



UVENT-T-S

RESPIRATORY STATION

for all clinical applications

- ◆ Turbine based pneumatic system
- ◆ Respiratory station with expert level possibilities
- ◆ Continuous patient monitoring
- ◆ Adaptive intelligent ventilation
- ◆ Unlimited lifetime O₂ sensor
- ◆ For adult, pediatric and neonatal

UVENT-T-S

Long term respiratory support free from the compressed air supply

- ◆ Turbine based system — UVENT-T-S is compatible for operation with any available oxygen source low or high pressure.
- ◆ High flow performance and low noise operation maintaining a comfortable environment for medical staff and patients.



UVENT-T-S combines advanced functionality for high-class respiratory support, and comprehensive monitoring of lung mechanics and gas exchange efficiency.

- ◆ High-resolution touch LED 12" + 22" color display
- ◆ Unlimited lifetime oxygen sensor
- ◆ Operation with any available oxygen source
- ◆ Simultaneous monitoring of breathing mechanics and vital signs
- ◆ Built-in SpO₂ and CO₂ modules in basic configuration
- ◆ Patient's respiratory effort tools and analysis
- ◆ Volumetric capnometry
- ◆ Static and dynamic compliance
- ◆ Simultaneously active flow and pressure triggers
- ◆ Wide range of expiratory trigger sensitivity settings
- ◆ Work of breathing calculation
- ◆ Automatic altitude, compliance and resistance compensation
- ◆ Initial ventilation settings based on the patient's anthropometric data
- ◆ Auxiliary pressure monitoring (Pes, Ptr/Paux)
- ◆ Integrated aerosol therapy system
- ◆ 72 hours scalable trends of all monitored data
- ◆ Device and patient circuit self-test
- ◆ Event log 10,000 records
- ◆ Built in Li-ion battery
- ◆ Workspace ergonomics - basket, patient circuit hanger, medical mounting rail, electric splitter
- ◆ Remote service support and diagnostic technology



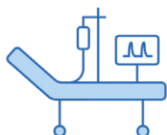
Neonatal



Pediatric



Adult



Intensive Care Unit
(ICU)



Intermediate Care
(IMC)



Emergency Room
(ER)



Intrahospital transportation

Ventilation modes

VC Volume Controlled Ventilation
 PC Pressure Controlled Ventilation
 PCVT Pressure Controlled Volume Targeted Ventilation
 TCPL Time Cycled Pressure Limited Ventilation
 VC-SIMV Volume Controlled Synchronized Intermittent Mandatory Ventilation
 PC-SIMV Pressure Controlled Synchronized Intermittent Mandatory Ventilation
 PCVT-SIMV Pressure Controlled Volume Targeted Synchronized Intermittent Mandatory Ventilation
 PC-PS Combined Pressure Controlled and Pressure Support Ventilation
 VC-VS Combined Volume Controlled and Volume Support Ventilation
 PCVT-VS Combined Volume Guarantee and Volume Support Ventilation
 APNEA(+Backup) Apnea ventilation with backup function
 BIPPV Biphasic Positive Airway Pressure Ventilation
 APRV Biphasic Airway Pressure Release Ventilation
 CPAP/PS Continuous Positive Airway Pressure with Pressure support
 nCPAP nasal Continuous Positive Airway Pressure
 nIPPV nasal Intermittent Positive Pressure Ventilation
 PS Pressure Support
 VS Volume Support Ventilation
 NIV Non-Invasive Ventilation
 HFOT High Flow Oxygen Therapy
 AdVent Adaptive Pressure-based intelligent Ventilation Support
 ProVent Adaptive Volume-based intelligent Ventilation Support

Monitored parameters

Pressure monitoring

Peak airway pressure (P_{peak})
 PEEP level ($PEEP$)
 Mean airway pressure (P_{mean})
 Minimal airway pressure (P_{min})
 Plateau pressure (P_{plat})
 End inspiratory pressure (P_{eip})
 Driving Pressure (P_{drive})
 Delta Airway Pressure (dP_{aw})
 Delta Esophageal Pressure (dP_{es})
 Intrinsic PEEP level ($AutoPEEP$)
 Intrinsic PEEP with esophageal pressure ($AutoPEEP_{es}$)
 Total PEEP ($PEEP_{tot}$)
 Transpulmonary Pressure, Plateau ($P_{tp\ Plat}$)
 Transpulmonary Pressure, AutoPEEP ($P_{tp\ AutoPEEP}$)
 Pressure Time Product (PTP)
 100ms Occlusion Inspiratory Pressure ($P_{0,1}$)
 Minimal Esophageal Pressure level ($P_{es\ min}$)
 Maximal Esophageal Pressure level ($P_{es\ max}$)
 Esophageal Plateau Pressure ($P_{es\ plateau}$)
 Esophageal Pressure Time Product ($P_{es\ PTP}$)
 Esophageal 100ms Occlusion Inspiratory Pressure ($P_{es\ P_{0,1}}$)
 Tracheal pressure (P_{tr})

Flow monitoring

Peak inspiratory flow (F_{insp})
 Peak Expiratory flow (F_{exp})
 End expiratory flow (EEF)
 Monitored (mean) nasal CPAP flow value ($CPAP\ flow$)
 Patient Leakage % ($PatLeak\%$)
 CPAP flow for automatic leak compensation ($LeakFlow$)
 Peak spontaneous flow (PSF)

Time/rate monitoring

Total respiratory rate (f_{total})
 Mandatory respiratory rate (f_{mand})
 Spontaneous respiratory rate (f_{spont})
 Real time clock & timer
 Inspiratory time (T_{insp})
 Expiratory time (T_{exp})
 I:E Ratio
 Expiratory constant (RC_{exp})
 Spontaneous Inspiratory time (Ti_{spont})
 Spontaneous Inspiratory time to cycle time ratio (Ti_{spont}/T_{tot})

Breathing mechanics

Expiratory constant (RC_{exp})
 Inspiratory constant (RC_{insp})
 Rapid shallow breathing index (RSB)
 Static Compliance (C_{stat})
 Dynamic Compliance (C_{dyn})
 Chest wall compliance (C_{cw})
 Lung Compliance (C_{lung})
 End Tidal Compliance ratio (C_{20}/C)
 Lung elasticity (E_{lung})
 Inspiratory airway resistance (R_{insp})
 Expiratory airway resistance (R_{exp})
 Maximal resistance (R_{peak})
 Static resistance (R_{stat})
 Work of breathing of patient (WOB_p)
 Work of breathing of ventilator (WOB_v)
 Relative work of breathing of patient ($WOB_p\%$)

Volumetric CO₂

Automatic CO₂ alveolar plateau definition (Slope CO₂)
 CO₂ concentration expiratory ($EtCO_2$)
 CO₂ volume expiratory ($VtCO_2$)
 Minute CO₂ production ($MVCO_2$)
 Anatomic Dead Space Volume (Vd_{ana})
 Alveolar Tidal Volume (Vt_{alv})
 Alveolar Minute Volume (MV_{alv})
 Physiologic Dead Space (Vd_{phy})
 Physiologic Dead Space / Tidal Volume Ratio (Vd/Vt_{phy})
 Alveolar Dead Space (Vd_{alv})

Volume monitoring

Inspiratory Tidal Volume (V_{ti})
 Expiratory Tidal Volume (V_{te})
 Mandatory Tidal Volume (V_{tMand})
 Spontaneous Tidal Volume (V_{tSpont})
 Ventilation Coefficient (V_t/IBW)
 Spontaneous Ventilation Coefficient (V_{tSpont}/IBW)
 Mandatory Ventilation Coefficient (V_{tMand}/IBW)
 Leakage volume (V_{leak})
 Relative leakage volume ($V_{leak}\%$)
 Inspiratory Minute Volume (MV_i)
 Expiratory Minute Volume (MV_e)
 Spontaneous expired minute volume ($MV_e\ Spont$)
 Expired minute volume according to IBW (MV_e/IBW)
 Spontaneous expired minute volume per IBW ($MV_e\ Spont/IBW$)
 Minute Volume leakage (MV_{leak})
 Relative Minute Volume leakage ($MV_{leak}\%$)

Gases and Vital signs monitoring

Oxygen concentration (FiO_2) ultrasonic oxygen cell
 CO₂ concentration ($FiCO_2/EtCO_2$) mainstream/sidestream
 Oxygen blood saturation SpO_2
 Pulse rate, PLE, Perfusion index

Graphical monitoring

Airway pressure/time curve
 Airway flow/time curve
 Tidal volume/time curve
 Esophageal pressure curve
 Transpulmonary pressure curve
 Paux/Tracheal pressure curve
 CO₂ waveform
 Capnometry graph
 Photoplethysmogram
 Pressure/volume loop
 Flow/volume loop
 Pressure/flow loop
 Volume/CO₂ loop

Special functions

Lock mode
 Freeze mode
 Oxygenation/suction mode
 P-V tool
 Intermittent lung inflation «sigh»
 Intermittent PEEP rise «PEEP sigh»
 Inspiratory/ Expiratory hold
 Manual breath
 Reference loops and waveforms record
 Curves record
 Screenshot record
 Intubation maintenance

Adjustable alarms

Airway pressure high/low
 Tidal volume high/low
 Minute volume high/low
 Total breath rate high/low
 Oxygen concentration high/low
 PEEP level high/low
 Apnea
 Air trapping
 Leak sensitivity

Technical alarms

AC power loss
 Low battery
 Low/high oxygen pressure
 Flow sensor error
 Technical failure with code
 Air Leakage

Dimensions and weight

Main unit, cm	35 x 31 x 15
Weight, kg	7,5

Power supply

AC 110 – 230 V, 50/60 Hz	
Built in Li-ion battery	up to 4 hours
External battery	Option

Adjustable parameters

	Adult	Pediatric	Neonatal
Oxygen concentration, %	21 – 100	21 – 100	21 – 100
Tidal/Target Volume, ml	50 – 4000	10 – 600	2 – 150
Inspiratory Pressure/PS, cmH ₂ O	0 – 100	0 – 80	0 – 60
Minute Volume %	25 -350	25 -350	25 -350
HFOT/nCPAP Flow rate, l/min	5 – 80	2 – 60	0,5 – 10
PEEP/CPAP, cmH ₂ O	0 – 50	0 – 50	0 – 30
Breath rate, b/min	1 – 120	5 – 120	10 – 150
Inspiratory time, s	0,1 – 48	0,1 – 9,6	0,1 – 4,8
Expiratory time, s	0,1 – 54	0,2 – 10,9	0,09–3,02
I:E ratio	1:10 – 4:1	1:10 – 4:1	1:10 – 4:1
Rise time, %	0 – 100	0 – 100	0 – 100
Inspiratory Pause, %	0 – 70	0 – 70	--
Flow Trigger Sens., l/min	0 – 20	0 – 15	0 – 10
Pressure Trigger Sens. cmH ₂ O	0 – 20	0 – 20	0 – 20
Expiratory Trigger Sensitivity, %	1 – 80	1 – 80	1 – 80
AutoETS	On/Off	On/Off	On/Off
Flow pattern	Rect, Desc, Sine		--High
Slope/ramp pressure	Trise, % of Ti		
Biphasic Time, s	0,1 – 40	0,1 – 40	0,1 – 40 Low
Biphasic Time, s	0,2 – 60	0,2 – 60	0,2 – 60
Expiratory termination flow, %	1 – 80	1 – 80	1 – 80
Apnea Time	10 – 60	10 – 45	2 – 30
Sigh	off, 1:50, 1:100		--
PEEP Sigh	0 – 35	0 – 35	0 – 15
Cycles of PEEP SIGH	1 – 20	1 – 20	1 – 20
Interval of PEEP SIGH, min	1 – 180	1 – 180	1 – 180
Tube compensation,%	0 – 100	0 – 100	0 – 100
Oxygenation enrichment, %	33 – 100	33 – 100	33 – 100
Ventilation coefficient, ml/kg	6 – 12	6 – 12	3 – 12
Button 100% O ₂ , min	0 – 2	0 – 2	0 – 2

Patient parameters

	Adult	Pediatric	Neonatal
Height, cm			
Body weight, kg	136 – 250	--	--
Patient Age, years	30 – 250	3 – 44	0,3 – 10
	--	0,5 – 13	--

Gas supply

Wall oxygen, bars	2 – 6 (29 – 87 psi)
Gas consumption, l/min	0 – 120
Low pressure O ₂ mode	

Inspiratory Flow (Peak Flow) L/min	0.5 – 250; ± 15%
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Display

Size, cm	30.5 (12") + 55.9 (22")
Type	color, LED, touch screen
Resolution	1280 × 800 + 1920 × 1080
Waveforms	1–7
Sweep speed, mm/s	6 – 12 – 30 – 60
Connectivity:	Manual /Auto
	RS-232, HDMI, LAN, USB, SDcard
	HIS integration protocol HL7

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