TENDE® VAV®

INTENSIVE CARE INFANT INCUBATOR

Design Turkey 2014 Good Design Award

Masimo SET® rainbow

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Built-In Color TFT Touch Screen Display

Tende VAV NICU incubator comes with an integrated 7-inch color TFT Touch Screen Display. This feature makes monitoring and control of the device easier for clinicians and increases the productivity and effectiveness of the treatment as all other features are easy to control and the device is responsive to the commands in a fast manner.

Color TFT Touch Screen Side Display (Optional)

If a bigger display is needed, we can offer the 10.1-inch display as a perfect solution. This display allows the user to easily monitor the parameters measured by the Masimo Rainbow Set feature. On this display, the alarm can be silenced by hand movement in front of the sensor.

Temperature Control Modes

Tende VAV comes with two temperature control modes. Thanks to this feature clinicians can easily control and monitor the skin temperature of the neonate and air temperature inside the canopy. The temperature range can be defined as per the clinician's needs. In case the measured value is higher or lower than the determined range the system automatically sets on the audible and visual alarm.

Patented Servo Humidity System

Humidity has vital importance for neonates. Having this in mind Tende has developed a patented servo humidity system. This sophisticated system can be completely removed from the device for cleaning purposes, and this feature combined with hot steam technology provides a whole new level of hygiene and safety. Using its 2000ml reservoir Tende humidity system can maintain a humidity range for a long time.

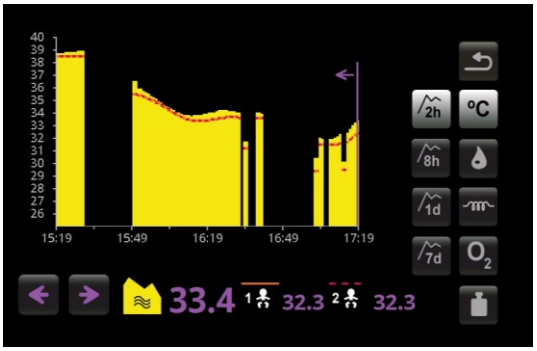
Electronic Mattress Tilt System (Trendelenburg)

Mattress tilt can be easily controlled and adjusted electronically using the options featured on the display. Thanks to its powerful motor Tende VAV allows the user to adjust the mattress tilt angle in two directions to the needed level without using mechanical force. The tilt angle of the mattress can be seen on the screen. The process itself is silent and vibrationless, which is highly important for the health of the newborn. This system has an "Emergency Down" button which can put the mattress into a neutral position with one click.

Mattress Tilt

Trend Observation

This feature allows clinicians to monitor skin and air temperature, humidity and oxygen levels, the weight of the neonate, and the heater power of the incubator on both displays for 2, 4, 8 hours, 1 day, and 7 days period. It is possible to follow 1 day and 7 days trends at 1-minute intervals.



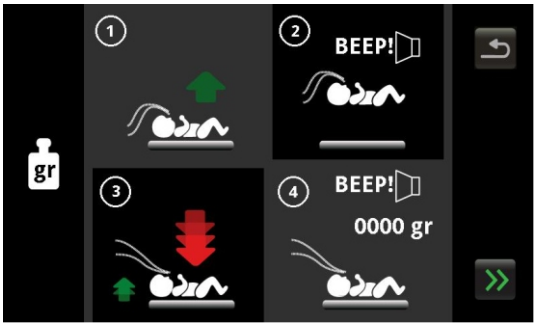
Trend

Servo Oxygen System (Optional)

Safety and accuracy are the important characteristics of the Tende VAV Oxygen System therefore it comes with two oxygen sensors. This system operates silently and monitors continuously the oxygen circulation to prevent oxygen leakage, even when the rates are not set. If there are other oxygen sources the clinician can stop the oxygen alarm by activating the manual mode. Even in this case, the monitoring continues and the clinician can see the oxygen percentage.

Integrated Digital Scale (Optional)

Monitoring the weight is very important for the newborn's health, as each gram of weight matters in the early stage of life. Having this in mind Tende team has developed an integrated digital scale that can measure the weight of a neonate fast and accurately. Using this feature is simplified by the integrated guide animation with sound.



Digital Scale Instructions

Electronic Height Adjustment (Optional)

The height of the incubator can be adjusted easily by using the foot pedals. Lifting and lowering the incubator is done silently, without vibration as it is powered by the unique motor specially produced for Tende VAV.

Pulse-Oximeter (Optional)

Tende VAV is the first incubator in the world with the integrated Masimo Rainbow SET technology. Thanks to this feature it is possible to measure oxygen saturation (SpO2), perfusion index (PI), pleth variability index (PVI), total hemoglobin (SpHb), methemoglobin (SpMet), carboxyhemoglobin (SpCO) values without taking blood samples from the newborn (Non-Invasive method).

Sensor Module

NIBP (Non-Invasive Blood Pressure Measurement) (Optional)

Blood pressure and pulse values can be measured within determined time intervals. Clinicians can determine and set values as per their assessment. In case the measured values are not in the predetermined range the audible and visual alarms are activated.

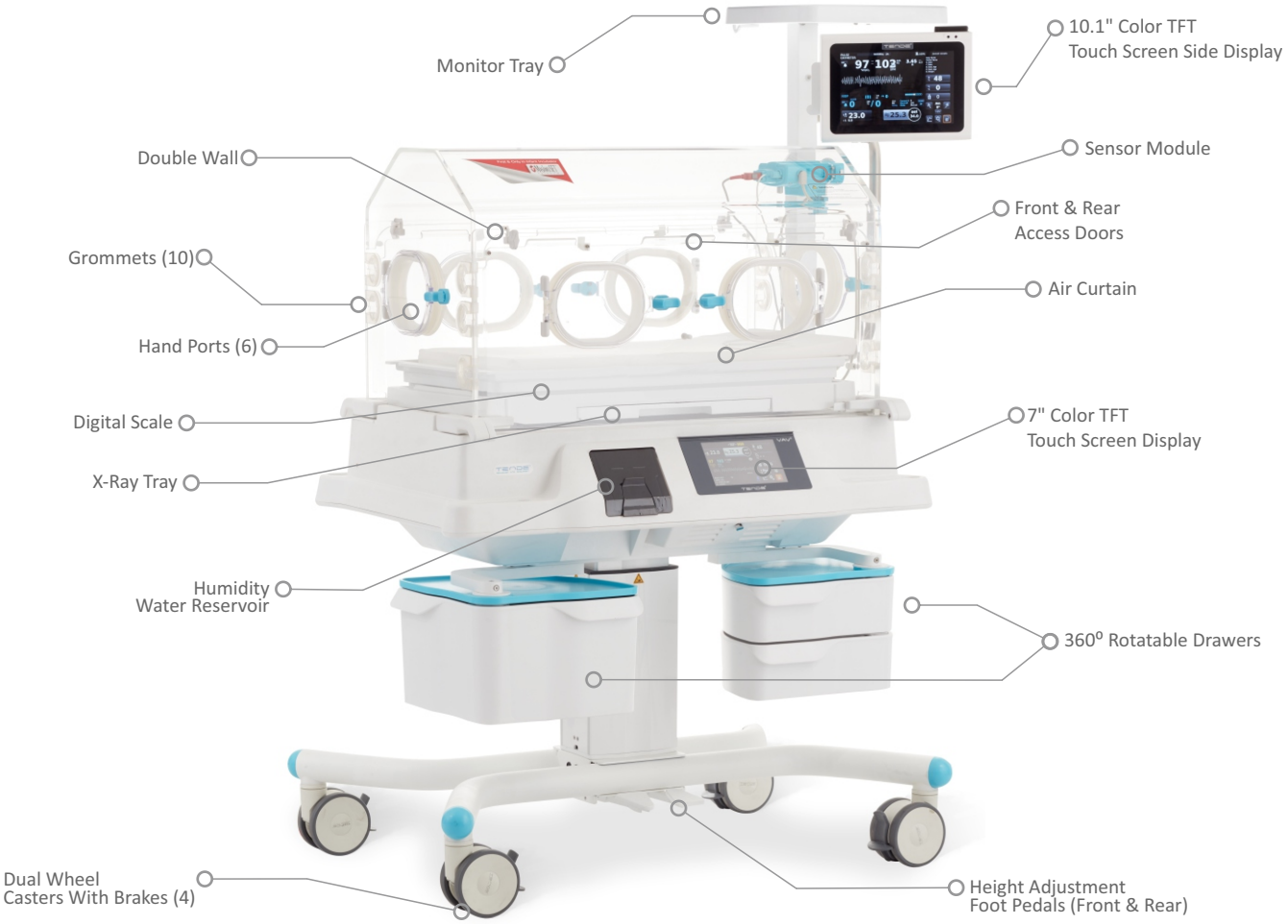
Mom's Bosom Mode & Air Curtain

"Mom's Bosom Mode" allows monitoring skin temperature when the newborn is out of the incubator for breastfeeding. During this process, the Air Curtain can be activated to maintain the temperature inside of the incubator.

Automation / Suggestion

The incubator suggests the degree of ambient temperature and the level of humidity according to the baby's gestational age and weight. If the clinician approves the suggested temperature and humidity values, these values will automatically be adjusted accordingly.

Tende VAV Side Display



TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS	
Built-in Display	7 inches Color TFT Touch Screen Display
Side Display (Optional)	10.1 inches Color TFT Touch Screen Side Display
Sizes	Height (Standard): 137.5 cm, Width: 108.5 cm, Depth: 73.5 cm
Electronic Height Adjustment (E-Base) (Optional)	Min. 134 cm Max. 153 cm
Weight	Standard;107.5 Kg, with Height Adjustment (E-Base)Option; 111.5 Kg
Wheels	4 Dual Wheel Casters with Friction Brakes (Diameter: 125 mm)
Monitorization Backup	Minimum 1 Hour Monitorization After Power Failure
Alarm Sound Level	Adjustable 4 Levels
Power Requirement	230V ~± %10, 50/60 Hz, Max 675W, 2.93A ~± %10 115V ~± %10, 50/60 Hz, Max 675W, 5.87A ~± %10
OPERATING CONDITIONS	
Temperature	18°C to 30°C
Humidity	0% to 80% (Noncondensing Relative Humidity)
HOOD SPECIFICATIONS	
Double Wall	Yes
Front and Rear Access Doors	Width; 85.5 cm x Height; 35.3 cm (Each Doors)
Mattress	Biocompatible, Cytotoxicity and Skin Irritation Free, Fire Retarded, Water Proof & Washable (ISO 10993-10 Sensitivity Reported, ISO 10993-5)
Mattress Size	Length; 74 cm x Width; 38 cm x Height; 3 cm
Mattress Tilt (Electronic Control)	± 12 Degrees, Continuously Variable with 1 Degree Resolution
Hand Ports	6 Pcs
Tubing Ports (Grommets)	10 Grommets
Opening Angle of the Doors/Ports	~180°
Operating Noise Level	< 45 dBA (When Servo Oxygen in Use Max 48 dBA)
Air Flow Velocity	< 10 cm/s
Air Filter	0.1 Micron, 99.9% Efficiency, Antibacterial, Easy replaceable
Air Curtain	Yes
CO_2 Concentration	< 0.5%
TEMPERATURE	
Temperature Control Modes	Air & Skin
Air Temperature Control	20°C to 39°C with 0.1°C Resolution (> 37° C with Approval)
Skin 1 Temperature Control	34°C to 38°C with 0.1°C Resolution (> 37.5° C with Approval)
Air & Skin 1 - Skin 2 Temperature Display Range	20°C to 42°C with 0.1°C Resolution
Temperature Rise Time	< 35 Minutes
Heater Output Indication	0% to 100% (in 5 levels)
SERVO HUMIDITY	
Humidity Control Range	30% to 95% with 1% Resolution
Humidity Display Range	0% to 100% with 1% Resolution, Accuracy ±10%
Humidity Water Reservoir Capacity	2000 ml
Humidity Operating Time Without Refilling	24 Hours Max. 95% Humidity
SERVO OXYGEN (OPTIONAL)	
Oxygen Control Range	21% to 65% with 1% Resolution
Oxygen Display Range	15% to 100% with 1% Resolution
INTEGRATED DIGITAL SCALE (OPTIONAL)	
Weight Range	100 gr to 10 kg (10,000 gr)
Weight Accuracy	± 5gr
Weight Display Resolution	1 gr
SpO_2 & PULSE OPTION (Masimo Rainbow SET)	
SpO_2 Display Range	0-100% SpO_2 with 1% Resolution
Pulse Rate Display Range	0 to 240 bpm with 1 bpm Resolution
PI, Arterial Pulse Signal Strength	Perfusion Index 0 to 20 Values
PVI, Pleth Variability Index	0 to 100 Values
SpMet, Methemoglobin Saturation	0% to 100%
SpCO, Carboxyhemoglobin Saturation	0% to 100%
SpHb, Total Hemoglobin Concentration in Arterial Blood	0% to 25% g/dL, 0% to 16% mmol/L
NIBP OPTION (Method of Measurement; Oscillometric)	
Blood Pressure Range	Systolic 40-130 mmHg, MAP 26-110 mmHg, Diastolic 20-100mmHg
Cuff Pressure	Measurement Range; 0-300 mmHg, Accuracy; ± 3 mmHg (0-50 °C)
Cuff Deflate Rate	Deflation Step Size Varies with Heart Rate, Cuff Pressure and Cuff Volume
Initial Inflation Pressure	90 mmHg (Default), Variable from 60 to 140 mmHg
Self-Adjusting Inflation Pressure	Previous Systolic + 20 mmHg
Clinical Accuracy (Meets accuracy requirements of...)	ANSI/AAMI SP10:2002(R)2008, EN1060-4:2004 and ISO 81060-2:2009/2013
Startup Initialization Period	6 Seconds
Long Term Interval Periods	1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 240 Minutes
TREND PARAMETERS	
2, 8, 24, 168 hours (7 Days) Trend Parameters for...	Air Temperature, Skin Temperature (Skin 1 and Skin 2), Relative Humidity Oxygen Concentration, Weight, Heater Power, NIBP
ALARMS (Audible & Visual)	
Air	High/Low Temp., Over Temp., Sensor Failure
Skin 1 (In Skin Mode)	High/Low Temp., Over Temp., Skin 1 Read Fault, Skin 1 Disconnected
Humidity	High/Low Humidity, Low Water Level, Place Water Case, Humidity Sensor Fault
Oxygen	High/Low Oxygen, Oxygen System Fault, Oxygen Sensor Fault Oxygen Leakage
SpO_2, Pulse Rate	High/Low Values, Related Security Alarms
Alarms Indicators (Audio & LED Lights)	LED; Yellow & Red Lights, Audio; Different Sounds for Different Alarms
Others	Motor Speed Fault, Heater Temp. Fault, Power, Low Battery, Motor Speed Fault, Sensor Module, Excess Weight, etc.

CE 1984
MDD 93/42/EEC ANNEX 2 / SEC 3
ISO 13485
ISO 9001

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