

# Patient Monitoring Systems

Patient Monitor
Vital Sign Monitor
Pulse Oximeter



#### **Patient Monitor**

# 

#### **BT-770**

- 12.1" color TFT touch screen
- ECG, Resp., SpO<sub>2</sub>, NIBP, Temp., CO<sub>2</sub>, IBP, Multi-gas, C.O., Masimo SpO<sub>2</sub>
- Precise ECG measurement with pacemaker detection
- ST segment and 16 types of arrhythmia analysis
- Double overpressure protection for NIBP
- Intelligent cuff inflation pressure adjustment
- Smart Hook/Stand design, provide multiple placement modes
- Plug & Play Modular IBP& C.O., Modular Printer
- Multiple configuration options: 4-channel IBP, CO<sub>2</sub>, invasive C.O., Multi-gas
- Over 5 hours continuous working on battery
- 12-15V wide range DC input, suitable for ambulance
- Capable to connect with central monitoring system
- HL7 export to clinical information systems (option)



Dual Screen Central monitoring station



Touch screen



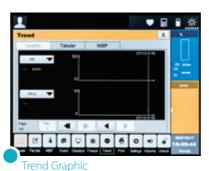
design





**Patient Monitor** 

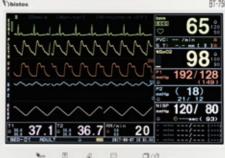






#### **BT-740**

- ■8.4" color TFT touch screen
- ECG, Resp., SpO<sub>2</sub>, NIBP, Temp., CO<sub>2</sub>, Masimo SpO<sub>2</sub>
- Ultra-low power consumption
- Fan-less design, super silent
- Accurate SpO₂ performance during motion and low perfusion
- Perfusion index display, pitch tone variation for pulse rate
- USB support for future upgrade and data transfer
- Over 6 hours continuous working on battery



#### **BT-750**

- 10.4" color TFT LCD
- ECG, Resp., SpO<sub>2</sub>, NIBP, Temp., CO<sub>2</sub>
- Light weight for portable use (3kg)
- 72 hours of tabular and graphic trend data
- Multi Language Support
- Rolling stand and wall mount
- Central Monitoring System



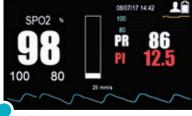
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#### Vital Sign Monitor





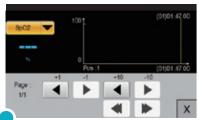
Portable design



SpO2



SpO2+NIBP



Trend Graphic

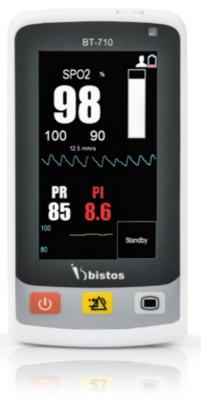
#### **BT-720**

- ■4.3" color touch screen
- SpO2, Pulse, NIBP, Masimo SpO2
- Short/long trend graphic / trend table display
- Audio & visual alarm, adjustable alarm limit
- Automatic brightness adjustment
- Accurate SpO2 performance during motion and low perfusion
- Perfusion Index data / bar graph display
- Pitch tone variation for pulse rate
- Internal memory for data storage
- SD card for easy software upgradation
- Over 8 hours continuous working on rechargeable lithium-ion battery
- Specialized PC software for data review and analysis
- Option for Masimo SpO2, NIBP
- HL7 export to clinical information systems



DC / Source Coffusion

#### **Pulse Oximeter**



BT-700

#### **BT-710**

- ■4.3" color touch screen
- Handheld style
- ■SpO2, Pulse
- Accurate SpO2 performance during motion and low perfusion
- Specialized PC software for data review and analysis
- Over 8 hours continuous working on rechargeable lithium-ion battery
- 5V DC input with convenient Micro-USB charger
- Battery can be charged by external USB battery
- Suitable for adult, pediatric and neonate





Handheld size

1) bistos

1) bistos



- ■3.2" color LCD
- Desktop Pulse Oximeter
- ■SpO2, Pulse
- Trend Graphic, Trend Tabular display
- Internal data saving
- Firmware upgrade by USB interface
- Apply nurse call state

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### **BISTOS Patient Monitor Technical Specification**

| Model                      |                             | •               | BT-770                           | BT-750                    |
|----------------------------|-----------------------------|-----------------|----------------------------------|---------------------------|
| Category                   |                             | Patient Monitor | Patient Monitor                  |                           |
| Dispaly                    |                             |                 | 12.1" Color Touch LCD            | 10.4" Color LCD           |
|                            | Lead Type                   |                 | 5 lead                           | 3/5 lead                  |
| ECG                        | Gain Selection              |                 | x0.125, x0.25, x0.5, x1,x 2,auto | 5, 10, 20mm/mV            |
|                            | Sweep Speed (mm/s)          |                 | 12.5, 25, 50                     | 12.5, 25, 50              |
|                            | Bandwidth : Diagnostic Mode |                 | 0.05-130 Hz                      |                           |
|                            | Monitoring Mode             |                 | 0.5-40 Hz                        |                           |
|                            | Surgery Mode                |                 | 1-25 Hz                          |                           |
|                            | Strong Mode                 |                 | 5-20 Hz                          |                           |
|                            | Hert Rate Range (bpm)       |                 | Adult : 15-300                   | Adult : 20 - 250          |
|                            |                             |                 | Pediatric/Neonate: 15-350        | Adult : 20 - 250          |
|                            | Method                      |                 | Trans-thoracic impedance         | Trans-thoracic impedance  |
| Respiration                | Measurement Range           |                 | 0-120 rpm                        | 0-150 rpm                 |
| •                          | Sweep Speed (mm/s)          |                 | 6.25, 12.5, 25                   | 6.25, 12.5, 25            |
|                            | Measurement Range           |                 | 0-100 %                          | 0-100 %                   |
|                            | Accuracy (70-100%)          | Adult/Pediatric | ±2%                              | ±2%                       |
|                            |                             | Neonate         | ±3%                              | ±3%                       |
| SpO <sub>2</sub>           | Accuracy (0-69%)            |                 | unspecified                      | unspecified               |
|                            | Perfusion Index             | -               | 0.05-20%                         | 0.05-20%                  |
|                            | Pulse Rate Range (bpm)      |                 | 25-250                           | 20-250                    |
|                            | Method                      | - 7             | Automatic Oscillometric          | Automatic Oscillometric   |
|                            | Operation Mode              |                 | Manual / Auto / STAT             | Manual / Auto / STAT      |
|                            | Parameter                   |                 | Systolic, Diastolic, Mean        | Systolic, Diastolic, Mean |
|                            | Systolic Range<br>(mmHg)    | Adult           | 40-270                           | 50-255                    |
|                            |                             | Pediatric       | 40-200                           | 50-255                    |
|                            |                             | Neonate         | 40-130                           | 30-130                    |
| NIBP**                     | Diastolic Range             | Adult           | 10-210                           | 30-220                    |
|                            |                             | Pediatric       | 10-160                           | 30-220                    |
|                            | (mmHg)                      | Neonate         | 10-90                            | 20-100                    |
|                            |                             | Adult           | 20-230                           | 40-235                    |
|                            | Mean Range                  | Pediatric       | 20-175                           | 40-235                    |
|                            | (mmHg)                      | Neonate         | 20-1/3                           | 25-120                    |
|                            | Pango                       | iveoriate       | 0-50℃ (41 to 122 °F )            | 10-45°C (50 to 113 °F )   |
| Temperature                | Range                       |                 | T1, T2 and TD                    | T1, T2                    |
|                            | Parameter<br>Channel        |                 | 2 Channel / 4 Channel            | 2 Channel                 |
| BP *                       |                             |                 |                                  |                           |
|                            | Range (mmHg)                |                 | -50 to 400                       | -50 to 300                |
| Printer *                  | Type  Print Speed (mm/s)    |                 | Thermal dot array                | Thermal dot array 50      |
| rinitei                    | Print Speed (mm/s)          |                 | 12.5, 25, 50<br>50               | 50.8                      |
|                            | Paper size (mm)             |                 | Masimo ISA / Bistos              |                           |
| CO <sub>2</sub> *          | Sidestream<br>Mainstream    |                 | Masimo ISA / Bistos              | Respironics               |
| Multi cas/O *              | Manistream                  |                 |                                  |                           |
| Multi-gas/O <sub>2</sub> * |                             |                 | Masimo ISA                       |                           |
| SpO <sub>2</sub> -Masimo * | Mother                      |                 | Masimo SpO <sub>2</sub>          |                           |
| C.O. *                     | Method                      |                 | Thermodilution                   |                           |
|                            | Range                       |                 | 0.2 - 20 L/min                   | 1:: /2200 413             |
|                            | Type (capacity)             |                 | Li-ion (4400mAh)                 | Li-ion (2200mAh)          |
| Battery                    | Run Time                    |                 | 5 hour                           | 4 hour                    |
| Charging Time              |                             | 4 hour          | 4 hour                           |                           |
| PC Software Interface      |                             |                 | RJ45, USB, Nursing call          | RJ45*, RS232C             |
| Warranty                   |                             |                 | 2 year                           | 2 year                    |

\* Option \*\* Option (BT-720)

| BT-740                       | BT-720                    | BT-710                  | BT-700               |
|------------------------------|---------------------------|-------------------------|----------------------|
| Patient Monitor              | Vital Sign Monitor        | Handheld Pulse Oximeter | Pulse Oximeter       |
| 8.4" Color Touch LCD         | 4.3" Touch LCD            | 4.3" Touch LCD          | 3.2" Color LCD       |
| 5 lead                       |                           |                         |                      |
| (0.25, x0.5, x1, x2, x4 auto |                           |                         |                      |
| 12.5, 25, 50                 |                           |                         |                      |
| 0.05-130Hz                   |                           |                         |                      |
| 0.5-40Hz                     |                           |                         |                      |
| 1-25Hz                       |                           |                         |                      |
| 5-20Hz                       |                           |                         |                      |
| Adult : 15-300               |                           |                         |                      |
| ediatric/Neonate: 15-350     |                           |                         |                      |
| rans-thoracic impedance      |                           |                         |                      |
| 0-120 rpm                    |                           |                         |                      |
| 6.25, 12.5, 25               |                           |                         |                      |
| 0-100 %                      | 0-100 %                   | 0-100 %                 | 0-100 %              |
| ±2%                          | ±2%                       | ±2%                     | ±2%                  |
| ±3%                          | ±3%                       | ±3%                     | ±3%                  |
| unspecified                  | unspecified               | unspecified             | unspecified          |
| 0.05-20%                     | 0.05-20%                  | 0.05-20%                |                      |
| 25-250                       | 25-250                    | 25-250                  | 30-250               |
| Automatic Oscillometric      | Automatic Oscillometric   |                         |                      |
| Manual / Auto / STAT         | Manual / Auto / STAT      |                         |                      |
| Systolic, Diastolic, Mean    | Systolic, Diastolic, Mean |                         |                      |
| 40-270                       | 40-270                    |                         |                      |
| 40-200                       | 40-200                    |                         |                      |
| 40-130                       | 40-130                    |                         |                      |
| 10-210                       | 10-210                    |                         |                      |
| 10-160                       | 10-160                    |                         |                      |
| 10-90                        | 10-90                     |                         |                      |
| 20-230                       | 20-230                    |                         |                      |
| 20-175                       | 20-175                    |                         |                      |
| 20-100                       | 20-100                    |                         |                      |
| 0-50°C (41 to 122 °F)        |                           |                         |                      |
| T1, T2 and TD                |                           |                         |                      |
| 2 Channel / 4 Channel        |                           |                         |                      |
| -50 to 400                   |                           |                         |                      |
| Thermal dot array            |                           |                         |                      |
| 12.5, 25, 50                 |                           |                         |                      |
| 50                           |                           |                         |                      |
| Masimo ISA / Bistos          |                           |                         |                      |
| Masimo IRMA/ Bistos          |                           |                         |                      |
| Masimo ISA                   |                           |                         |                      |
| Masimo SpO <sub>2</sub>      | Masimo SpO <sub>2</sub>   |                         |                      |
| Thermodilution               |                           |                         |                      |
| 0.2 - 20 L/min               |                           |                         |                      |
| Li-ion (4400mAh)             | Li-ion (4400mAh)          | Li-ion (4400mAh)        | Li-ion (2600mAh)     |
| 6 hour                       | 8 hour                    | 8 hour                  | 3 hour               |
| 4 hour                       | 8 hour                    | 8 hour                  | 8 hour               |
| RJ45, USB, Nursing call      | RJ45, SD card slot        | SD card slot            | RS232C, Nursing call |
| 2 year                       | 2 year                    | 2 year                  | 2 year               |

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#### **BIO SIGNAL TOTAL SOLUTION**

#### Bistos Co., Ltd. (Headquarter)

7th Fl., A Bldg., Woolim Lions Valley 5-cha, 302, Galmachi-ro, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea

Tel. +82 (31) 750 0340 Fax. +82 (31) 750 0344

bistos@bistos.co.kr www.bistos.co.kr

#### Bistos America Inc. (US Branch)

11417 W Bernardo Ct Ste D, San Diego, CA 92117, USA Tel. +1-868-433-6689 Fax. +1-888-391-5153



## **EC Certificate**Full Quality Assurance System

Certificate No.:

243269-2017-CE-KOR-NA-PS Rev. 2.0

Project No.:

PRJC-533956-2015-MSL-KOR

Valid Until:

01 September 2023

This is to certify that the quality system of:

#### Bistos Co., Ltd.

7th Fl., A Bldg., Woolim Lions Valley 5-cha, 302, Galmachi-ro, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea

For design, production and final product inspection/testing of:

### Monitoring devices of vital physiological parameters and Utilising non-ionizing radiation

Has been assessed with respect to:

The conformity assessment procedure described in Article 11.3.a and Annex II excluding section 4 (Module H2) of Council Directive 93/42/EEC on Medical Devices, as amended

and found to comply.

Further details of the product(s) and conditions for certification are given overleaf.

Place and Date: **Høvik, 30 August 2018** 

NORWEGIAN ACCREDITATION PROD 021 Notified Body No.: 2460 DNV GL PRESAFE AS

**Cathrine Wisbech** 

The Certificate has been digitally signed.
See <a href="https://www.presafe.com/digital\_signatures">www.presafe.com/digital\_signatures</a> for more info

Notice: The Certificate is subject to terms and conditions as set out in the Certification Agreement. Failure to comply may render this Certificate invalid.



## **EC Certificate**Full Quality Assurance System

Certificate No.:

243269-2017-CE-KOR-NA-PS Rev. 2.0

Project No.:

PRJC-533956-2015-MSL-KOR

Valid Until:

01 September 2023

#### Jurisdiction

Application of Council Directive 93/42/EEC of 14 June 1993, adopted as "Forskrift om Medisinsk Utstyr" by the Norwegian Ministry of Health and Care Services.

#### Certificate history:

| Revision | Description   | Issue Date |
|----------|---|------------|
| 0.0      | Replaces certificate EU1308401, Rev2.0 (NB 0470) following transfer of Notified Body functions to DNV GL Nemko Presafe AS (NB 2460)   | 2017-09-01 |
| 1.0      | EU Rep change   | 2018-04-13 |
| 2.0      | Re-certification for Fetal monitor and Neonatal Phototherapy unit. (BT-300, BT-350, FM-20, Biocare FM-1, BT-400) Scope extension for pulse oximeter and patient monitor. (BT-710, BT-720, BT-740, BT-770) The accessories (Feotal Doppler system probe and Cardiotocograph transducers) are removed. (AY-DOP-300, AY-DOP-350, AY-UC-300, AU-UC-350) | 2018-09-01 |

#### Products covered by this Certificate:

| <b>Product Description</b> | Product Name  | Class |
|----------------------------|---|-------|
| Fetal monitor              | <ul> <li>BT-300</li> <li>BT-350</li> <li>FM-20</li> <li>Biocare FM-1</li> </ul> | lla   |
| Neonatal Phototherapy unit | ■ BT-400  | lla   |
| Pulse Oximeter             | ■ BT-710  | IIb   |
| Patient Monitor            | <ul><li>BT-720</li><li>BT-740</li><li>BT-770</li></ul>                          | IIb   |

The complete list of devices is filed with the Notified Body

#### Sites covered by this certificate

| Site Name        | Address   |
|------------------|---|
| Bistos Co., Ltd. | 7th Fl., A Bldg., Woolim Lions Valley 5-cha, 302, Galmachi-ro, Jungwongu, Seongnam-si, Gyeonggi-do, Korea |



## **EC Certificate**Full Quality Assurance System

Certificate No.:

243269-2017-CE-KOR-NA-PS Rev. 2.0

Project No.:

PRJC-533956-2015-MSL-KOR

Valid Until: 01 September 2023

#### **EU Representative**

OBELIS S.A, Bd. General Wahis, 53, 1030 Brussels, Belgium

#### Terms and conditions

The certificate is subject to the following terms and conditions:

- Any producer (see 2001/95/EC for a precise definition) is liable for damage caused by a defect in his product(s), in accordance with directive 85/374/EEC, as amended, concerning liability of defective products.
- The certificate is only valid for the products and/or manufacturing premises listed above.
- The Manufacturer shall fulfil the obligations arising out of the quality system as approved and uphold it so that it remains adequate and efficient.
- The Manufacturer shall inform Presafe of any intended updating of the quality system and Presafe will assess the changes and decide if the certificate remains valid.
- Periodical audits will be held, in order to verify that the Manufacturer maintains and applies the quality system. Presafe reserves the right, on a spot basis or based on suspicion, to pay unannounced visits.

The following may render this Certificate invalid:

- Changes in the quality system affecting production.
- Periodical audits not held within the allowed time window.

#### Conformity declaration and marking of product

When meeting with the terms and conditions above, the producer may draw up an EC declaration of conformity and legally affix the CE mark followed by the Notified Body identification number of Presafe.

**End of Certificate** 



#### **Management System Certificate**

Certificate No.: 243275-2017-AQ-KOR-NA-PS Rev. 2.0

Project No.: PRJC-533956-2015-MSL-KOR

Initial Certification Date: **12 August 2004** 

Valid Until: 09 SEPTEMBER 2021

This is to certify that the management system of:

#### Bistos Co., Ltd.

7th Fl., A Bldg., Woolim Lions Valley 5-cha, 302, Galmachi-ro, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea

Complies with the requirements of:

ISO 13485:2016/NS-EN ISO 13485:2016

The Certificate is valid for the following scope:

Design, manufacturing, Sales, Distribution, and servicing of Ultrasound Doppler system, Fetal monitor, Phototherapy, Patient Monitor, Pulse Oximeter, Incubator, Head-worn light, Infant Warmer and Electric Breast Pump.

Place and Date: Høvik, 12 September 2018



For: **DNV GL PRESAFE AS** 

**Tone Elise Kolpus** 

The Certificate has been digitally signed. See www.presafe.com/digital\_signatures for more info

Notice: The Certificate is subject to terms and conditions as set out in the Certification Agreement. Failure to comply may render this Certificate invalid.