

# Technical Data AQUILON®

## Operative Modes

Adults And Pediatrics  
 VCV - Volume Control (Assisted / Controlled)  
 PCV - Pressure Control (Assisted / Controlled)  
 PSV - Pressure Support  
 CPAP - Continuous Positive Airway Pressure  
 SIMV - (VCV) + PSV  
 SIMV - (PCV) + PSV  
 MMV + PSV - Mandatory Minute Ventilation  
 PSV + Tidal Volume Assured  
 APRV - Airway Pressure Release Ventilation  
 NIV - Non-Invasive Ventilation

## Parameter Selection

(according to operative mode and patient category)  
 Tidal Volume - 20-2500 mL  
 Programmable Minute Volume (MMV + PSV): 1.0-50 L/min  
 Resulting Minute Volume: 0.01-130 L/min  
 Inspiratory Time: 0.1-10 seconds (30s in APRV)  
 I:E Ratio: 5:1- 1:5.99  
 Respiratory Rate:  
 ADL / PEB: 1-100 bpm  
 FIO<sub>2</sub>: 0.21-1.0  
 Inspiratory sensitivity:  
 - Flow Triggered: 0.2-15 L/min  
 - Pressure Triggered: 0.5-20 cmH<sub>2</sub>O below PEEP  
 Expiratory sensitivity for PSV: 5%-80% of the initial peak flow, in steps of 5%  
 PEEP/CPAP: 0-50 cmH<sub>2</sub>O  
 Controlled Pressure (PCV): 2-100 cmH<sub>2</sub>O  
 Support Pressure (PSV): 0-100 cmH<sub>2</sub>O  
 Inspiratory Pause (programmable in VCV): 0-2 seconds  
 Inspiratory Flow Waveform (in VCV): Rectangular and Descending Ramp  
 Inspiratory Flow (resultant): 0.2-180 L/min  
 Maximum pressure limited (safety limits): up to 120 cmH<sub>2</sub>O

## Alarms

Visual and audible signals according to priority and messages on the screen  
 The System Keeps a record of the occurred events with name, date and time  
 This record is printable and cannot be deleted. The system allows the deactivation of Tidal Volume and Minute Volume alarms in NIV.  
 - High and Low Inspiratory Pressure, High Continuous Pressure  
 - Low Pressure of O<sub>2</sub> and Air, or one of them, Oxygen not adequate  
 - Main Power Loss, Low Battery  
 - Technical Failure; Fan failure  
 - Disconnection  
 - High and Low Minute Volume, High and Low Tidal Volume  
 - High and Low O<sub>2</sub> percentage  
 - Apnea, Leak (non-compensable)  
 - High Respiratory Rate  
 - PEEP Loss

## Other features and Controls

12" color touch-screen  
 Trends (up to 72 hours)  
 PF, PV, FV, LDDPS. They can be saved as reference loops  
 Sighs (in VCV)  
 Suction% O<sub>2</sub>: for suction sequence with variable FIO<sub>2</sub>, Standby function  
 Synchronized and Fio, controlled Nebulizer  
 Manual Inspiration, Inspiratory/ Expiratory Pause (manual)  
 Inspiratory relief valve (antisuffocation)  
 Pneumatic safety valve: 120 cmH<sub>2</sub>O (±/5)

## Complementary Functions

Attitude compensation for volume correction  
 Body temperature volume correction (BTPS)  
 Volume correction according to patient circuit compliance  
 Leak compensation available in all operative's modes  
 Tidal Volume setting based on Ideal Body Weight (IBW)  
 Intra Hospital transport: Facilitates the mobilization when the ventilator can only be supplied with oxygen bottles

## Respiratory Mechanics

Selection by onscreen menu:  
 AutoPEEP, Trapped volume measurement  
 Dynamic and static compliance, Inspiratory and Expiratory Resistance  
 Slow Vital Capacity (Non-forced), Imposed work of breathing (WOB)  
 Occluded Inspiratory effort during 100 ms (P0.1)  
 P/V Inflections Points  
 Maximum inspiratory pressure (Pi max)  
 Rapid Shallow breathing index (F/VT index)  
 Expiratory time constant (Tcexp)

## Connectivity

RS-232C with DB-9 connector  
 VGA output for an external monitor connection

## Electrical Requirements

Main Power: 100-240 V / 50-60 Hz. Automatic Voltage switching  
 Internal Battery: 11.1 V / 7.8 Ah Automatic recharge  
 Estimated Duration: 2.5 hours when fully charged.  
 Charge level indicator onscreen

## Pneumatic Requirements

Gas Supply:  
 - Oxygen: Pressure 2.8-6 bar (approx 41-87 psi) Connector: DISS 9/16"-18  
 - External Air: Pressure 2.8-6 bar (approx 41-87 psi) Connector: DISS 3/4"-16  
 Automatic gas switching when one of them is absent in order to allow patient ventilation with the remaining gas

## Order Information

Aquilon main unit  
 Cart / Trolley - 1no.  
 Exhalation valve with flow-sensor - 2nos.  
 Reusable adult patient circuit - 1no.  
 Test lung

## Optional

- Air Compressor  
 - Humidifier

Accessories shown are not part of standard configuration All registered trademarks acknowledged.

Technical data are subject to change without notice

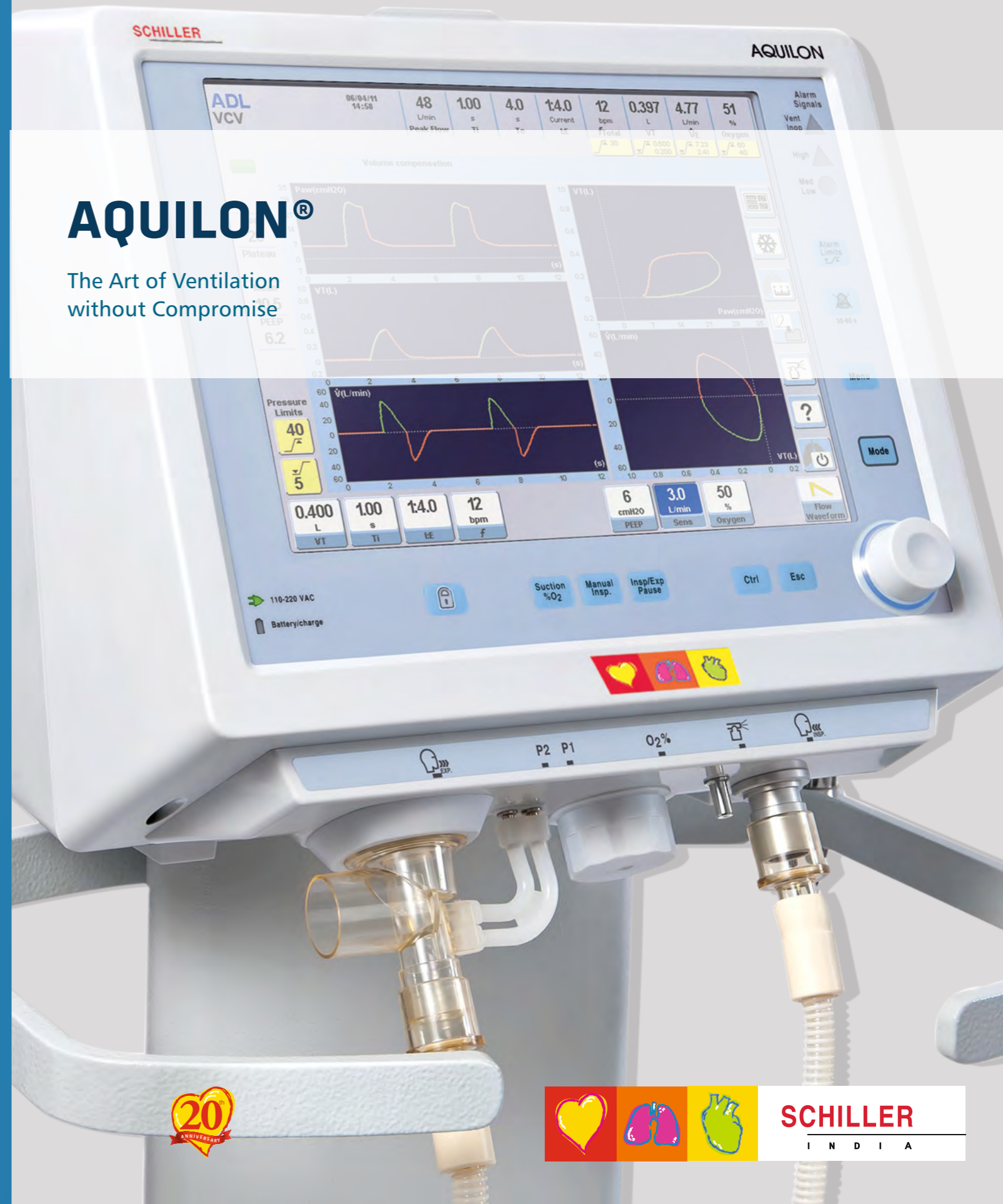
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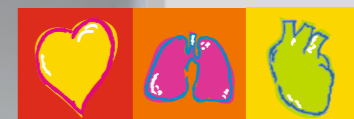
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# AQUILON®

The Art of Ventilation  
without Compromise



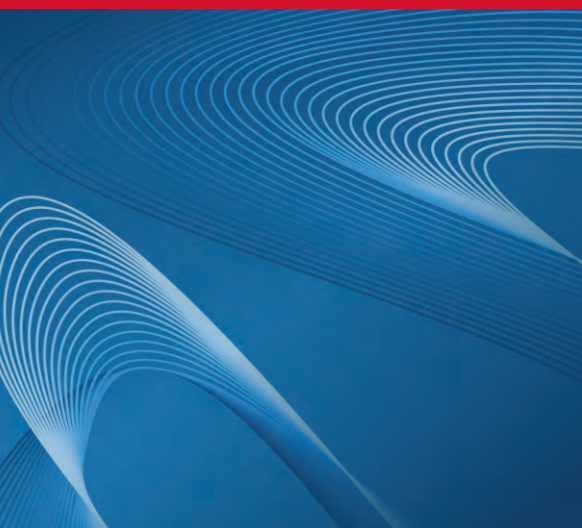
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# AQUILON®

## FEATURES

- Advanced Proportional Solenoid Valve (PSOL)- PSOL based technology ensures faster, safer and accurate gas delivery which also reduces work of breathing and helps in improving synchrony
- Active Exhalation Valve - Active exhalation valve system actively controls and maintains the target pressure. It allows unrestricted breathing during both inspiratory and expiratory phases of the breath cycle and vents excess pressure (due to Pressure overshoot, patient coughs). This promotes better patient - ventilator synchrony and potentially decreases the need for sedation



## COMPREHENSIVE MONITORING

Monitoring of vital signs variables such as mandatory and spontaneous minute ventilation, spontaneous frequency, exhalation time constant and leaks. Built-in respiratory mechanics menu provides a vital tool for making correct information-based decision, increasing the efficacy of treatment and guaranteeing patient safety

## LOW COST MAINTENANCE

Designed with high end pneumatic base, Aquilon can be operated long time without maintenance. It's reliable and low cost spare parts make the serviceability very easy and affordable

## COMPACT DESIGN

Aquilon provides a clear and complete display of vital sign variables on a built-in 12-inch LED screen. User-friendly and intuitive programming helps managing critical patients safely through:

- Touch screen
- Rapid-access keys
- High visibility alarm indicator

## RELIABLE FLOW SENSOR

Its rugged reusable flow sensor gives exceptional response and accurate monitoring even when used with Nebuliser

## Simplified Graphic touch Interface

- User friendly Pop-up menu with rotary encoder
- Quick & Smart calculation of setting parameters (IBW)
- Comprehensive Alarm Monitoring
- Graphical & Tabular Trend for 72 hours

## Robust and high performance Pneumatics

- Advance Proportional Solenoid Technology (PSOL)
- Active Exhalation Valve
- Multi-safety Mechanism

## Comprehensive Ventilation modes

- Invasive & non-Invasive
- Advanced modes -MMV+ PSV, PSV + Assured Volume, APRV
- Bi-directional Apnea Back up Ventilation

## Advance Weaning tools

- Lung Mechanics functions- Compliance and Resistance, Auto PEEP, Trapped Volume
- Po.1, NIF / MIP, Work Of Breathing (imposed), PV Flex
- RSBI, Expiratory time Constant, Complete Spontaneous Activity

## Other functions

- Volume and FIO2 compensated Nebuliser
- Suction protocol
- Compliance and leakage compensation
- Battery Back for 2.5 hours

Manoeuvre smoothly and comfortably with easy-glide wheels and a handle positioned at just the right height

