

**Sazgan Gostar Co.**  
**Vectra Patient Care Monitor Specification**

**Display**

|                    |  |
|--------------------|--|
| LCD                | 17-inch, TFT color LCD with LED Back light, 1280x 1024 pixel   |
| Wave Forms         | ECG<br>PLETH<br>IBP 1, 2 ( 2Traces )<br>Respiration<br>EtCo2 (OPTIONAL)  |
| Sweep Speed        | 6.25, 12.5, 25 mm/sec (Respiration )<br>12.5, 25, 50 mm/sec (for ECG ), 12.5, 25(for others)   |
| Trace Length       | 9 sec@ 25 mm/sec   |
| Wave form Freeze   | All Waveforms  |
| User Interface     | Keys & KNOB  |
| Numeric Parameters | Heart Rate, ST level , % SpO2, Pulse Rate, IBP1, IBP2,<br>NIBP (Systolic, diastolic, mean), Body Temperature T1,<br>T2, $\Delta$ T & EtCO2, INS CO2, Respiration Rate, Apnea |

**ECG ( Adult, Pediatric , Neonate )**

|                 |   |
|-----------------|---|
| Lead            | I, II, III, aVR, aVL, aVF, V(5-Lead)  |
| Rate            | 15-300 Adult, 15-350 Ped / Neo  |
| Averaging       | 8 Second  |
| Maximum Input   | $\pm 8$ mv  |
| DC Offset       | up to $\pm 300$ mv  |
| Leakage current | $< 10 \mu$ A  |
| Filters         | "MONITOR" (0.5-40 Hz) "SURGERY" (1-20Hz)<br>"DIAGNOSTIC" (0.05 -100 Hz)   |
| CMRR            | $\geq 90$ dB (Diag), $\geq 105$ (Mon,Sur)   |
| Gain            | 1/4, 1/2, 1, 2, 4   |
| Pacer Rejection | Duration: 0.1-2 msec Amplitude: $\pm 2$ to $\pm 700$ mv<br>Type: Sync. With any distance from QRS<br>or Async. Heart Rate Counter is not affected by<br>pacemaker signals which have no overshoot |
| Alarm Limits:   | Lower 15 to 298 bpm & off (no greater than Upper limit )<br>Upper : 17 to 300 bpm & off (no less than Lower limit )   |
| Protection      | Defibrillator & Electrocuttery protected  |

**ST segment measurement**

|                   |  |
|-------------------|--|
| Measurement Range | -2.0 to +2.0 mv                                  |
| Precision         | $\pm 0.02$ mv or $\pm 10\%$ Whichever is greater |

Update period 10 s

### Arrhythmia analysis

Type ASYSTOL , VFIB/VTAC, PVC, COUPLET, VT>2, BIGEMINY, TRIGEMINY, R on T, MISSED BEATS, TACHY, BRADY, PNC & PNP

### Respiration:

Respiration Method Thoracic impedance  
Lead Optional : Lead I & Lead II  
Range 0.3-3 ohm ( base impedance=200-2500 ohm)  
Gain 1/4, 1/2, 1, 2, 3, 4, 5  
Apnea Alarm 10-40 sec  
Respiration Rate 0 to 120 Br PM Adult,  
0 to 150 Br PM Ped /Neo

### Pulse Oximeter(Adult , Pediatric , Neonate)

Range 0- 100 %  
Accuracy  $\pm 2\%$  (70-100%)  
Unspecified (0-69%)  
Resolution 1 %  
Puls Range 25-240 bpm  
Sensor Type Dual wavelength LED (finger & Y-sensor)

### Invasive blood pressure (IBP)

Range -50 To 300 mm Hg  
Accuracy  $\pm 2\%$  or  $\pm 1\text{mmHg}$  , whichever is greater  
Numeric Parameters Systolic, Diastolic , Mean  
Transducer Sensitivity  $5\mu\text{ v/V/ mmHg}$

### Non - Invasive Blood Pressure( NIBP ) ( Adult, Pediatric, Neonate )

Measuring Method Oscillometric  
Pressure Range  
Systolic, Adult :25-265 mmHg  
Diastolic, Adult :15-220 mmHg  
MAP, Adult :20-245 mmHg  
Systolic, Pediatric :25-265 mmHg  
Diastolic, Pediatric :15-220 mmHg  
MAP, Pediatric :20-245 mmHg  
Systolic, Neonate :25-135 mmHg  
Diastolic ,Neonate :15-110 mmHg  
MAP, Neonate :20-120mmHg  
Accuracy  $\pm 5\text{ mmHg}$   
Resolution 1 mmHg  
Safety Features Automatic over pressure limit Redandant

over pressure switch operating limit

## Temperature 1,2(Adult, Pediatric, Neonate)

|               |                           |
|---------------|---------------------------|
| Measure Range | 0-50°C                    |
| Accuracy      | ±0.1°C                    |
| Probe Type    | YSI 400 Series Compatible |

## Memory

|                           |   |
|---------------------------|---|
| Trendgraphs               | HR, RR, SpO2, T1, T2, IBP1, 2, ST, PVCs, PR, Co2, Ins, AwRR                               |
| Trend time                | long trend:96 hours, resolution:1, 5, 10 min<br>short trend :1 hours, resolution:1, 5 sec |
| Trend Resolution          | 1 seconds with cursor   |
| Recall Store Type         | Alarm, Arrhythmia, NIBP   |
| Alarm & Arrhythmia Recall | 64 events   |
| Recall Stored Data        | to see all waveforms all parameters, Alarm ID save Time & Data                            |
| NIBP Recall               | 1024 Records  |

## Alarm

|               |  |
|---------------|--|
| Limits        | Tunable for HR, RR, SpO2, IBP, NIBP, Resp, TEMP, Apnea |
| Alarm on/ off | Selectable for each                                    |
| Alert         | Blinking on display , volume selectable audio alarms   |

## General

|                         |   |
|-------------------------|---|
| Safety Standard & Class | IEC 60601-1, Class I, Type CF & BF      |
| Protection              | Against Electrosurgery & Defibrillation |
| Power Requirements      | 100-240 VAC ,50/60Hz , 140VA            |
| Dimension               | 515(W) X 460 (D)X 315(H) mm             |
| Weight                  | Approx. 7.2kg                           |

## Environmental

|             |   |
|-------------|---|
| Temperature | Operation: 0 to 40°C ( 32 to 104° F)<br>Storage: -20 to 60°C              |
| Humidity    | Operating 15-95% (non condensing ),<br>Storage 10 to 95% (non condensing) |

## OPTIONS

Cardiac Output  
Capnograph  
Multi GAS Analyzer  
Recorder  
Rechargeable Battery(Internal)  
Touch screen