pleasure*

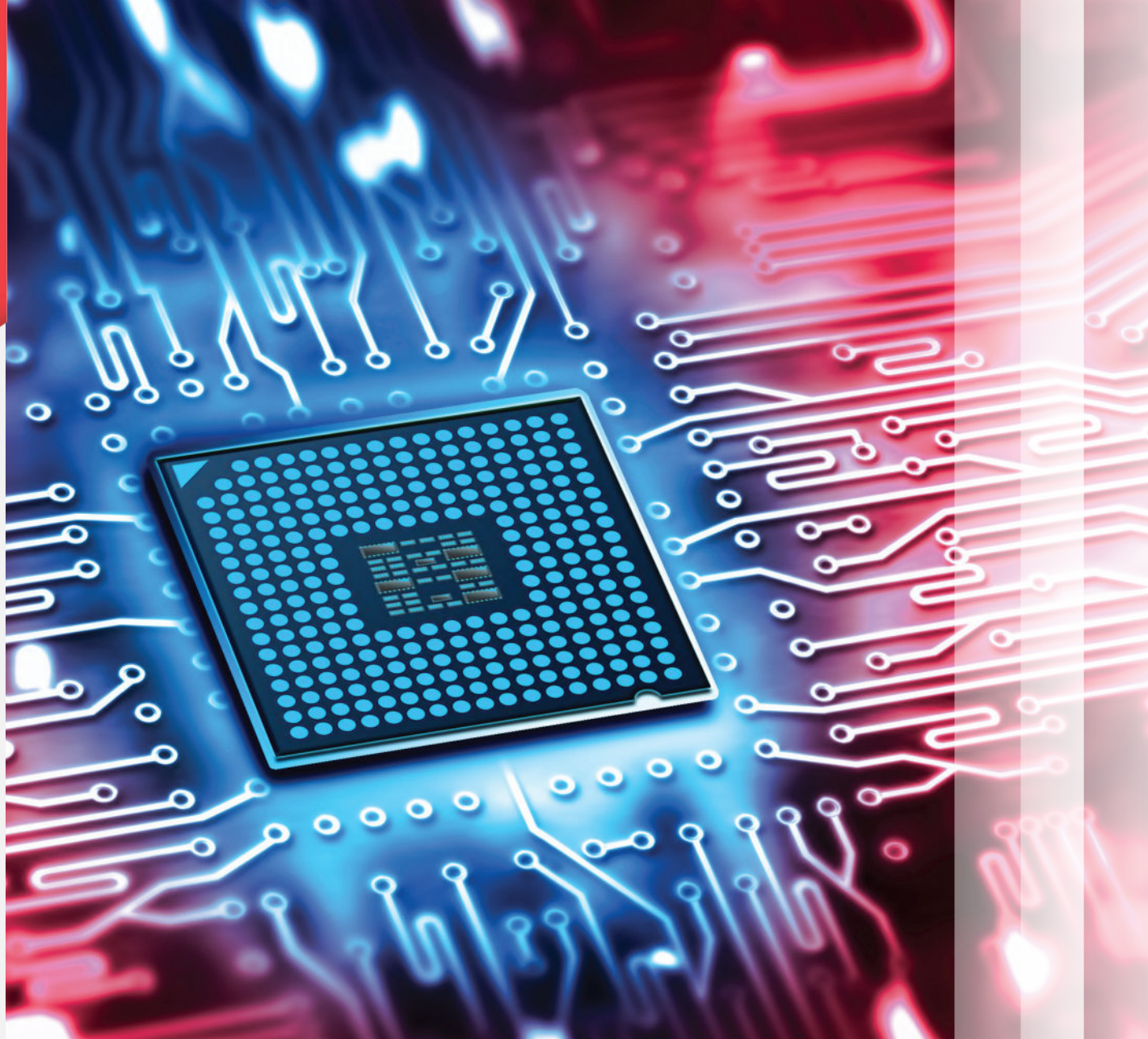




## 1.6 Section 1 Cardiovascular

### OEM Modules

- OEM Modules
- Patient Monitoring
- OEM Modules

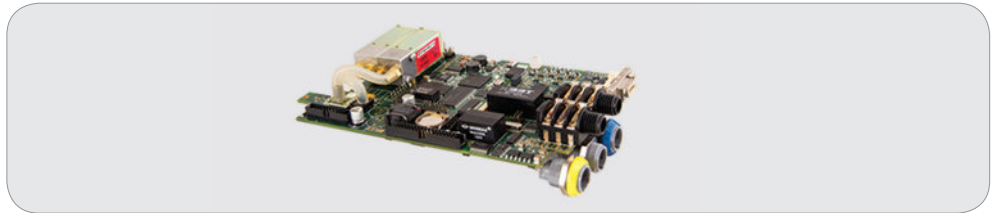
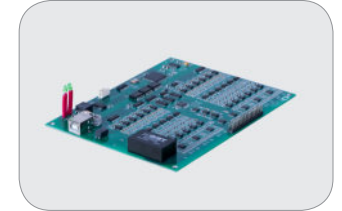
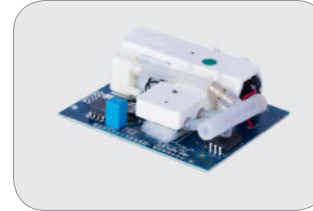
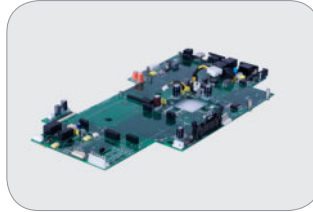






## OEM Modules

- Mainboard
- IBP & Temp Module:  
2/4 Channels IBP and 2 Channels Temp
- ECG & Respiration Module:  
3,10 Channels High CMRR ECG Amplifier  
3,7,12 Leads
- Thermal Recorder
- EEG Amplifier Module:  
21 Channels high CMRR Amplifier

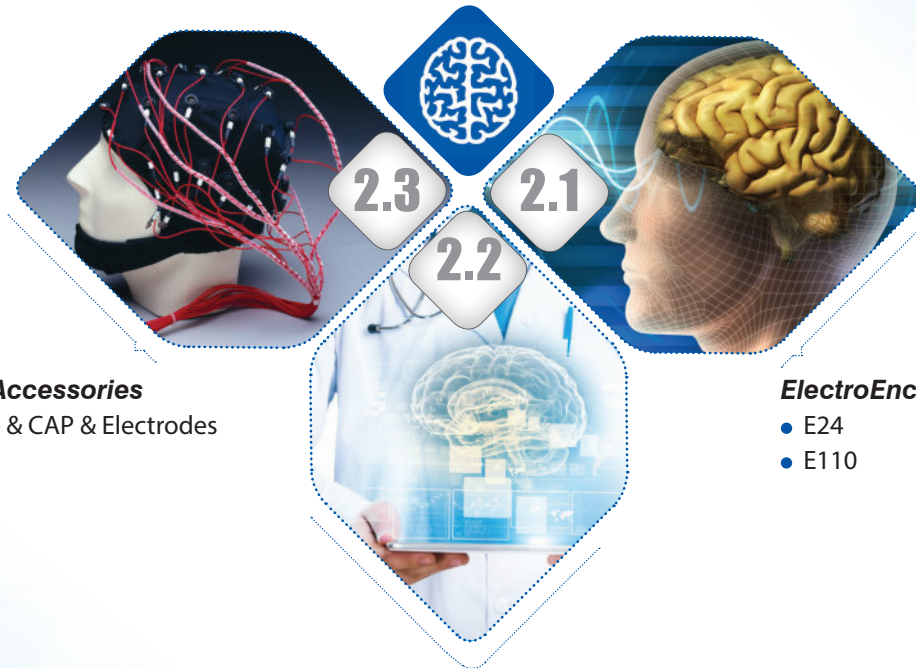




**Section 2**

# **Neurology**





**EEG Accessories**

- Wire & CAP & Electrodes

**ElectroEncephaloGram (EEG)**

- E24
- E110

**Consciousness Monitoring**

- BIS Monitoring IOA Vision





## 2.1 Section 2 Neurology

### *Electro- Encephalo- Gram (EEG)*

- E24
- E110





## Neuroset E24

### Technical Highlights

- Compact & Portable (Laptop System)
- 21 Channels EEG +3 Extra Amplifier Channels
- FFT Analysis
- Programmable Photic Stimulator
- Color Brain Map
- Impedance Check Measurement
- USB and Serial Communication
- Compact and Portable Design
- Multi Languages Support



- EEG Portability Is Possible Now





## Neuroset E110

### Technical Highlights

- 21 Channels EEG + 3 Extra Amplifier Channels
- 15" Monitor (Laptop System)
- Thermal Printing on 216 mm Wide Continuous Paper Same as Analog EEGs
- FFT and Brain Mapping Software Analysis
- Remontage and Digital Filtering
- Impedance Check Measurement
- USB and Serial Communication
- Compact and Portable
- Persian and English Languages Support
- Laser Color and Monochrome Printer Support



- EEG, Opening a Window to Neuroscience



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## 2.2 *Section 2* *Neurology*

### *Consciousness* *Monitoring*

- BIS Monitoring  
IOA Vision







## BIS Monitoring IOA Vision



### Measurement

- Index of Consciousness
- SQI, ESR, EMG and BIS Measurement

### Technical Highlights

- Compliance with European Standards
- Offered Accessories And Peripherals by SAIRAN Medical Equipment Industries
- Easy Installation and Utilization
- Bluetooth Interaction with SAIRAN Patient Monitors
- Waveform Display on Patient Monitor and Saving as Trend
- Graphical Low Consumption LCD
- Minimum 6 Hours Operation Time Using External Rechargeable Battery



- *Complete Your Neurology Department*



## 2.3

Section 2  
Neurology

### EEG Accessories

- Wire & CAP & Electrodes







## EEG Accessories

- EEG Wire
- EEG Electrodes
- Patient Head cap

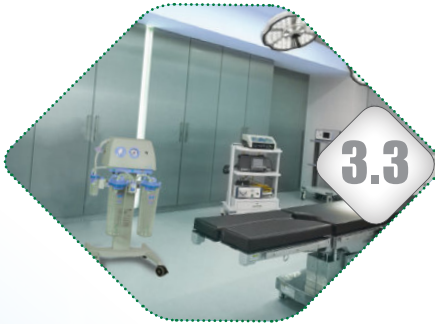




## Section 3

# Operating Room Equipment





### **Medical Suction**

- C55F
- C25
- MC10
- Suction Accessories



### **Surgical light**

- Luminous LED5
- Luminous LED3



### **Smart OR**

- Modular Operating Room Walls
- Operating Room Management Systems (ORMS)





## 3.1 *Section 3* *Operating Room* *Equipment*

### *Smart OR*

- Modular Operating Room Walls
- Operating Room Management Systems (ORMS)





## Modular Operating Room Walls

- Laminated Glass Panels
  - Stainless Steel Panels
  - Galvanized Panels
  - Laminar Airflow
  - Stainless Steel Door
  - Operating Room Lighting
  - Connecting to ORMS Via BMS Panel
  - Various Anti-Bacterial Colors and Motifs
  - Available for Operating Rooms, ICU, CCU, CSR and ...
  - Fast Installation
- 
- *Ultimate Elegance and Sterilized Implementation*







## Operating Room Management Systems (ORMS)

- Operating Room Video Source Integration (HDMI, SDI, VGA, DVI, TCP/IP, PACS)
- Video Routing
- Video Streaming
- Video Recording (USB, NAS, SAN)
- Surgical Light Control
- Video Conferencing
- BMS Control Panel
- Music Control Panel
- HIS & PACS Control Panel
- RFID Reader

- *Now the Operating Room is Under Your Control*





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## 3.2 Section 3 Operating Room Equipment

### *Surgical light*

- Luminous LED5
- Luminous LED3





## Luminous LED 5

### Technical Highlights

- Multicolor Medical LEDs
- Capability of Imaging Surgery Area Using Full HD Camera (Optional)
- Light Focus Adjustment
- Controllability Using Smart Hospital System
- Color Temperature Adjustment
- Integrated Laser Pointer
- Emergency Battery Backup (Optional)
- Monitor Display for Showing Surgery Required Images
- Video Conferencing
- Controllability Using Mobile, Tablet and Remote Control

- *Perfect Shadowless Partner of Surgeon*







## Luminous LED 3

### Technical Highlights

- Multicolor Medical LEDs
- Light Focus Adjustment
- Controllability Using Smart Hospital System
- Color Temperature Adjustment
- Integrated Laser Pointer
- Emergency Battery Backup (Optional)
- Monitor Display for Showing Surgery Required Images
- Controllability Using Mobile, Tablet and Remote Control



- *Perfect Shadowless Partner of Surgeon*



### Technical Data of SAIRAN LED5 and LED3 Surgical Light

Parameter	Model	LED5	LED3
Illuminance (kLUX)		160	130
Color Temperature (Kelvin)		3500, 3750, 4000, 4250 4500, 4750	3500, 3750, 4000, 4250 4500, 4750
Focusable Light Field Size(mm)		180-300	170 - 270
Color Rendering Index (Ra)		92	92
Working Distance (cm)		70 - 140	70 - 140
Number of LEDs		45	30
Life Time of LEDs		Up to 50000	Up to 50000
Mount		Ceiling	Ceiling
Power Consumption (W)		180	160
Operating Voltage AC (V)		220	220

#### Camera with Interface Board for LED5(Optional)

Objective system	10-Fold Optical Zoom 12-Fold Digital Zoom F=3.8 mm (wide) to 38 mm (telephoto) F 1.8 to F 3.4
Video Signal	1080 p/50
Video Output	HDMI
Focusing System	Automatic & Manual
Minimum Object Distance	10 mm (wide) to 800 mm (telephoto)
Resolution (Megapixel)	2.38
Power Consumption (W)	6
Dimension (mm)	45.6 *48.8 *78
Weight (g)	260



## 3.3 Section 3 Operating Room Equipment

### Medical Suction

- C55F
- C25
- MC10
- Suction Accessories





## MEDICA C55F

### Technical Highlights

- High Vacuum: -90 kPa, 675 mmHg
- High Flow: 50 L/min
- Dimensions: 965x510x480 mm
- Weight: 17kg
- Safety Classification: IPX1
- In Accordance with  
EN1079-1, EN 60601-1, EN 60601-2 Standards
- Fast Vacuum Build Up
- Quiet in Operation
- Hygienic and Easy to Use

### Application

- Plastic Surgery
- General Surgery
- Neurosurgery
- Outpatient Surgery Centers
- Emergency Units



- *Extreme Vacuum Is Now Available*





## MEDICA C25

### Technical Highlights

- High Vacuum: -80 kPa, 600 mmHg
- High Flow: 20 L/min
- Dimensions: 300x180x350 mm
- Weight: 6 kg
- Safety Classification: IPX1
- In Accordance with  
EN1079-1, EN60601-1, EN60601-2 Standards
- Small, Lightweight and Portable Design
- Various Vacuum Levels
- Quiet in Operation
- Easy to Use Operating Elements



- *Best Choice for an Ambulance*



## MEDICA MC10

### Technical Highlights

- High Vacuum: -40 kPa , 300 mmHg
- High Flow: 16 L/min
- Dimensions: 350x180x300 mm
- Weight: 6 kg
- Safety Classification: IPX1
- Small, Lightweight and Portable
- Various Vacuum Levels
- Quiet in Operation
- Easy to Use Operating Elements



- *When Children Need Their Own Suction Unit*



### Suction Accessories

- Jar 1 ,2 ,3 Liter
- Lid 1 ,2 ,3 Liter
- Over Fill Protection
- Suction Bag & Canister
- Patient Tube
- Jar Holder
- Bacterial Filter
- Pedal Switch



### Suction Trolley

- Extremely Impact Resistant
- Antistatic Wheels



A close-up photograph of a person in a white lab coat holding a grey stethoscope. The person's hands are visible, gripping the top of the stethoscope. The background is a blurred hospital or clinic setting with a window and some greenery.

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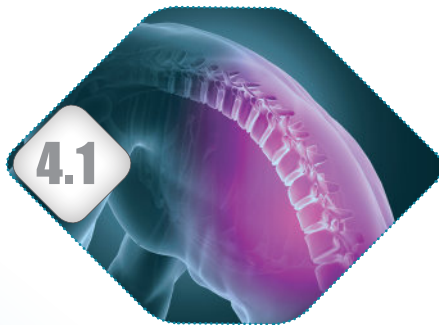




## Section 4

# Spinal Implants





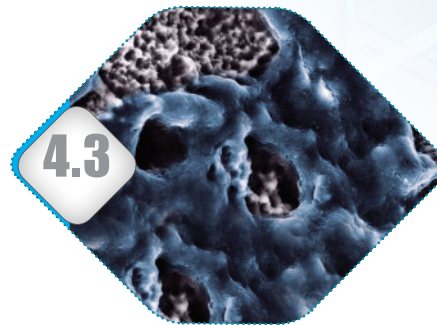
### ***Lumbar Stabilization***

- Lumbar Intervertebral Fusion Cages
- Lumbar & Thoracic Stabilization System
- Iliac Screw
- Dynamic Rod
- Universal Pedicle Screw
- Interspinous Spacer
- Lumbar Expandable Corpectomy Cage



### ***Cervical Stabilization***

- Cervical Stabilization System
- Cervical Intervertebral Fusion Cages
- Cervical Expandable Corpectomy Cage
- Mesh Corpectomy Cage
- Cervical Plating System



### ***OsteoConductive Surface Technology***

- Nano-HA Coating Technology
- Nano-Ti Coating Technology



## 4.1 *Section 4* Spinal Implants

### *Lumbar Stabilization*

- Lumbar Intervertebral Fusion Cages
- Lumbar & Thoracic Stabilization System
- Iliac Screw
- Dynamic Rod
- Universal Pedicle Screw
- Interspinous Spacer
- Lumbar Expandable Corpectomy Cage





## Lumbar Intervertebral Fusion Cages

Lumbar intervertebral fusion cages are indicated to be implanted through posterior aspect of lumbar column.

### PLIF intervertebral fusion cage



Enhanced stability with transverse ridges on superior and inferior surfaces.

Diagnosis of the cage position in radiographic scans through titanium alloy pins.

Cages are manufactured from PEEK polymer with radiolucence advantage to allow observation of bone fusion.

Optimized bone graft spacing accelerating the fusion of adjacent vertebrae.

### TLIF intervertebral fusion cage







## Lumbar & Thoracic Stabilization System

This system is intended for static stabilization of lumbar and thoracic vertebrae in treatment of severe spinal injuries in lumbar & thoracic levels.

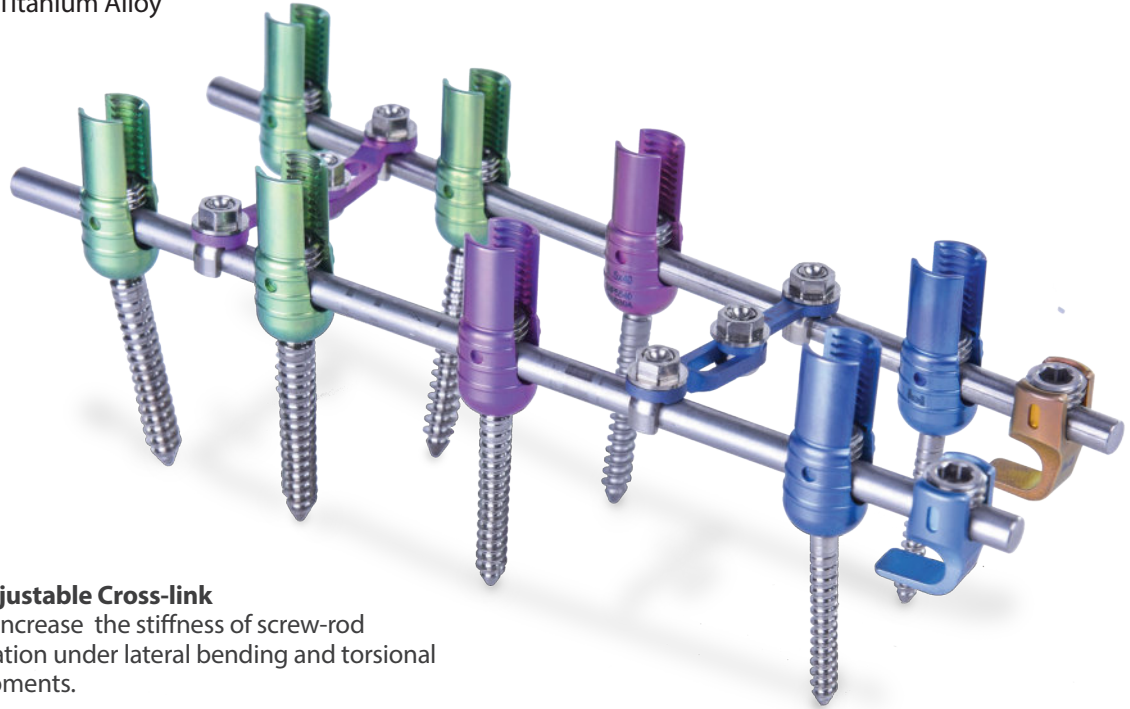
- Manufactured from High Strength Titanium Alloy



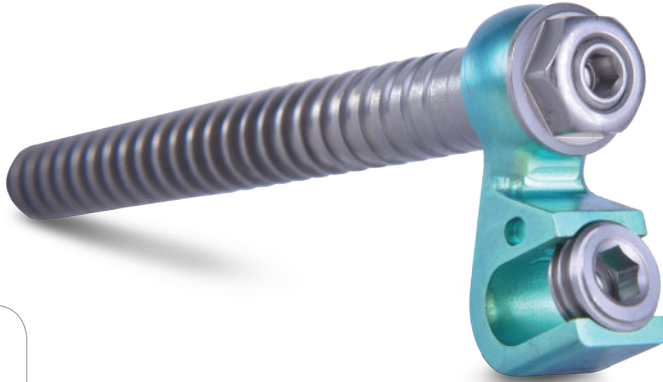
**Lumbar Hook**  
for enhancement of biomechanical strength at non fixed levels.



**Adjustable Cross-link**  
to increase the stiffness of screw-rod fixation under lateral bending and torsional moments.



**Iliac screw** with cap and rod holder suitable for treatment of severe injury at the lower vertebrae of lumbar or sacral with involvement of ilium.



**Dynamic Rod** with an universal joint to provide micro-movement of spinal fixation for improvement of patient functionality.



**Universal Pedicle Screw** with dual inserting nut and curved locking washer suitable for scoliosis treatment

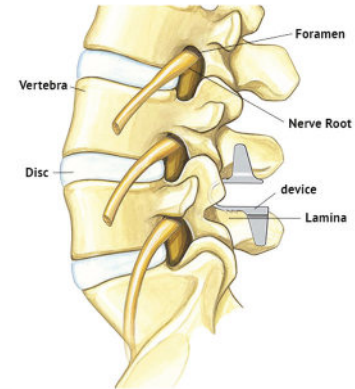


## Interspinous Spacer

This implant is intended for treatment of mild herniated disc to limit the range of motion in extension of spinal column.



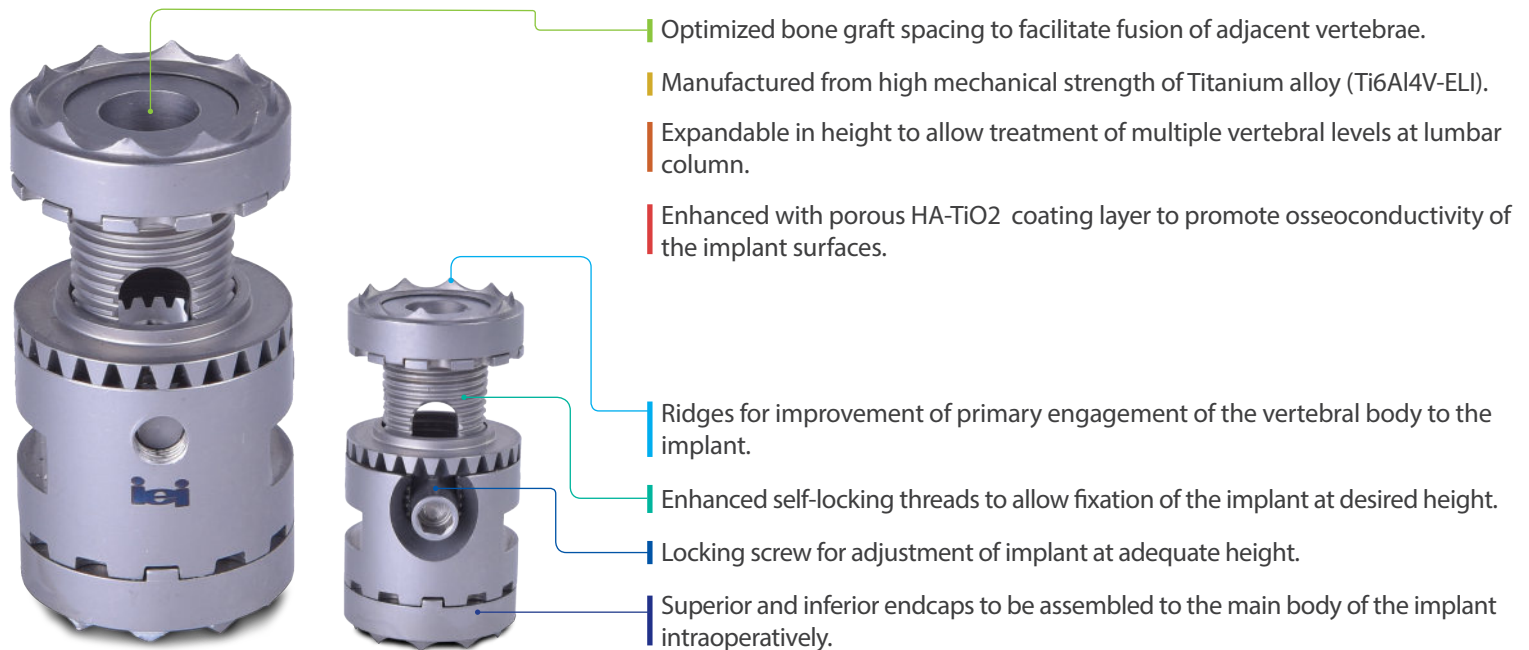
- | Anatomic low-profile implant
- | Proven implant design with substantial clinical history.
- | Preservation of the range of motion in flexion of Spinal Column.
- | Manufactured from high strength titanium alloy (Ti6Al4V-ELI)
- | Enhanced surface biocompatibility and corrosion resistant with anodized TiO<sub>2</sub> coating.
- | Deep interlaminar insertion
- | Protect neurological structures
- | Preservation of the disc



U shape to reduce stress on spinous processes.

## Lumbar Expandable Corpectomy Cage

This implant is intended for treatment of severe degenerated or fractured vertebral bodies in lumbar column.







## 4.2 *Section 4* Spinal Implants

### **Cervical Stabilization**

- Cervical Stabilization System
- Cervical Intervertebral Fusion Cages
- Cervical Expandable Corpectomy Cage
- Mesh Corpectomy Cage
- Cervical Plating System



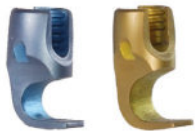
## Cervical Stabilization System

This system is intended for static stabilization of cervical vertebrae in treatment of severe spinal injuries in cervical column.

- Manufactured from High Strength Titanium Alloy



**Adjustable Cross-link** to increase the stiffness of screw-rod fixation under lateral bending and torsional moments.



**Cervical Hook** for enhancement of biomechanical strength at non-fixed levels.

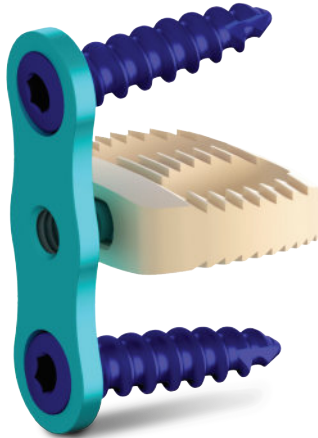




## Cervical Intervertebral Fusion Cages

Cervical intervertebral fusion cages are indicated to be implanted through anterior aspect of cervical column.

**Cage-Plate assembly**



Optimized Bone Graft Spacing accelerating the fusion of adjacent vertebrae.

Cages are manufactured from PEEK polymer with radiolucence advantage to allow observation of bone fusion.

Enhanced with Transverse Ridges on Superior and Inferior Surfaces for Mechanical Integration with vertebrae endplates.

Diagnosis of the cage position in radiographic scans through titanium alloy pins.

**Cervical Cage-Spacer**



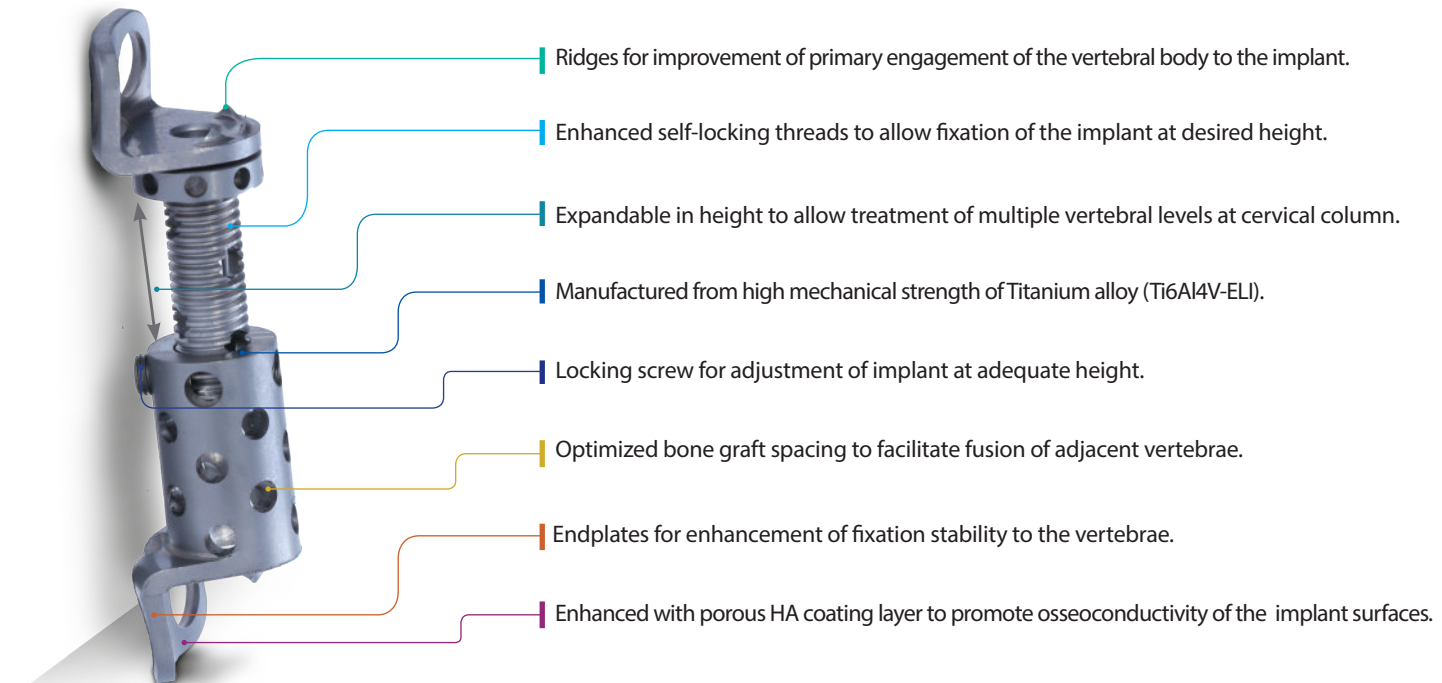
**Cervical Bladed Cage**





## Cervical Expandable Corpectomy Cage

This implant is intended for treatment of severe degenerated or fractured vertebral bodies in cervical column.

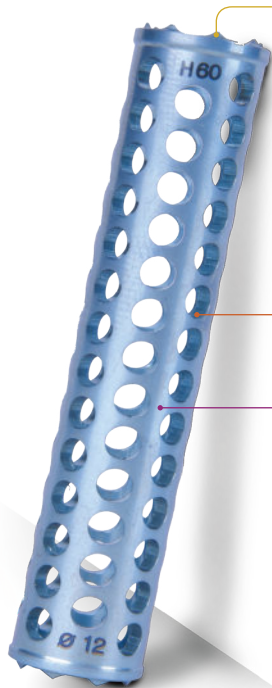






## Mesh Corpectomy Cage

This implant is intended for treatment of severe degenerated or fractured vertebral bodies in cervical column.



- Ridges for improvement of primary engagement of the vertebral body to the implant.
- Manufactured from high mechanical strength of Titanium alloy (Ti6Al4V-ELI).
- Enhanced with porous HA coating layer to promote osseointegration of the implant surfaces.

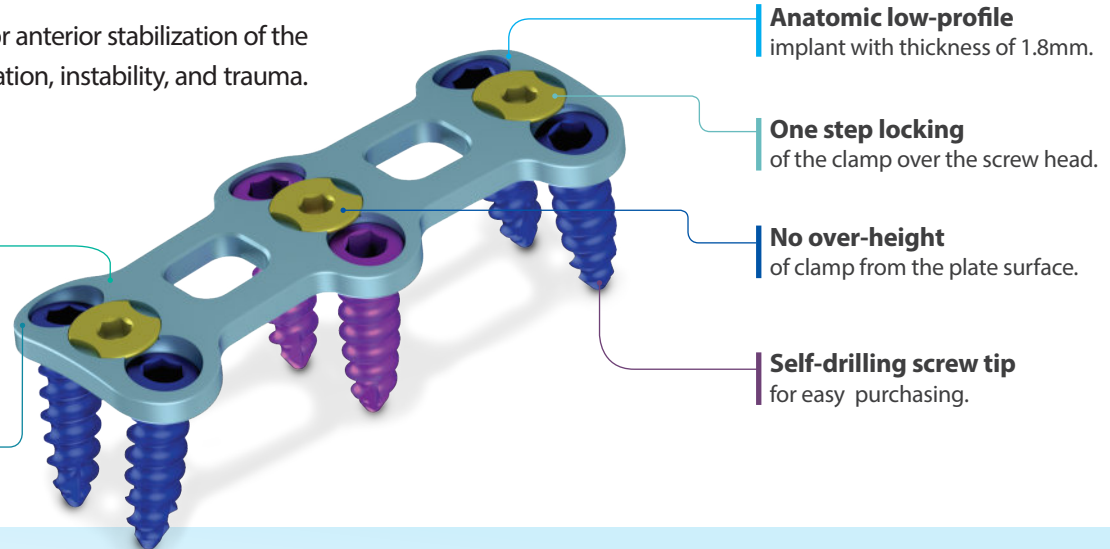
- Increased bone graft spacing to facilitate fusion of adjacent vertebrae.
- Available in various diameters 10, 12, 14 mm.
- Available in various lengths from 12 to 60 mm with 3mm increment.
- Optimized mechanical strength and meshing holes on the cage wall.

## Cervical Plating System

Low profile Plating System is intended for anterior stabilization of the cervical injuries associated with degeneration, instability, and trauma.

**Optimized biomechanical** rigidity and flexibility

**Manufactured from** high strength titanium alloy (Ti6Al4V-ELI) enhanced with TiO<sub>2</sub> coating layer.

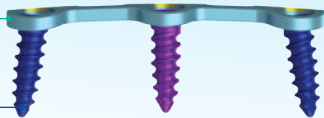


**Anatomic low-profile** implant with thickness of 1.8mm.

**One step locking** of the clamp over the screw head.

**No over-height** of clamp from the plate surface.

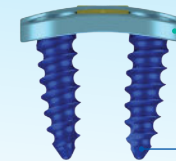
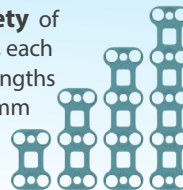
**Self-drilling screw tip** for easy purchasing.



**Longitudinal curved profile** to be anatomically seated on the anterior aspect of the cervical column.

**Angular fixation** of the screw in longitudinal axis

**Plate variety** of 1 to 4 levels, each in various lengths with 2 to 4 mm increment



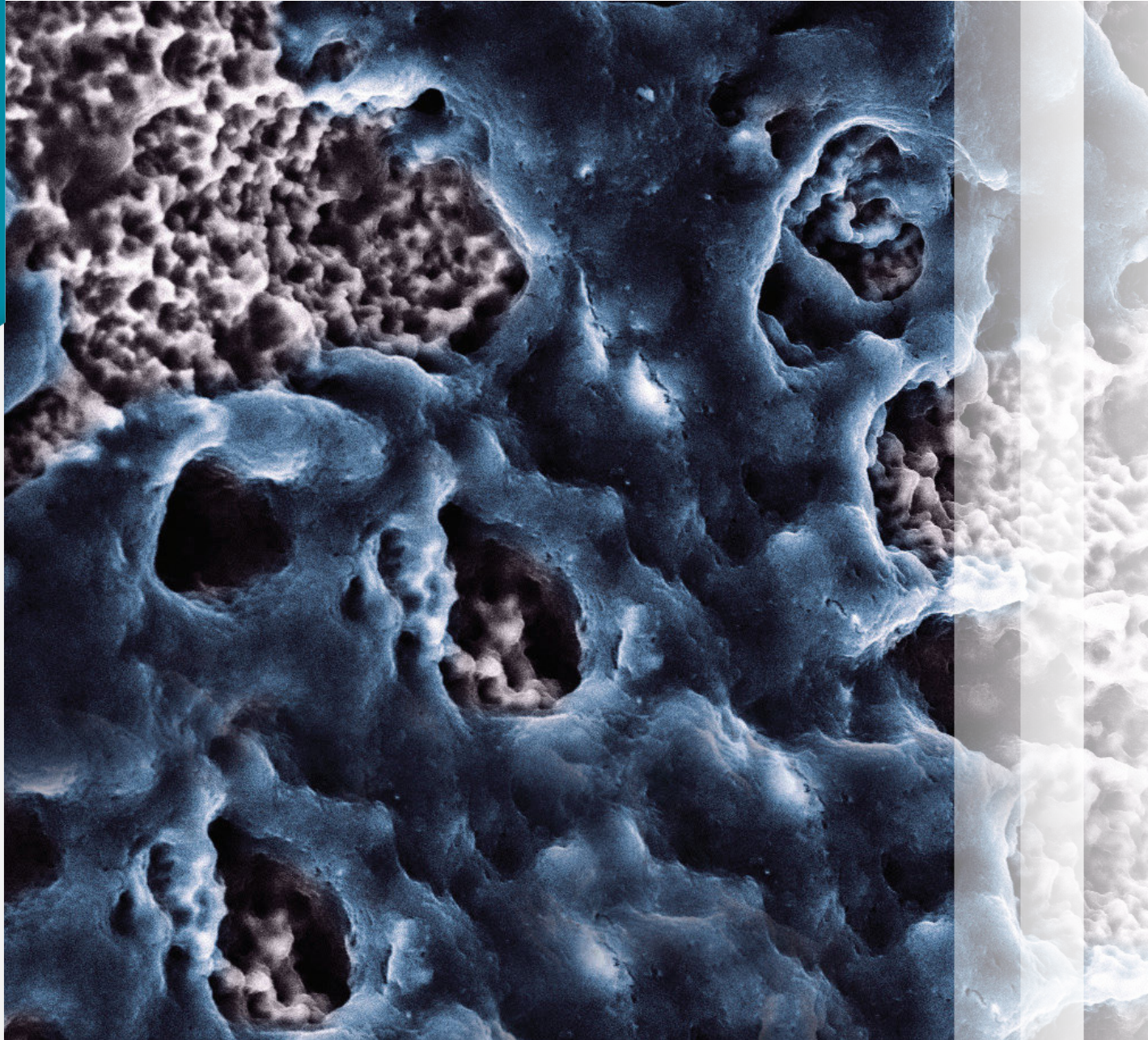
**Transverse curved profile** to be anatomically seated on the anterior aspect of the cervical column.

**Angular fixation** of the screw in transverse axis.

## 4.3 *Section 4* *Spinal Implants*

### *Osteo- Conductive Surface Technology*

- Nano-HA Coating Technology
- Nano-Ti Coating Technology







## Nano-HA Coating Technology

This technology would enhance the osteoconductivity of the implant surfaces manufactured from titanium or titanium alloys.

**Applicable** for Pedicle Screws, Lateral Mass Screw, Mesh Corpectomy Cages, Expandable Corpectomy Cages, Screws for Anterior Stand-alone fusion.

**Long-term** effectiveness of osseointegration at the interface of bone-implant, particularly trabecular bone.

**Increased** bone-ingrowth through the surface of the implant.

**Enhanced** adhesion of the coating layer to the screw threads, particularly at thread crest.



**Promote** bone formation on the surface of the implant and significant reduction of fibrous tissue formation.

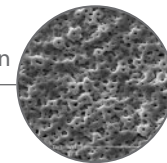
**Enhanced** corrosion resistant and biocompatibility effect compared to uncoated titanium implant.

**Effective** distribution of the calcium-phosphate phases with the prominent phase of HA with Ca/P ratio of 1.67.

**Porosity** of developed bioactive-osseoconductive coating layer in the range of 1 to 5 micro-meter.



\*500 magnification







## Nano-Ti Coating Technology

This technology would enhance the osteoconductivity of the implant surfaces manufactured from PEEK polymer.

- | **Applicable** for PEEK interbody fusion cages.
- | **Osseoconductive coating** layer for promotion of cell adhesion and proliferation.
- | **Enhanced** osseointegration of the implant-vertebral to reduce the risk of implant migration.
- | **Nano thickness** coating layer.
- | **Coated with** 100% pure titanium to prevent toxicity effects.
- | **No debonding** of the coated layer during impactation force of cage implantation.



**Promotion of** PEEK hydrophilic characteristics to increase flow of body fluid at the interface of the cage-vertebral body.



| **Long-term** effectiveness of osseointegration at the interface of cage-vertebral body.

| **Accelerate** bony fusion of the adjacent vertebrae at the implanted segment.

| **Increased formation** of the apatite and prevent formation of fibrous tissue at the interface of cage- vertebral body.



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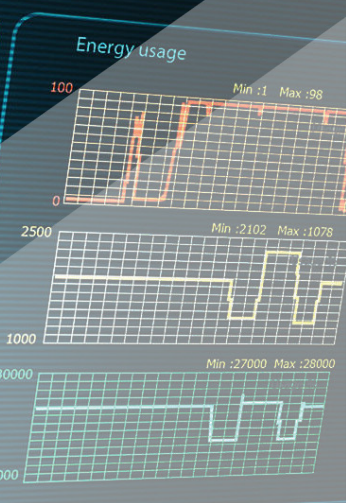


# Human Brain Monitor



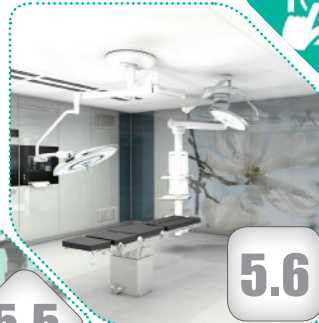
## Section 5

# Smart Hospital Solutions



### Smart OR

- Modular Operating Room Walls
- Operating Room Management Systems (ORMS)



5.6



5.1



5.5



5.4



5.3

### Automation

- BMS



5.2

### Safety & Security

- CCTV
- Access Control
- Intruder Alarm
- Fire Alarm & Fire Fighting

### RFID

- RFID and RTLS

### Infotainment

- IPTV
- Digital Signage

### Communication

- LAN/WAN/WLAN/FTTX
- VOIP
- Paging
- Nurse Call





## 5.1 *Section 5 Smart Hospital Solutions*

### *Automation*

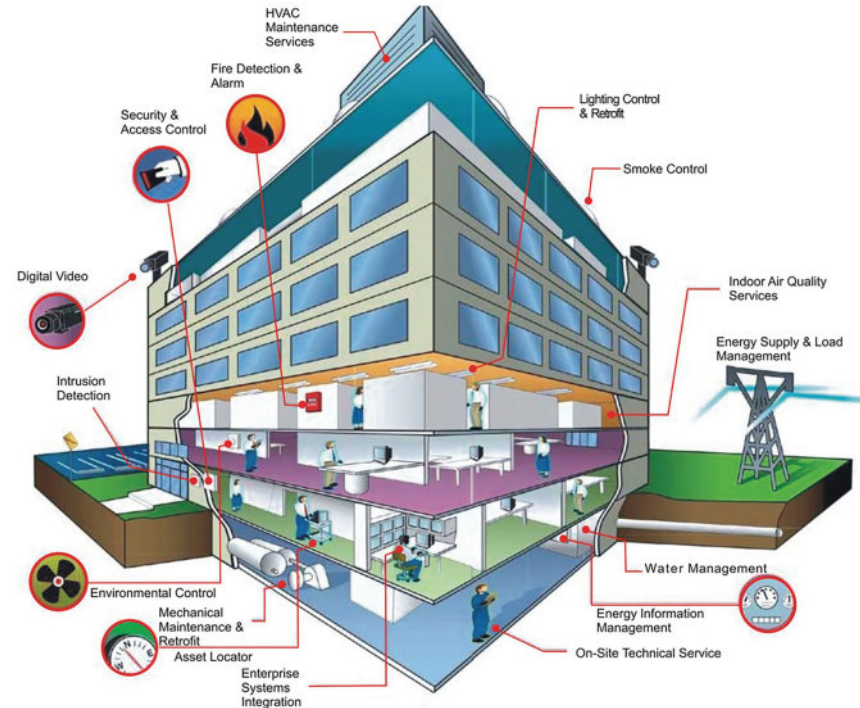
- BMS  
Building Management  
Systems





## BMS

- Hospital Lighting Control
- Hospital Curtain Control
- Hospital HVAC Control
- Hospital Energy Management
- Hospital Data Center Control
- Access Control Integration
- CCTV Integration
- Remote Monitoring Via LAN or Internet
- 2D or 3D Graphical User Interface
- Various Protocols (TCP/IP, MODBUS, KNX)



- *Optimizing Hospital Energy Consumption*



# COMMUNICATION

## 5.2 *Section 5 Smart Hospital Solutions*

### *Communication*

- LAN/WAN/WLAN/  
FTTX
- VOIP
- Paging
- Nurse Call





## LAN/WAN/WLAN/FTTX

- 10Gb/s Back Bone Network Speed
- Wireless 802.11ac Support
- Structured Copper and Fiber Cabling
- Fiber Optic Networks (FTTH/FTTX)
- FTTX for Hospital Data Infrastructure



- *Total Solution Integration*

## VOIP

- Software Base or Embedded PBX Centers
- Video Phone Support
- Dect Phone Support
- Paging Integration







## Paging

- IP Base Amplifiers
- Minimum Cabling Requirements
- Design Flexibility
  
- *Flexible and Expandable Paging Design*



## Nurse Call

- Full IP Base
- Call recorder
- Connecting HIS
- Connecting VOIP



# HEALTH DATA

surgery 0  
clinical test  
medications  
blood pressure  
lab test 52%  
recovery 82%  
BMI normal



Smart Hospital



10-may-14

patient #08001

gender ♂  
age 23  
HR 95 bpm  
120/80  
ECHO D  
CD PWR<500  
Frg 2.0 MHz



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## 5.3 Section 5 Smart Hospital Solutions

### Infotainment

- IPTV
- Digital Signage







## IP TV

- Live TV
- Video on Demand Service
- Music on Demand Service
- HIS Integration
- PACS Integration
- BMS Integration
- Installing on Bedside Patient Console or Smart Displays

- *Hospital or a Five-Star Hotel ... !*



## Digital Signage

- Doctors Information
- Hospital Services
- Medical Services Advertising
- Remote Content Management
- Various Templates
- Various Schedules
- Optimum Network Infrastructure Bandwidth
- Installing on Smart Displays







## 5.4 *Section 5 Smart Hospital Solutions*

### RFID

- RFID and RTLS





## RFID and RTLS

- Different Readers Antennas and Tags
  - Medical Equipment Tracking
  - Surgical Instruments or Drugs Tracking
  - Patient Tracking
  - Real-time Location System via WLAN Network for Doctors, Nurses , Patients and Equipment
  - Wavehouse Management
  - Easily Integrated with All ERP or HIS, Softwares
  - Easily ORMS Integration
- 
- *Locate Everything & Everybody Quickly*





## 5.5 *Section 5 Smart Hospital Solutions*

### *Safety & Security*

- CCTV
- Access Control
- Intruder Alarm
- Fire Alarm & Fire Fighting







## CCTV

- IP Base
- Video Analytic
- Camera Monitoring Software and Hardware

- *Increase Your Hospital Security Level*



## Access Control

- RFID Card
- Finger Print
- Face Detection
- Plate Recognition







## Intruder Alarm

- Microwave Sensors
- Passive and Active Infrared Sensors
- Microphonic Sensors
- Fiber Optic Sensors



- *Sometimes Safety is More Important than Security*

## Fire Alarm and Fire Fighting

- Smoke Detection
- Heat Detection
- BMS Integration





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## 5.6 *Section 5* Smart Hospital Solutions

### Smart OR

- Modular Operating Room Walls
- Operating Room Management Systems (ORMS)







## Modular Operating Room Walls

- Laminated Glass Panels
  - Stainless Steel Panels
  - Galvanized Panels
  - Laminar Airflow
  - Stainless Steel Door
  - Operating Room Lighting
  - Connecting to ORMS Via BMS Panel
  - Various Anti-Bacterial Colors and Motifs
  - Available for Operating Rooms, ICU, CCU, CSR and ...
  - Fast Installation
- 
- *Ultimate Elegance and Sterilized Implementation*







## Operating Room Management Systems (ORMS)

- Operating Room Video Source Integration (HDMI, SDI, VGA, DVI, TCP/IP, PACS)
- Video Routing
- Video Streaming
- Video Recording (USB, NAS, SAN)
- Surgical Light Control
- Video Conferencing
- BMS Control Panel
- Music Control Panel
- HIS & PACS Control Panel
- RFID Reader



- *Now the Operating Room is Under Your Control*



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قابلیت سفارشی سازی  
طرح دیوارها



## Section 6 Services





## Medical Equipment Calibration Laboratory

### Formally Certified by the General Bureau of Medical Equipment

Quality Control and Calibration of Following Equipment:

- ECG Monitoring Equipment
- Patient Monitoring Equipment
- Pulse Oximeter Equipment
- Blood Pressure Equipment
- Defibrillator Equipment
- Infusion Device
- Transcutaneous Pacer Device
- Patient Ventilator Equipment
- Safety Tests on all Types of Medical Equipment



■ Defibrillator Analyzer



■ Patient Simulator



■ NIBP Calibrator



■ Infusion Device Analyzer



■ SpO<sub>2</sub> Simulator



■ Gas Flow Analyzer





## **Section 7** **History**





## Cardioset ASA 9

- 19" Diagonal Display
- ECG + HR
- SpO<sub>2</sub> % + PR
- RESP + RR
- NIBP
- 2 Temp + 2 IBP
- CO<sub>2</sub> (Mainstream)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- 2.0" Thermal Recorder
- CO<sub>2</sub> (Sidestream)

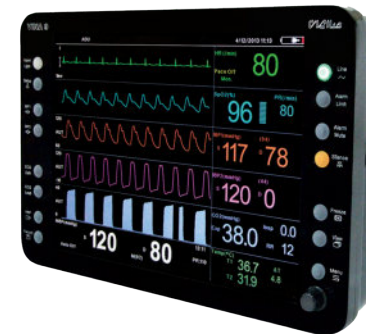


## Cardioset VINA 9

- 15" Diagonal Display
- ECG + HR
- SpO<sub>2</sub> % + PR
- RESP + RR
- NIBP
- 2 Temp+ 2 IBP
- CO<sub>2</sub> (Mainstream)

### Options

- Arrhythmia Analyzer
- ST Segment Detection
- 2.0" Thermal Recorder
- CO<sub>2</sub> (Sidestream)





### Cardioset PARS

- 15", 17", 19" and 21" Color TFT Display (User Selectable)
- ECG, RESP, SpO<sub>2</sub> %, NIBP, IBP (2 Channels), Temp (2 Channels), Multi-Gas/CO<sub>2</sub>/O<sub>2</sub>
- Depth of Anesthesia
- Sidestream CO<sub>2</sub>, ST/ Arrhythmia
- Thermal Recorder, 12 leads ECG



### Cardioset X110

- 10.4" Color TFT Display
- ECG, RESP, SpO<sub>2</sub> %, IBP (2 Channels), Temp (2 Channels), NIBP
- CO<sub>2</sub>, Thermal Recorder



### Cardioset S110

- 6.7" Color TFT Display
- ECG, RESP, SpO<sub>2</sub> %, NIBP





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## Section 8

# Certificates & Awards





## Certificates



■ CE Certificates



■ ISO Certificates



■ Production Certificates



■ Management System certificates



## Awards

