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 O_2 sensor
- ◆ For adult, pediatric and neonatal

UTAS

CE 2409

ISO 13485

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 SpO_2 and CO_2 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
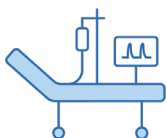
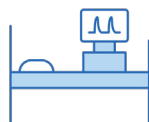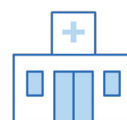◆ Remote service support and diagnostic technology

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
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
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 (Ppeak)
PEEP level (PEEP)
Mean airway pressure (Pmean)
Minimal airway pressure (Pmin)
Plateau pressure (Pplat)
End inspiratory pressure (Peip)
Driving Pressure (Pdrive)
Delta Airway Pressure (dPaw)
Delta Esophageal Pressure (dPes)
Intristic PEEP level (AutoPEEP)
Intristic PEEP with esophageal pressure (AutoPEEPes)
Total PEEP (PEEPtot)
Transpulmonary Pressure, Plateau (Ptp Plat)
Transpulmonary Pressure, AutoPEEP (Ptp AutoPEEP)
Pressure Time Product (PTP)
100ms Occlusion Inspiratory Pressure (P0,1)
Minimal Esophageal Pressure level (Pes min)
Maximal Esophageal Pressure level (Pes max)
Esophageal Plateau Pressure (Pes plateau)
Esophageal Pressure Time Product (Pes PTP)
Esophageal 100ms Occlusion Inspiratory Pressure (Pes P0,1)
Tracheal pressure (Ptr)

Flow monitoring

Peak inspiratory flow (Finsp)
Peak Expiratory flow (Fexp)
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 (Tinsp)
Expiratory time (Texp)
I:E Ratio
Expiratory constant (RCexp)
Spontaneous Inspiratory time (Ti spont)
Spontaneous Inspiratory time to cycle time ratio (Ti spont/Ttot)

Breathing mechanics

Expiratory constant (RCexp)
Inspiratory constant (RCinsp)
Rapid shallow breathing index (RSB)
Static Compliance (Cstat)
Dynamic Compliance (Cdyn)
Chest wall compliance (Ccw)
Lung Compliance (Clung)
End Tidal Compliance ratio (C20/C)
Lung elasticity (Elung)
Inspiratory airway resistance (Rinsp)
Expiratory airway resistance (Rexp)
Maximal resistance (Rpeak)
Static resistance (Rstat)
Work of breathing of patient (WOBp)
Work of breathing of ventilator (WOBv)
Relative work of breathing of patient (WOBp%)

Volumetric CO_2

Automatic CO_2 alveolar plateau definition (Slope CO2)
CO_2 concentration expiratory (EtCO2)
CO_2 volume expiratory (VtCO2)
Minute CO_2 production (MVCO2)
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/Vte phy)
Alveolar Dead Space (Vd alv)

Volume monitoring

Inspiratory Tidal Volume (Vti)
Expiratory Tidal Volume (Vte)
Mandatory Tidal Volume (VtMand)
Spontaneous Tidal Volume (VtSpont)
Ventilation Coefficient (Vt/IBW)
Spontaneous Ventilation Coefficient (VtSpont/IBW)
Mandatory Ventilation Coefficient (VtMand/IBW)
Leakage volume (Vleak)
Relative leakage volume (Vleak%)
Inspiratory Minute Volume (MVi)
Expiratory Minute Volume (MVe)
Spontaneous expired minute volume (MVe Spont)
Expired minute volume according to IBW (MVe/IBW)
Spontaneous expired minute volume per IBW (MVeSpont/IBW)
Minute Volume leakage (MVleak)
Relative Minute Volume leakage (MVleak%)

Gases and Vital signs monitoring

Oxygen concentration (FiO_2) ultrasonic oxygen cell
CO_2 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
CO_2 waveform
Capnomery graph
Photoplethysmogram
Pressure/volume loop
Flow/volume loop
Pressure/flow loop
Volume/CO_2 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
Y-piece sensor error
Technical failure with code

Dimensions and weight

Main unit, cm	35 x 31 x15
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_2O	1 – 100	1 – 80	1 – 60
Minute Volume %	25 -350	25 -350	--
HFOT/nCPAP Flow rate, l/min	5 – 80	2 – 60	0,5 – 10
PEEP/CPAP, cmH_2O	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	0,2 – 20; off	0,2 – 15; off	0,1–10; off
Pressure Trigger Sens. cmH2O	0,1 – 20; off	0,1 – 20; off	0,1–20; off
Expiratory Trigger Sensitivity, %	1 – 80	1 – 80	1 – 80
AutoETS	On/Off	On/Off	On/Off
Flow pattern	Rect, Desc, Sine		--
High 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

Patient parameters

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

Gas supply

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

Low pressure O_2 mode

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
Scale	Manual /Auto

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