

The Charder MA601 is an advanced multi-frequency bioelectrical impedance body composition analyzer using artificial neural network technology. 8 electrodes, 3 frequencies (5/50/250kHz), 7-inch 800x480px LCD, 300kg/0.1kg, age 6-85, touch screen + keypad, USB 2.0, WiFi/Ethernet/BT, dimensions 506x450x1025mm, ~12kg, scan <60 secs. Available from Vital Medical South Africa.

Advanced Multi-Frequency Body Composition Analyzer with Artificial Neural Network Technology

The Charder MA601 is a full-featured professional body composition analyzer using multi-frequency bioelectrical impedance analysis (BIA) combined with Charder's proprietary artificial neural network technology to deliver clinically validated body composition results with a positive correlation coefficient of 95% with DEXA (dual-energy X-ray absorptiometry). The MA601 uses three measurement frequencies (5kHz, 50kHz and 250kHz) to differentiate between intracellular and extracellular body water compartments – a critical technical capability that distinguishes multi-frequency BIA from simpler single-frequency devices. Low-frequency current (5kHz) does not penetrate cell membranes and measures extracellular water only, while higher frequencies (50kHz and 250kHz) penetrate cell membranes and measure total body water. The combination of these measurements enables accurate compartmentalisation of body water into intracellular (ICW) and extracellular (ECW) fractions, which provides the basis for accurate fat-free mass, skeletal muscle mass and body fat mass calculations across a wide range of body compositions and patient populations.

Eight-Electrode Segmental Analysis and BIVA Technology

The MA601's eight-electrode design – four hand and four foot electrode contacts – enables segmental body composition analysis of five body segments: right arm, left arm, trunk, right leg and left leg. Segmental analysis provides muscle mass and fat mass measurements for each body segment individually, detecting asymmetries and regional body composition differences that whole-body measurements miss. The MA601 also incorporates BIVA (bio-impedance vector analysis), which is widely used in clinical settings for hydration status assessment, particularly in renal, cardiac and oncology patients where fluid overload or depletion is clinically significant. The comprehensive result sheet includes body composition analysis (ICW, ECW, TBW, protein, mineral, BFM, SLM, FFM, weight), muscle-fat analysis, obesity analysis (BMI, PBF), segmental lean and fat analysis, body type analysis, muscle quality assessment, fitness parameters (visceral fat area, WHR, waist circumference, phase

angle, BMR, skeletal muscle index) and a healthy score.

South African Clinical and Fitness Body Composition Analysis

The MA601's 7-inch full-colour touch screen, keypad input and dual USB output make it suitable for both standalone clinical use and integration into electronic health record and data management workflows. WiFi, Ethernet and optional Bluetooth connectivity enable networked data management in multi-user clinical environments. Validated by 41 international journal publications and 29 conference papers, the MA601 meets the rigorous evidence-based requirements of clinical research, sports science and metabolic health assessment. Vital Medical supplies the MA601 to South African hospitals, obesity clinics, sports science centres, physiotherapy practices and corporate wellness programmes.

Technical Specifications

Specification	Detail
Model	MA601
Type	Multi-frequency Body Composition Analyzer
Measurement Method	Multi-frequency BIA with artificial neural network
Electrodes	8 (hand + foot)
Frequencies	3 (5kHz, 50kHz, 250kHz)
Display	7-inch wide colour LCD, 800?480 pixels
Input	Touch screen + keypad
Capacity	300kg
Graduation	0.1kg
Applicable Age	6?85 years
Output	USB?2
Connectivity	WiFi?1, RJ45 Ethernet?1, Bluetooth?1 (optional)
Dimensions	506(D)?450(W)?1025(H)mm
Weight	~12kg
Measurement Time	Less than 60 seconds

Specification**Detail**

Result Parameters

ICW, ECW, TBW, protein, mineral, BFM, SLM, FFM, SMM, BMI, PBF, segmental lean/fat (5 segments), muscle quality, visceral fat area, WHR, BMR, phase angle, body type analysis, healthy score

SKU: VM-MA601BCA