

CS100® IABP
PRODUCT FEATURES

CARDIOVASCULAR



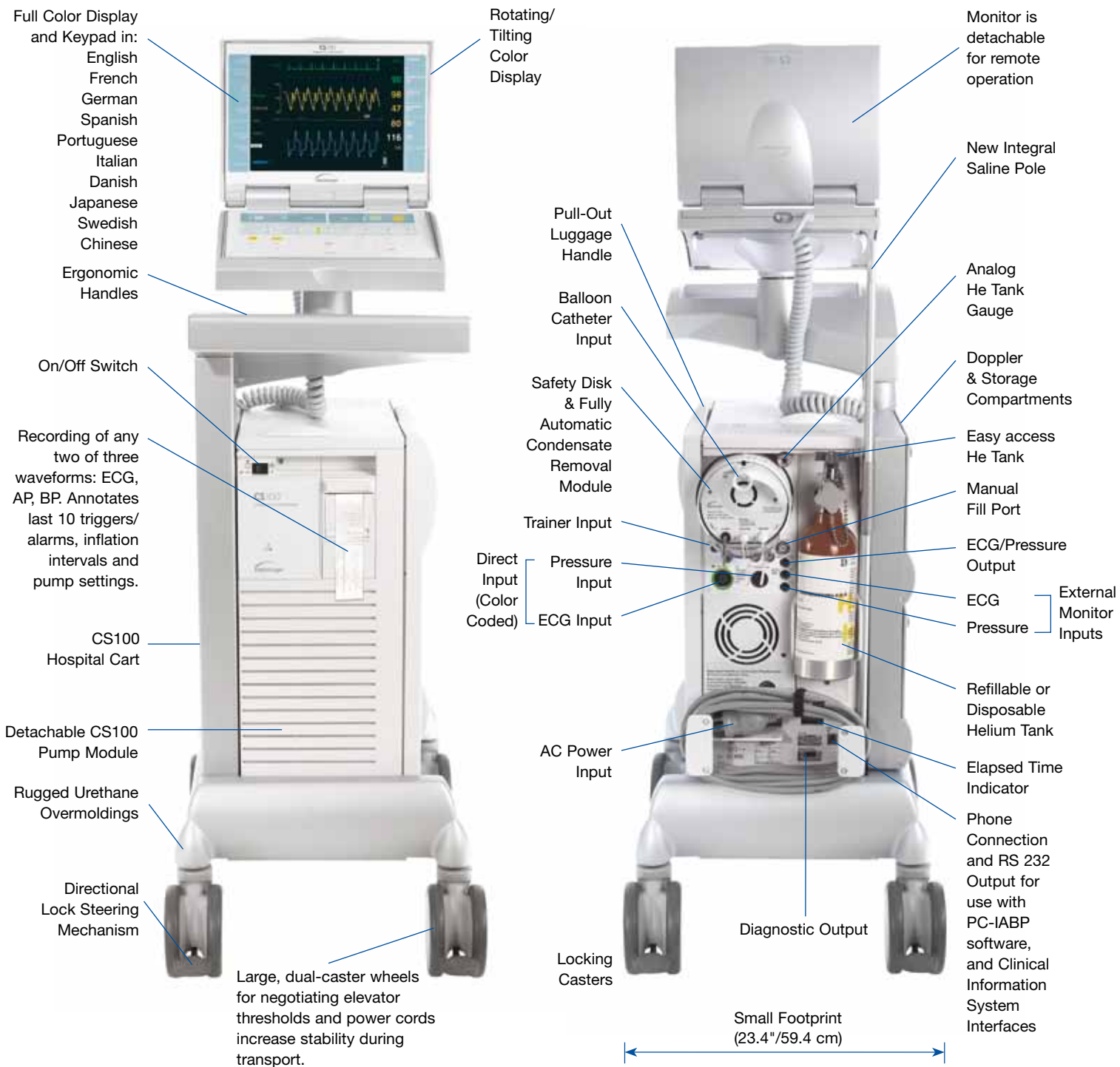
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DATASCOPE IS NOW MAQUET CARDIOVASCULAR

Datascope's CS100 with IntelliSync™ automated arrhythmia tracking and timing algorithms represents a generational leap in IABP technology. Building upon the sophistication of the original CardioSync algorithm, the CS100 automatically

fills the IAB, selects the optimal trigger and sets both inflate and deflate timing at the touch of a button. A bright, full-color monitor displays crisp, clean waveforms.



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CS100 SOFTWARE, COLOR DISPLAY AND KEYPAD CONTROLS

IntelliSync Software with R-Trac automatically selects the optimal trigger source, continuously monitoring and adapting to patient's rhythms to provide better tracking, triggering and support of isolated PVC's, ectopic patterns and atrial fibrillation.

Bright Full Color Display
High contrast screen with wide viewing angle and easy rotation/tilt.

Fast Inflation Speeds

Fast Deflation Speeds

Time-in-Standby
Posted (here) after 1 minute in standby. Advisory message/tone posted after 10 minutes.

Operation Mode Indicator:
Auto, Semi Auto, Manual

Intuitive IAB Status Indicator

Built-in Service Diagnostics Software
Display/keypad convert to diagnostic program.

Fully automated operational mode

Intuitive arrow key trigger selection controls

Fewer keys for simple operation.

"Laptop style"
display and keypad can be detached for remote operation

Easier selection of available help menu screens.

New, intuitive menu navigation system and controls.

Convenient Signal Source Selection, switching between direct patient and external signals.

User Preferences. Preset sweep speed, brightness, balloon waveform and inflation markers on ECG.

One-button printing. Fully annotated printout, user-configurable waveforms and strip length.

Fast QRS Recognition
Enhanced R-Wave deflation performance.

Color-coded trigger source indicator corresponds to signal waveform.

Large, crisp labeling

Automatic Scaling of AP and ECG waveforms.

Unassisted Systolic and Diastolic Pressures
Posted in 1:2 or 1:3 assist frequency.

Timing control indicators display inflate and deflate settings.

Low Augmentation Alarm

Helium and Battery Level Icons

Help Screen Availability Indicator

ZERO PRESSURE key relocated for ease of use.

One-Button Start-Up. Press START key and CS100 automatically conducts autofill, selects trigger source, sets timing, initiates 1:1 assist and increases augmentation to MAX.

STANDBY key now separate control from START key.

Timing control keys replace sliders. Settings displayed on-screen for easier viewing.



CS100 WITH INTELLISYNC SUMMARY TECHNICAL SPECIFICATIONS

Color Display:	8.3"(21 cm)W x 6.2"(15.8cm)H; up 45°, down 55°, right 70°, left 70° viewing angle; Rotates 330°; Tilts 180°; Detachable; Laptop-like closure for storage and protection; Remote monitor mount (optional)
Preferences Menu:	User may select display <i>sweep speed</i> (25 or 50 mm/sec), <i>brightness</i> (low, med., high); <i>balloon waveform</i> (on/off); <i>ECG inflation markers</i> (on/off); <i>flashing alarms</i> (on/off)

Size on Cart:	45.2"H x 17.6"W x 23.4"D (114.8 cm x 44.7 cm x 59.4 cm) max
Size off Cart:	28.2"H x 11.3"W x 21.5"D (71.6 cm x 28.7 cm x 54.6 cm) max
Console Weight:	76.8 lbs. (34.8 Kg) nominal
Monitor:	9.5 lbs. (4.3 Kg) nominal
Hospital Cart Weight:	64.0 lbs. (29.1 Kg) nominal
Internal Battery:	34 lbs. (15.4 Kg) nominal

Operation Modes:	Auto, Semi Auto, Manual
ECG Trigger:	Threshold dynamically adjusted by system for high sensitivity and selectivity of the R-wave detection; Minimum = 120 μ V \pm 20 μ V at normal gain; 40 μ V at max. gain
Pressure Trigger:	Default trigger threshold is automatically adjusted to 38% of the difference between peak systolic and end diastolic (avg. over multiple cycles); In variable mode: User adjustable between 7 and 30 mmHg \pm 3 mmHg
Pacer A Trigger:	R-wave detection (as above) except pacer blanking is extended to 100 ms
Pacer V/A-V Trigger:	<i>V Pacer:</i> fixed at rate up to 185 bpm (no demand pacing) <i>A-V Pacer:</i> fixed at rate up to 125 bpm (no demand pacing) with A-V intervals between 80-224 ms
Internal Trigger:	<i>Variable mode:</i> 40-120 bpm; <i>Normal mode:</i> 80 \pm 1 bpm
Tall T-Wave Rejection:	Rejects all T-Waves where Q-T interval is <300 ms and the amplitude is <70% of QRS input amplitude
Pacer Rejection:	Rejects all pulses of amplitude \pm 2.0 mV to \pm 700 mV (ECG and durations between 0.1 ms to 2.0 ms with: 1) No tail; 2) 100 ms time constant tail < 1 mV; 3) 25 ms time constant tail < 1 mV; 4) 4 ms time constant tail < 2 mV

UTS Version:	Rugged base which attaches to docking station (DS)
Dimensions:	30.0"H x 22.5"W x 13.2"D (76.2 cm x 57.2 cm x 33.5 cm)
Console Weight:	133.2 lbs. (60.4 Kg)
Lightweight DS*:	17.8" (45.1 cm) x 20.0" (50.8 cm) <i>*(Suggested Option)</i>

Op. Temp.:	10°C - 40°C
Op. Humidity:	5 - 95% (R.H.) non-condensing
Op. Altitude:	0 - 12,000 feet (3,657 m); automatic altitude correction for IAB pressure

Printer Type:	Thermal array - 48 mm wide
Printer Menu:	On-screen selection of waveforms; strip length; print on alarm; and alarm/trigger log
Waveforms (any 1 or 2):	ECG (lead number & size labeled), arterial pressure, BPW
Annotation:	Event Markers: Trigger pulse (upper), inflation interval Additional Data: Space for patient I.D.; Date; Time; Alarm and Advisory messages; Timing mode; Trigger; HR, Frequency; Syst/Dias (in 1:1); Assisted and Unassisted Syst/Dias (in 1:2 or 1:3); Augmented Pressure; Mean Pressure; Operation Mode

ECG Leads:	In Auto Operation Mode: I, II, III, External In Semi-Auto Mode: I, II, III, AVR, AVL, AVF, V, External (12 lead compatibility)
ECG Gain (default):	1 V output per 1 mV input \pm 5% (waveform automatically scaled to occupy ECG display window)
Gain (variable):	0.15 to 3.0 cm/mV \pm 20% (autoscaling disabled)
Frequency Response:	0.5-12 Hz (display); 0.5-135 Hz (Output to Monitor)
Defibrillator Protection:	Discharge levels \leq 360 J (trace returns to screen in 5 sec. max)
ESIS:	Automatic suppression with internal ECG amplifier

ACCESSORIES

Doppler:	8 MHz non-directional probe
Saline Pole:	Height adjustable
Simulator*:	Emulates ventricular rhythms; Pacers; HR; A-bif
Remote Mount*:	Mounts keypad/monitor on bypass pump
Storage Case*:	3-pocket design holds cables and spare items
Pump Cover*:	Padded vinyl with pocket
Ext Cable:	Monitor extension cable
	<i>*(Optional)</i>

AP Source Selection:	Transducer/external (menu based)
AP Input Sensitivity:	5.0 μ V/V/mmHg
Excitation:	+5 VDC \pm 5% @ 130 mA (max)
Frequency Response:	DC to 12 Hz (display)

External Mon. Inputs:	ECG: 1 V/mV (nominal); AP: 1 V/100 mmHg (nominal)
ECG/BP Output:	Phone Jack: ECG 1V / mV, BP 1V/100 mmHg

Mains Voltage:	100-120 VAC \pm 10% or 220-240 VAC \pm 10%
Mains Frequency:	50/60 Hz \pm 3 Hz
Internal Battery:	24 VDC (nominal), 17.2 Amp-hour, 3 hrs. (approx. @ 90 bpm)
Battery Type:	Maintenance free; Sealed lead-acid

System Compressor:	Dual head diaphragm pump with brushless DC motor
IAB Helium (He+):	Medical-grade; 0.5 L (2900 psi) or 0.69 L (2200 psi)
He+ Endurance (nominal):	1.8 mo. (.5 L); 2 mo. (0.69 L): continuous operation - 24 hrs./day
Condensate Removal:	Fully automatic condensate removal and disposal

WIN-IABP (optional):	Software for remote clinical assistance and training
Service Diagnostics:	Built-in software for system analysis and troubleshooting
Modem Data Rate:	Up to 9,600 baud
Modem Certifications:	Registered with FCC and accepted in \geq 89 countries

REGULATORY COMPLIANCE

- **Safety**
 - IEC 60601-1: 1998 / EN 60601: 1990
 - IEC 60601-2-27: 1994 / EN 60601-2-27: 1994
 - IEC 60601-2-34: 2000 / EN 60601-2-34 : 2000
 - EC Medical Device Directive 93/42/EEC
 - UL2601-1:1997
 - CSA C22.2 No. 601.1-M90
 - EMC
 - IEC 60601-1-2:2001 / EN 60601-1-2: 2001
 - RTCA/DO-160D Sect. 21 Cat. B
 - RTCA/DO-160D Sect. 20 Cat. T
- **Shock & Vibration**
 - EN 1789:1999
 - RTCA/DO-160D Sect. 7 Cat. B
 - RTCA/DO-160D Sect. 8 Cat. U
 - MIL-STD-810F
- **LCD Screen**
 - Complies to NEC spec (NEC: EL-LCD0034 (2))