

# SV600

Ventilator



## Technical Specification

### Physical Specification

#### Dimensions and weight

Dimensions (HxDxW)	1395mmX530mmX674mm (Including the trolley, including backup air supply) 906mmX401mmX298mm (Excluding the trolley, including backup air supply) 651mmX401mmX298mm (Excluding the trolley, excluding backup air supply)
Weight	Approximately 45kg (Excluding the trolley, including backup air supply)

#### Display

Screen	15.6" Color active matrix TFT touch screen
Display Resolution (H)x(V)	1920X1080 pixels
Brightness	Adjustable

#### Trolley

Dimensions	760mm(depth)X530mm(width)X980mm(height)
Weight	17 kg

#### Communication interface

Communication interface	RS-232, Nurse call connector, VGA connector, USB Port X4, Ethernet
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#### Ventilation Specifications

Patient Type	Adult, Pediatric, Neonate	O <sub>2</sub> %	21 to 100 vol.%
Ventilation Mode	V-A/C (Volume assist/control) P-A/C (Pressure assist/control) V-SIMV (Volume-Synchronized Intermittent Mandatory Ventilation) P-SIMV (Pressure-Synchronized Intermittent Mandatory Ventilation) Duolevel (Duo Level Ventilation) CPAP (Continuous Positive Airway Pressure) PSV (Pressure Support Ventilation) VS (Volume Support) APRV (Airway Pressure Release Ventilation) PRVC (Pressure Regulated Volume Control) PRVC-SIMV (PRVC-Synchronized Intermittent Mandatory Ventilation) AMV (Adaptive Minute Ventilation) CPRV (Cardio-Pulmonary Resuscitation Ventilation) PSV-S/T(Pressure Support Ventilation-Spontaneous/Timed) nCPAP(Nasal Continuous Positive Airway Pressure ventilation)	TV (Tidal Volume) MV% f (Ventilation frequency) fsimv (Ventilation frequency in SIMV mode) I:E Tinsp (Inspiratory time) Tslope (Time of pressure rising) Thigh Tlow Tpause Flow $\Delta P_{insp}$ $\Delta P_{supp}$ Phigh Plow PEEP Flow trigger Pressure trigger Exp% (Expiration termination level) Base flow Neg.Plimit (in CPRV mode)	Adult: 100 to 4000 mL Pediatric: 20 to 300 mL Neonate: 2 to 100 mL 25% to 350% Adult / Pediatric: 1 to 100 /min Neonate: 1 to 150 /min 1 to 60 /min 1:10 to 4:1 0.10 to 10.00 s 0.00 to 2.00 s 0.10 to 30.00 s 0.20 to 30.00 s OFF, 5% to 60% Adult: 6 to 180 L/min Pediatric: 6 to 30 L/min Neonate: 2 to 30 L/min 1 to 100 cmH <sub>2</sub> O 0 to 100 cmH <sub>2</sub> O 0 to 100 cmH <sub>2</sub> O 0 to 50 cmH <sub>2</sub> O 0 to 50 cmH <sub>2</sub> O OFF, Adult/Pediatric: 0.5 to 20.0 L/min; Neonate: 0.1 to 5.0 L/min OFF, -20.0 to -0.5 cmH <sub>2</sub> O Auto, 5% to 85% Automatic adjustment (3-40L/min in invasive mode, 10-65L/min in non-invasive mode) -30 to 0 cmH <sub>2</sub> O

### Apnea Ventilation

TVapnea	Adult: 100 to 4000 mL Pediatric: 20 to 300 mL Neonate: 2 to 100 mL	WOB	WOBot, WOBvent, WOBimp, WOBpat (Range: 0 to 100 J/min)
ΔPapnea	1 to 100 cmH <sub>2</sub> O	P0.1	-20 to 0 cmH <sub>2</sub> O
fapnea	Adult / Pediatric: 1 to 100 bpm Neonate: 1 to 150 bpm	NIF	-45 to 0 cmH <sub>2</sub> O
Apnea Tinsp	0.10 to 10.00 s	PEEPI	0 to 120 cmH <sub>2</sub> O
		Vtrap	0 to 4000 mL
		RCexp	0 to 10 s
		TVe/IBW	0 to 50 mL/kg
		I:E	150:1 to 1:150
		Tinsp	0.00 to 60.00s

### Sigh

Sigh Switch	ON, OFF	PIF (peak inspiratory flow)	Adult/Pediatric: 0 to 300 L/min Neonate: 0 to 30 L/min
Interval	20 s to 180 min	PEF (peak expiratory flow)	Adult/Pediatric: 0 to 180 L/min Neonate: 0 to 30 L/min
Cycles Sigh	1 to 20	EEF (end expiratory flow)	Adult/Pediatric: 0 to 180 L/min Neonate: 0 to 30 L/min
Δint. PEEP	OFF, 1 to 40 cmH <sub>2</sub> O		

### Automatic Tube Resistance Compensation

Tube Type	ET Tube, Trach Tube, Disable ATRC	C20/C	0.00 to 5.00
Tube I.D.	Adult: 5.0 to 12.0 mm Pediatric: 2.5 to 8.0 mm Neonate: 2.5 to 5.0 mm	Waveforms	Airway pressure-time, Flow-time, Volume-time, CO <sub>2</sub> -time , Pleth-time
Compensate	1 to 100 %	Loops	Paw-Volume, Flow-Volume, Paw-Flow, Volume-CO <sub>2</sub>
Expiration Compensation Switch	ON, Off		

### O<sub>2</sub> Therapy

O <sub>2</sub> %	21 to 100 vol.%
Flow	Adult: 2 to 60 L/min Pediatric: 2 to 25 L/min

### Leakage Compensation

Maximum leakage compensation flow	Adult: 65L/min Pediatric: 45L/min Neonate: 15L/min
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### Monitored parameters

Airway pressure range	Ppeak, Pplat, Pmean, (Range -20 to 120 cmH <sub>2</sub> O) PEEP (Range 0 to 120 cmH <sub>2</sub> O)	Airway pressure	High 10 to 105 cmH <sub>2</sub> O Low OFF, 1 to 100 cmH <sub>2</sub> O
Tidal volume range	TVi, TVe, TVe spn,(Range 0 to 6000 mL)	Frequency	High OFF, 2 to 160 /min Low OFF, 1 to 159 /min
Frequency range	ftotal, fmand, fspn, (Range 0 to 200 /min)	Inspired Oxygen (FiO <sub>2</sub> )	High FiO <sub>2</sub> exceeds the alarm limit for at least 30 s, internal alarm limit: set value+max (7 vol.% or set value X10% ) or 100 vol.%, whichever is lower. Low FiO <sub>2</sub> lower than the alarm limit for at least 30 s, internal alarm limit: set value-max (7 vol.% or set valueX10%) or 18%, whichever is greater.
Minute volume range	MVi, MVe, MVspn, MVleak, (Range Adult/Pediatric: 0 to 100 L/min Neonate: 0 to 30 L/min)	Apnea alarm time	Low 5 to 60 s (can be set to Off in nCPAP)
Leak%	0 to 100%		
Resistance	Rinsp, Rexp, (Range 0 to 600 cmH <sub>2</sub> O/L/s)		
Compliance	Cstat, Cdyn, (Range 0 to 300 mL/cmH <sub>2</sub> O)		
Inspired Oxygen (FiO <sub>2</sub> )	15 to 100 vol.%		
RSBI	0 to 9999 1/(min*L)		

Other Alarms	Low battery voltage Gas supply pressure low Airway obstruction Tube disconnected PEEP too high	<b>MainStream CO<sub>2</sub> Module</b> Displayed numerics EtCO <sub>2</sub> , VeCO <sub>2</sub> , ViCO <sub>2</sub> , MVCO <sub>2</sub> , VtAlv, MValv, VDaw, VDaw/TVe, SlopeCO <sub>2</sub> , VDalv, VDphy, VDphy/TVe, OI, P/F, VCO <sub>2</sub> EtCO <sub>2</sub> measurement range 0 to 150 mmHg Resolution 1 mmHg Waveforms / Loop CO <sub>2</sub> - time, Volume - CO <sub>2</sub> System response time < 2.0 s EtCO <sub>2</sub> High alarm limits 2 to 150 mmHg EtCO <sub>2</sub> Low alarm limits 0 to 148 mmHg
<b>Trend</b>		
Type	Tabular, Graphic	
Length	96 hours	
Content	Monitor Parameters, Setting Parameters (Setting Ventilation mode and Parameters)	
<b>Log</b>		
Type	Alarm, Operation	
Max number	5000	
<b>Screen Capture</b>		
Max number	20 pictures	
<b>Ventilator components</b>		
<b>O<sub>2</sub> sensor</b>		
Type	Calvanic fuel cell, paramagnetic sensor	
Response time	< 23 s	
<b>Neonatal flow sensor</b>		
Flow Range	0.2 to 30 L/min	
Dead space	<0.75 ml	
Resistance	0.9 cmH <sub>2</sub> O@10L/min	
<b>SideStream CO<sub>2</sub> Module</b>		
Displayed numeric	EtCO <sub>2</sub>	<b>Gas supply</b>
EtCO <sub>2</sub> measurement range	0 to 152 mmHg	Gas type O <sub>2</sub> and Air
Resolution	1 mmHg	Pipe Connector NIST, DISS
Waveforms	CO <sub>2</sub> - time	Gas supply pressure 0.28 to 0.65MPa
Sampling rate	Adult/Pediatric: 120 mL/min Neonate: 90 mL/min	Peak flow in case of single supply gas ≥ 180 L/min (BTPS)*
System response time	Using Adult/ Pediatric water trap, Adult/Pediatric sampling line: < 5.5 s @ 120 mL/min Using Neonatal water trap, Neonatal sampling line: < 4.5 s @ 90 mL/min	Loss of gas supply In the event of a gas supply failure, automatically switches over to the other gas supply available, so that the patient gets the preset volume and pressure
Rise time	Adult/Pediatric water trap, sampling line: < 300 ms @ 120 mL/min Neonatal water trap, sampling line: < 330 ms @ 90 mL/min	
Water trap cleaning time	Adult/Pediatric water trap: ≥ 26 h @ 120 mL/min Neonatal water trap: ≥ 35 h @ 90 mL/min	<b>Backup air supply (Blower)</b>
EtCO <sub>2</sub> High alarm limits	2 to 152 mmHg	Maximum output flow ≥ 200 L/min (BTPS)*
EtCO <sub>2</sub> Low alarm limits	0 to 150 mmHg	Maximum output pressure ≥ 80 cmH <sub>2</sub> O
		<b>Power and Battery Backup</b>
		Power input voltage 100 to 240 V
		Power input frequency 50/60 Hz
		Power input current 2.8 to 1.2 A
		Fuse 220V/5.0A

Number of batteries	One or Two
Battery type	Build-in Lithium-ion battery, 11.3 VDC, 5600 mAh
Battery run time	90 min (Powered by one new fully-charged battery in standard working condition)* 180 min (Powered by two new fully-charged battery in standard working condition)

### **Special Functions and procedures**

100% O<sub>2</sub>  
 Suction  
 Nebulization  
 Manual breath  
 Inspiratory hold  
 Expiratory hold  
 PEEPi  
 P0.1  
 NIF  
 PV-Tool  
 Weaning Tool  
 Lung Recruitment Tool (SI)  
 Alveolus ventilation calculation

\* BTPS =Body Temperature and Pressure Saturated

\* The standard work condition is: Ventilation mode:V-A/C ; TV:500 ml; f:10 /min; Tinsp:2 s ; O<sub>2</sub> %:40 Vol.%; 2 2 PEEP:3 cmH<sub>2</sub>O ; R:5 cmH<sub>2</sub>O/L/s ; C:50 mL/cmH<sub>2</sub>O ; Gas supply: O<sub>2</sub> and Air Pipeline gas supply, nominal work pressure: 400±100 kPa.

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Some of functions marked with an asterisk may not be available. Please contact your local Mindray sales representative for the most current information.

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