

he Mindray TV50 Transport Ventilator (VM-TV50) is a 4.5kg turbine-driven portable ventilator supporting invasive ventilation, non-invasive ventilation (NIV), and O_2 therapy for adult, paediatric, and infant patients. The integrated high-performance turbine enables full ventilation without a compressed gas supply, with peak flow ≥210 L/min for effective NIV support and precise FiO_2 adjustment from 21% to 100%. A 7-inch HD capacitive touch screen with auto-brightness and outdoor display mode provides an intuitive bedside-ventilator-style interface. AMV (Adaptive Minute Ventilation) and one-button CPRV emergency ventilation modes are included. Mindray mainstream CO_2 monitoring with reusable and disposable adapters. Hot-swappable battery with ≥10-hour operating time and real-time battery display. Automatic altitude compensation to 7600m. IP44 rated; 20G force resistance; 6-surface 75cm drop protection. Certified to RTCA/DO-160G (aviation), EN 13718-1, EN 1789, and ISO 80601-2-84. Connectivity: 5G, Wi-Fi, Bluetooth. iF Design Award 2023 and Red Dot Winner 2023. Available in South Africa from Vital Medical.

Turbine-Driven Transport Ventilation for Invasive, Non-Invasive, and O_2 Therapy

The Mindray TV50 Transport Ventilator (VM-TV50) is a compact, turbine-driven portable ventilator designed for intra-hospital transport, pre-hospital EMS, air medical, and any clinical environment

requiring continuous, reliable ventilation support during patient movement. The integrated turbine distinguishes the TV50 from gas-powered transport ventilators: it generates the driving pressure and flow internally, enabling operation without a compressed gas inlet and eliminating dependency on pneumatic supply during transport. Peak flow of ≥210 L/min provides sufficient flow capacity for effective non-invasive ventilation (NIV), where high peak flow is a key determinant of patient-ventilator synchrony and leak compensation. FiO_2 is precisely adjustable from 21% to 100%, allowing the same unit to deliver room-air ventilation or high-concentration oxygen therapy without gas blender accessories. The TV50 supports invasive ventilation, non-invasive ventilation, and O_2 therapy for adult, paediatric, and infant patients, covering the full clinical range from neonatal transport to adult resuscitation. The same ventilation modes available on Mindray bedside ICU ventilators are replicated on the TV50, enabling continuous ventilation therapy from scene to bedside without mode transitions or mode-matching decisions at handover. AMV (Adaptive Minute Ventilation) automatically adjusts delivered ventilation to the patient's changing status, reducing the need for manual parameter adjustments during dynamic transport phases. The one-button CPRV (CPR Ventilation) emergency mode gives rapid access to preconfigured CPR ventilation settings, optimising ventilation during resuscitation without requiring parameter navigation under time pressure.

7-Inch Touch Display, Mainstream CO_2, Battery Management, and Outdoor Mode

The TV50's 7-inch HD capacitive touch screen uses the same user interface and operating logic as Mindray's bedside ventilators, reducing the learning curve for clinical staff who already work with Mindray ICU ventilators. Auto-brightness adjusts screen luminance automatically for clinical environments; a dedicated outdoor mode maximises screen visibility in direct sunlight or bright ambient light — relevant for air medical, scene response, and outdoor casualty environments. The real-time battery indicator is visible at all times, including when the unit is powered off, allowing staff to verify available battery capacity before departing on a transport without needing to power the unit on. The hot-swappable battery enables battery replacement without interrupting ventilation — critical for extended transports or consecutive missions without time for a full battery recharge. Battery operating time is ≥10 hours per charge. Mindray mainstream CO_2 monitoring is integrated into the TV50 platform, with both reusable and disposable adapters available, supporting $EtCO_2$ measurement for artificial airway position confirmation and ongoing ventilation adequacy assessment throughout transport. Real-time O_2 consumption monitoring displays remaining oxygen supply time, allowing the clinical team to anticipate and manage oxygen depletion before it becomes a patient safety event.

Ruggedisation, Aviation Certification, 5G Connectivity, and Deployment in South Africa

The TV50 is certified to RTCA/DO-160G aviation shock and vibration standards, EN 13718-1 and EN 1789 ambulance and medical transport device standards, and ISO 80601-2-84 (EN 794-3) ventilator safety standard, confirming fitness for the full range of transport environments from ground ambulance to helicopter and fixed-wing air medical. The unit withstands 20G force resistance, 6-surface 75cm drop protection, and operates across -20°C to +50°C with automatic altitude compensation to 7600m above sea level — covering all operational environments encountered in South African pre-hospital and inter-facility transport. IP44 dustproof and waterproof rating provides protection in outdoor and high-humidity environments. At 4.5kg, the TV50 is designed for single-hand carry, and a universal mount handle accommodates fixed base, mobile trolley, and gas cylinder carrier configurations for intra-hospital and pre-hospital transport applications. 5G, Wi-Fi, and Bluetooth connectivity enables real-time transmission of ventilator settings and monitoring parameters to the receiving hospital CMS, ePCR systems, or clinical expert consultants before patient arrival, supporting pre-arrival treatment planning and reducing handover time. Available in South Africa from Vital Medical, the VM-TV50 is suited to EMS services, air medical transport, inter-facility transport teams, and hospitals requiring a certified, turbine-driven transport ventilator with full invasive and NIV capability.

SKU: VM-TV50)