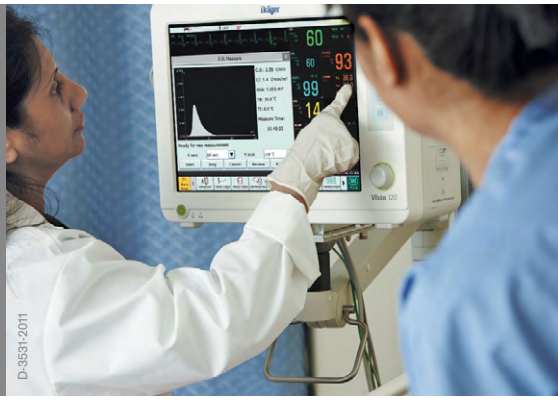
Vista 120 Patient Monitor

The Vista 120 offers essential monitoring capabilities at an exceptional value and meets the needs of a variety of care environments for adult, paediatric and neonatal patients. The 380 mm (15 inch) colour touch screen provides a clear view of vital patient data, and the quick access menu, hard keys and rotary knob enable easy navigation for the clinician.



FEATURES

- Versatile: provides a core set of essential parameters, plus optional advanced measurements
- Scalable: offers a choice of two models to meet diverse clinical needs
- Visible: large 380 mm (15 inch) colour touch screen provides a clear view of patient data
- Easy to use: provides quick access menu, hard keys, and a rotary knob
- Built-in recorder: saves time by providing documentation when needed
- OR support: includes gas analyser capability

Vista 120

TECHNICAL DATA

SUPPORTED PARAMETERS

ECG

Lead mode	3-lead wire: I, II, III 5-lead wire: I, II, III, aVR, aVL, aVF, V
Waveform	3-lead wire: 1-channel waveform 5-lead wire: 2-channel waveform, max. seven waveforms
Lead naming style	AHA, IEC
Display sensitivity	1.25 mm/mV (×0.125), 2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1), 20 mm/mV (×2), AUTO gain
Sweep	6.25, 12.5, 25, 50 mm/s
Bandwidth (-3 dB)	Diagnosis: 0.05 to 150 Hz Monitor: 0.5 to 40 Hz Surgery: 1 to 20 Hz
CMRR (Common Mode Rejection Ratio)	Diagnostic: > 95 dB (the Notch filter is off) Monitor: > 105 dB (the Notch filter is on) Surgery: > 105 dB (the Notch filter is on)
Notch	50 Hz/60 Hz (Notch filter can be selected manually)
Differential input impendance	> 5 MΩ
Input signal range	±10 mV_{PP}
Electrode offset potential tolerance	±500 mV

CONTINUING TECHNICAL DATA

Auxiliary current (Leads off detection)	Active electrode: < 100 nA Reference electrode: < 900 nA
Recovery time after defibrillation	<5 s
Leakage current of patient	<10 µA (normal condition)
Scale signal	1 mV_{PP}, accuracy is ±5
System noise	<30 μV_{PP}
ESU protection	Cut mode: 300 W Coagulation mode: 100 W Recovery time: ≤10 s Meets the requirements of ANSI/AAMI EC13-2002: Sect. 4.1.2.1 (a)
ESU noise suppression	Tested according to the test method in ANSI/AAMI EC13-2002: Sect. 5.2.9.14, it accords with the standard.
Minimum Input Slew Rate (Lead II)	>2.5 V/s

Pace pulse

Pulse indicator	Pulses are marked if the requirements of ANSI/AAMI EC13:2002, Sect. 4.1.4.1 are met: Amplitude: ±2 to ±700 mV Width: 0.1 to 2 ms Ascending time: 10 to 100 µs
Pulse rejection	For heart rate meter, pulse is rejected if the requirements of ANSI/AAMI EC13:2002, Sect. 4.1.4.1 are met: Amplitude: ±2 to ±700 mV Width: 0.1 to 2 ms Rise time: 10 to 100 µs

Heart rate

Range	ADU: 15 to 300 bpm PED/NEO: 15 to 350 bpm
Accuracy	±1% or ±1 bpm, whichever is greater
Resolution	1 bpm
Sensibility	≥300 μV_{PP}

PVC

Range	ADU: 0 to 300 PVCs/min PED/NEO: 0 to 350 PVCs/min
Accuracy	1 PVCs/min or 2% of measurement, whichever is greater
Resolution	1 PVCs/min

ST value

Range	-2.0 to 2.0 mV
Accuracy	The max. of ±0.02 mV or 10% (-0.8 to 0.8 mV)
Resolution	0.01 mV

HR averaging method

Method 1	Heart rate is computed by excluding the minimum and maximum values from the 12 most recent RR intervals and averaging the residual 10 RR intervals.
Method 2	If each of three consecutive RR intervals is greater than 1,200 ms, then the four most recent RR intervals are averaged to compute the HR.

Range of sinus and SV rhythm

Tachycardia	ADU: 120 to 300 bpm PED/NEO: 160 to 350 bpm
Normal	ADU: 41 to 119 bpm PED/NEO: 61 to 159 bpm
Bradycardia	ADU: 15 to 40 bpm PED/NEO: 15 to 60 bpm

Range of ventricular rhythm

Ventricular tachycardia	The interval of 5 consecutive ventricular complexes is less than 600 ms
Ventricular rhythm	The interval of 5 consecutive ventricular complexes ranges from 600 ms to 1,000 ms
Ventricular bradycardia	The interval of 5 consecutive ventricular complexes is higher than 1,000 ms

Startup time for tachycardia

Ventricular tachycardia 1 mV 206 bpm	Gain 1.0: 10 s Gain 0.5: 10 s Gain 2.0: 10 s
Ventricular tachycardia 2 mV 195 bpm	Gain 1.0: 10 s Gain 0.5: 10 s Gain 2.0: 10 s
Response time of heart rate meter to change in HR	HR range: 80 to 120 bpm Range: 7 to 8 s, average is 7.5 s HR range: 80 to 40 bpm Range: 7 to 8 s, average is 7.5 s
Tall T-wave rejection	Exceeds ANSI/AAMI EC13-2002 Sect. 3.1.2.1 (c) minimum recommended 1.2 mV T-Wave amplitude
Accuracy of heart rate meter and response to irregular rhythm	According with ANSI/AAMI EC13-2002 Sect.4.1.2.1 (e) The HR value after 20 s: Ventricular bigeminy: 80 ±1 bpm Slow alternating ventricular bigeminy: 60 ±1 bpm Rapid alternating ventricular bigeminy: 120 ±1 bpm Bidirectional systoles: 91 ±1 bpm

Respiration

Method	Impedance between RA-LL, RA-LA
Baseline impedance range	200 W to 2,500 W (with ECG cables of 1 KW resistance)
Measuring sensitivity	0.3 Ω (baseline impedance 200 to 4,500 Ω)
Noise	<0.12 Ω (3, 5-lead monitoring)
Max. dynamic range	500 Ω resistance, 3 Ω variable resistance, no clipping
Waveform bandwidth	0.2 to 2.5 Hz (-3 dB)
RR measuring and alarm range:	Adult: 0 to 120 rpm Neo/Ped: 0 to 150 rpm
Resolution	1 rpm
Accuracy	±2 rpm
Gain selection	×0.25, ×0.5, ×1, ×2, ×3, ×4, ×5

CONTINUING TECHNICAL DATA

NIBP	
Method	Oscillometric
Mode	Manual, Auto, Continuous
Measuring interval in auto mode	1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 240, and 480 min
Continuous	5 min, interval is 5 s
Measuring type	Systolic Pressure, Diastolic Pressure, Mean Pressure
Alarm type	SYS, DIA, MAP

Measuring and alarm range	
Adult mode	SYS: 40 to 270 mmHg
	DIA: 10 to 215 mmHg
	MAP: 20 to 235 mmHg
Paediatric mode	SYS: 40 to 230 mmHg
	DIA: 10 to 180 mmHg
	MAP: 20 to 195 mmHg
Neonatal mode	SYS: 40 to 135 mmHg
	DIA: 10 to 100 mmHg
	MAP: 20 to 110 mmHg
Cuff pressure measuring range	0 to 300 mmHg
Pressure resolution	1 mmHg
Maximum standard deviation	8 mmHg

Maximum measuring period	
Adult/Paediatric	120 s
Neonate	90 s
Typical measuring period	30 to 45 s (depend on HR/motion disturbance)

Overpressure protection	
Adult	297 ±3 mmHg
Paediatric	245 ±3 mmHg
Neonatal	147 ±3 mmHg

PR	
Measuring range	40 to 240 bpm
Accuracy	±3 bpm or 3.5%, whichever is larger

SpO_2	
Measuring range	0 to 100%
Alarm range	0 to 100%
Resolution	1%

Accuracy	
Adult (including Paediatric)	±2% (70 to 100% SpO_2)
	Undefined (0 to 69% SpO_2)
Neonate	±3% (70 to 100% SpO_2)
	Undefined (0 to 69% SpO_2)

PI	
Measuring Range	0 – 10. It displays 0 for invalid PI value
Resolution	1

Pulse rate	
Pulse rate measuring range	25 to 300 bpm
Alarm range	30 to 300 bpm
Accuracy	±2 bpm
Data update period	1 s

Nellcor Module	
Measuring Range	1% to 100%
Alarm Range	20% to 100%
Resolution	1%
Data update period	1s
Accuracy (70% to 100% SpO_2) :	
DS-100A, OXI-A/N(Adult)	±3%
OXI-A/N(Neonate)	±4%
D-YS (Infant to Adult)	±3%
D-YS (Neonate)	±4%
D-YS with D-YSE Ear Clip	±3.5%
MAX-FAST	±2%

Pulse Rate	
Measuring Range	20 bpm to 300 bpm
Resolution	1 bpm
Accuracy	3 bpm (20 bpm to 250 bpm)
Sensor Wave length	approximately 660 and 900nm
Emitted light energy	<15 mW

NOTE Information about the wave length range can be especially useful to clinicians (for instance, when photodynamic therapy is performed).

Temperature	
Channels	2
Measuring and alarm range	0 to 50°C (32 to 122°F)
Alarm range	0 to 50°C (32 to 122°F)
Sensor type	YSI 10 kΩ
Resolution	±0.1°C (0.2°F)
Accuracy (without sensor)	±0.1°C (0.2°F)
Refresh time	Every 1 s to 2 s

IBP	
Dynamical pressure measuring range	-50 to 300 mmHg
Accuracy	±2% or ±1 mmHg, whichever is greater
Resolution	1 mmHg

Pressure sensor	
Sensitivity	5 (μV/V/mmHg)
Impedance	300 Ω to 3,000 Ω
Frequency response	DC to 12.5 Hz or DC to 40 Hz
Zero	Range: ±200 mmHg
	Accuracy: ±1 mmHg

Measuring and alarm range	
Art	0 to 300 mmHg
PA	-6 to 120 mmHg
CVP/RAP/LAP/ICP	-10 to 40 mmHg
P1/P2	-50 to 300 mmHg

CO_2	
Method	Infra-red absorption technique
Unit	mmHg, %, kPa

Measuring range	
$etCO_2$	0 to 150 mmHg
$FiCO_2$	3 to 50 mmHg
AwRR	0 to 150 rpm (Mainstream)

CONTINUING TECHNICAL DATA

Resolution	
$etCO_2$	1 mmHg
$FiCO_2$	1 mmHg
AwRR	1 rpm
$etCO_2$ accuracy	±2 mmHg, 0 to 40 mmHg ±5% of reading, 41 to 70 mmHg ±8% of reading, 71 to 100 mmHg ±10% of reading, 101 to 150 mmHg
AwRR accuracy	±1 rpm
Apnea alarm delay	10, 15, 20, 25, 30, 35, 40 s, default value is 20 s
Calculation method	BTPS (Body Temperature Pressure Saturated)

Stability	
Short term drift	Drift over 4 hours <0.8 mmHg
Long term drift	Accuracy specification will be maintained over 120 hours

O_2 compensation	
Range	0 – 100%
Resolution	1%
Default	16%

C.O.	
Intended patient	Adult
Measurement method	Thermodilution Technique

Measuring range	
C.O.	0.1 L/min ~ 20L/min
TB	23℃~43℃
TI	-1℃~27℃

Resolution	
C.O.	0.1 L/min
TB, TI	±0.1℃

Accuracy	
C.O.	±5% or 0.2 L/min, whichever is greater
TB	0.1℃(without sensor)
TI	0.1℃(without sensor)

Trend review	
Short	1 hr, 1 s. resolution
Long	120 hrs, 1 min. resolution
Review	1200 sets NIBP measurement data

NOTE: Regarding the AG specifications, refer to the Supplement Scio Four modules.

Recorder	
Record width	48 mm (1.9 inch)
Paper speed	25, 50 mm/s
Trace	Up to 3 waveforms
Recording types	8 second real-time recording Auto 8 second recording Parameter alarm recording Trend recording Drug calculation and titration table recording Review recording

Display specifications	
Display screen	380 mm (15 inch) colour TFT
Resolution	1024 × 768
Maximum number of waveforms	11
Indicator LEDs	1 power, 2 alarm, 1 charge

Physical specification	
Size H × W × D	316 × 408 × 157 mm (12.4 × 16.1 × 6.2 inch)
Weight	7.0 kg (15.4 lbs)

Electrical specification	
Power supply	100 V - 240 V~, 50 Hz/60 Hz
Pmax	110 VA
FUSE	T 3.15 AH, 250 V

Classification	
Anti-electroshock type	Class I equipment and internal powered equipment
EMC type	Class A
Anti-electroshock degree	CF: ECG (RESP), TEMP, IBP, CO BF: SpO_2, NIBP, CO_2, AG
Ingress protection	IPX1
Disinfection/sterilisation method	Refer to Instructions for Use: Care and cleaning
Working system	Continuous running equipment

Battery specification		
Type	Rechargeable lithium-ion	
Quantity	1	
Capacity	4200 mAh	
	5000 mAh	
Battery Life	4200 mAh	≥180 min (At 25 C, standard configuration, recording set to off, brightness set to 1)
	5000 mAh	≥240 min (At 25 C, standard configuration, recording set to off, brightness set to 1)
Battery charge time	4200 mAh	≤320 min (Monitor is on or in standby mode)
	5000 mAh	≤360 min (Monitor is on or in standby mode)

ENVIRONMENTAL REQUIREMENTS

The monitor may not meet the performance specifications given here if stored or used outside the specified temperature and humidity ranges. When the monitor and related products have differing environmental specifications, the effective range for the combined products is that range which is common to the specifications for all products.

Temperature range	
Operating	0 to 40 °C (41 to 104 °F)
Transport and storage	-20 to 55 °C (-4 to 131 °F)

Relative humidity	
Operating	15 to 95 % (non-condensing)
Transport and storage	15 to 95 % (non-condensing)

Atmospheric pressure	
Operating	860 to 1060 hPa
Transport and storage	700 to 1060 hPa

Standards

EN 60601-1:2006/AC:2010; EN 60601-1: 1990+A1:1993+ A2:1995; EN 60601-1-2:2007 + AC 2010; EN 60601-6: 2010; EN 60601-1-8: 2007 AC 2010; EN ISO 10993-1: 2009; EN ISO 14971: 2012; EN ISO 17664: 2004; EN 62304: 2006; EN 980: 2008; EN 1041: 2008; EN 60601-1-27:2011; EN 80601-2-30: 2009; EN 60601-2-34:2001; EN 60601-2-49:2001; EN ISO 80601-2-61:2011; EN ISO 80601-2-55: 2011 COR 2012; EN ISO 90601-2-56: 2012; EN ISO 81060-1:2012
The Vista 120 monitors comply with the Medical Device Directive (MDD) 93/42/EEC.

VISTA 120	**MS31997**	**MS31998**
3/5 lead ECG	X	X
Nellcor SpO_2	X	X
Non-invasive Blood Pressure	X	X
Respiration	X	X
Dual Temperature	X	X
Built-in Recorder	X	X
Networking	X	X
Gas Measurement Module Compatibility	X	X
2 Invasive Blood Pressures		X
Cardiac Output		X
$etCO_2$		X

Market availability
Vista 120 monitors are available in selected markets only.
For availability in your area, please contact the appropriate Dräger office from those listed below.

CORPORATE HEADQUARTERS
Drägerwerk AG & Co. KGaA
Moislinger Allee 53–55
23558 Lübeck, Germany

www.draeger.com

Manufacturer:
Drägerwerk AG & Co. KGaA
Moislinger Allee 53–55
23558 Lübeck, Germany

As of August 2015:
Dräger Medical GmbH changes to Drägerwerk AG & Co. KGaA.

REGION EUROPE CENTRAL AND EUROPE NORTH
Drägerwerk AG & Co. KGaA
Moislinger Allee 53–55
23558 Lübeck, Germany
Tel +49 451 882 0
Fax +49 451 882 2080
info@draeger.com

REGION EUROPE SOUTH
Dräger Médical S.A.S.
Parc de Haute Technologie d'Antony 2
25, rue Georges Besse
92182 Antony Cedex, France
Tel +33 1 46 11 56 00
Fax +33 1 40 96 97 20
dlmfr-contact@draeger.com

REGION MIDDLE EAST, AFRICA
Drägerwerk AG & Co. KGaA
Branch Office
P.O. Box 505108
Dubai, United Arab Emirates
Tel +971 4 4294 600
Fax +971 4 4294 699
contactuae@draeger.com

REGION ASIA / PACIFIC
Draeger Medical
South East Asia Pte Ltd.
25 International Business Park
#04-27/29 German Centre
Singapore 609916, Singapore
Tel +65 6572 4388
Fax +65 6572 4399
asia.pacific@draeger.com

REGION CENTRAL AND SOUTH AMERICA
Dräger Panama Comercial S. de R.L.
Complejo Business Park,
V tower, 10th floor
Panama City
Tel +507 377 9100
Fax +507 377 9130
contactcsa@draeger.com

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