

P50-VET Full Digital Color Doppler Ultrasound Diagnostic Scanner

Technical Parameters

1. Product Name: Full Digital Color Doppler Veterinary Ultrasound Scanner
1.1 Structure Style: Portable
2. Appalication:
2.1 It's applicable for animals' examination and diagnosis on digestive system, reproductive system, urinary system for animal hospitals and scientific institutions.
3. System technical specifications and summary
3.1. Full digital color Doppler ultrasound diagnostic system
3.2. Digital Beam Enhancer
3.3. Multiple Beam Synthesis
3.4. 2D Grey Scale Mode
3.5. Harmonic Imaging Technique
3.6. B+C real-time mode
3.7. M Mode
3.8. Anatomic M Mode, Sampling line \geq 3 lines
3.9. Doppler Imaging (Include color, energy, directional energy Doppler mode)
3.10. Spectral Doppler Imaging (Include Pulse Doppler, High Pulse Repetition Frequency, Continuous Wave Doppler)
3.11. Tissue Doppler Imaging (Include tissue velocity pattern mode, spectral imaging mode)
3.12. 4D Imaging
3.13. Spatial composite imaging technology (apply on abdomen, obstetrics, blood vessels, superficial small organs, display double images on screen)
3.14. Frequency composite imaging
3.15. Extended Imaging
3.16. Real-time double images comparison
3.17. Real time Triplex (2D, Color, Spectrum real-time synchronous imaging)

3.18. Speckle noise suppression technology
4.★Operation Interface: Main unite includes 10 kinds of languages
5. System technical parameters and requirements
5.1. Standard Configuration ≥ 15 Inch high resolution color LCD
5.2. ★Main unit built-in probe connector ≥ 2 , fully activated, same size
5.3. 2D Grey scale Mode 1) Digitization acoustic beam former 2) Full digitization dynamic focusing, digital variable aperture and dynamic apodization, A/D ≥ 15 bit 3) Receive Mode: emission, reception channel ≥ 1024 , multi-signal parallel processing 4) Scanning line: each frame linear density of each frame ≥ 512 ultrasonic line 5) Transmit acoustic beam focus: transmit ≥ 10 segment, focus position has special menu regulation 6) TGC ≥ 8 7) Gain adjustment: B/M/D adjust independently, ≥ 100 dB 8) ★Dynamic range adjustment: ≥ 180 dB 8) ★Max display depth ≥ 360 mm 9) Grey Scale: ≥ 67 level, visible and adjustable 10) Acoustic power: 1%-100% 11) Linear probe 2D Steer independently 12) Partial Zoom (1.5/2.0/2.5/3.0/3.5/4.0/4.5/5.0/10 times)
5.4. Color Doppler Imaging 1) Imaging Mode: velocity, velocity variance, energy, directional energy 2) Display Mode: B/C, B/C/M, B/POWER, B/C/PW 3) Linear Density ≥ 3 level 4) Color hiding technology: No need to return to 2D to hide color, only color speed scale is shown 5) Blood flow profile function, color blood flow profile measure blood velocity
5.5. Spectral Doppler Mode 1) Display format: Full screen, duplex/triplex (under PW only) 2) Gain ≥ 100 dB

- 3) Velocity ≥ 4 level adjustable
- 4) Max measure speed: PWD: forward/reverse blood speed $\geq 7.6\text{m/s}$; CWD: blood velocity $\geq 20.0\text{m/s}$,
min velocity: $\leq 5\text{ mm /s}$ (Non-noise signal)
- 5) Zero Position Movement : ≥ 8 level
- 6) Display Mode: B, PW, B/PW, B/C/PW, B/CW, B/C/CW, etc
- 7) Frequency spectrum automatic measurement, manual measurement
- 8) Display Control: reversal, zero movement, B update, D expand, B/D expand
- 9) Intelligent Doppler technique, can be switched between real time B+CFM mode and Real time PW mode.

5.6. ★ Standard Configuration Wide view imaging

- 1) Under High Resolution length can be displayed, maximum can be 50cm
- 2) Support Forward erase while imaging, no need to reimage
- 3) 2D wide view, color wide view image mode

5.7. Probe connector ≥ 4 , fully activated. Volume probe is available any time.

5.8. Probe: Broadband frequency conversion probe, 2D and color frequency conversion independently

- 1) Frequency conversion number of probe fundamental wave ≥ 3 Periods

2) 1.Convex array Probe:

Fundamental frequency, 9 periods frequency conversion

2.0MHz/2.3MHz/2.5MHz/3.0MHz/3.5MHz/4.0MHz/4.6MHz/5.0MHz/5.4MHz,

Harmonic frequency: 4.0MHz/4.6MHz/5.0MHz, 3 periods frequency conversion

2.Linear array: Fundamental frequency, 9 periods frequency conversion

4.0MHz/4.6MHz/5.0MHz/6.0MHz/7.0MHz/8.0MHz/9.2MHz/10.0MHz/12.0MHz/13.3MHz,

Harmonic frequency: 8.0MHz/9.2MHz/10.0MHz, 3 periods frequency conversion

3.Phased array probe: Fundamental frequency :

1.7MHz/1.9MHz/2.1MHz/2.5MHz/3.0MHz/3.4MHz/3.8MHz/4.2MHz/5.0MHz,

9 periods frequency conversion

Harmonic frequency: 3.4MHz/3.8MHz/4.2MHz, 3 periods frequency conversion

4.High frequency phased array probe: fundamental frequency:

3.0MHz/3.5MHz/4MHz/5MHz/5.4MHz/6MHz/7MHz/8MHz, 8 periods frequency conversion

Harmonic frequency: 6MHz/7MHz/8MHz, 3 periods frequency conversion

5. Micro-convex probe: fundamental frequency:

3.0MHz/3.5MHz/4.0MHz/5.0MHz/5.4MHz/6.0MHz/7.0MHz/8.0MHz, 8 periods frequency conversion

Harmonic frequency: 6.0MHz/7.0MHz/8.0MHz, 3 periods frequency conversion

5.9. Electronic convex array probe technical requirements: frequency range: 2.0-5.4 MHz, Lateral resolution: ≤ 2 (depth ≤ 80), ≤ 3 mm (80 < depth ≤ 130) axial resolution: ≤ 1 (depth ≤ 80), ≤ 1 mm (80 < depth ≤ 130) blind zone: ≤ 3 mm geometric position accuracy: Horizontal : $\leq 5\%$; vertical: $\leq 5\%$. detect depth ≥ 240 mm.

5.10. Electronic linear array probe technical requirements: frequency range: 4.0-13.3MHz, Lateral resolution: ≤ 1 (depth ≤ 40), axial resolution: ≤ 0.5 (depth ≤ 50), blind zone: ≤ 3 mm, geometric position accuracy: Horizontal: $\leq 4\%$; vertical: $\leq 2\%$. detect depth ≥ 100 mm.

6. Measurement/Analysis and Report:

6.1 Standard measurement: distance, area, ellipse, cross line, angle, distance ratio, volume, volume (ellipse), area ratio, diameter, joint angle.

6.2 Specialized Measurement

- 1) Cardiac measurement: Spectral envelope, Left ventricle, main pulmonary artery internal diameter, RVEDd, RVEDs, left ventricular muscle, left volume, HR, mitral valve flow, aorta, aortic regurgitation, left ventricle outflow tract, tricuspid valve flow, pulmonary valve, pulmonary vein, right ventricle, Doppler fetal heart sound, left ventricular ejection time, left ventricular myocardium, Left ventricular myocardial performance index, aortic valve
- 2) Blood vessel measurement: carotis intimamedia thickness (IMT), Length stenosis rate, area stenosis rate, IMT (posterior wall), IMT (antetheca)
- 3) ★ Obstetrics measurement: Canine: GSD, CRL, HD, BD; Feline: BD, HD; Swine: HLA, SLA; Bovine: CRL, BTD, BUD; Ovine: SCRL; Equine: GSD (H), ESD (V)
- 4) Urinary measurement: Prostate, residual urine, left kidney, right kidney, left adrenal gland, right adrenal gland, left testis, right testis, left seminal vesicle, right seminal vesicle
- 5) Abdomen measurement: liver, common hepatic duct, diameter of portal vein, gallbladder, common bile duct, pancreas, spleen, abdomen aortic diameter, kidney

6) Organella

7. Peripherals Section

7.1. Configured ultrasonic graphic work station, the work station software requires registration certificate.

Support black and white digits, simulation black and white, digit color, simulation color, Text and video printer, support footswitches

7.2 Support Internet connection

7.3 Support DICOM 3.0 DICOM Obstetrics and Gynecology, heart, blood vessel report

7.4 Video/Audio Input Output

7.5 Main unit comes with USB port

7.6 Support ultrasonic system directly sent clinical images and reports through internet

8 Cine loop and Original data processing:

8.1 Cine Loop ≥ 3061 frame, support manual and auto operation of cine loop

8.2 Original data processing, can do offline parameters analysis to static files and play backed dynamic images. Gain, Pseudo Color, Grey Scale Curve, ect.

8.3 Digitalization hard drive capacity $\geq 256G$, Permanent Store Static, Dynamic Images, can be read, transferred, deleted freely

8.4 Multiple Image Export Modes: Dynamic Image, Static Image exported as PC format, Images can be seen on regular PC, no need specific software.

8.5 Professional probes holder ≥ 2

9 After-Sale service

10.1 Unit warranty ≥ 2 years

10.2 Lifelong maintenance after warranty, free lifelong software updates service

10.3 Free regular visit for maintenance