TV50

Ventilator

Physical Specification

Dimensions and weight

Dimensions (HxWxD)	222 mm×294 mm×210 mm (Excluding the trolley)
Weight	Approximately 4.5kg (Excluding the trolley)

Display

Screen	7" Capacitive TFT touch screen
Resolution (HxV)	800×480 pixels
Brightness	Adjustable (Manual, automatic)

Ink screen

Ventilator ON	Outdoor mode
Ventilator OFF	Battery indicator

Mounting method
Mounting handle, dock, trolley

Communication interface
USB Port, Ethernet, wireless network, 5G, bluetooth

Ventilation Specifications

Patient Type	Adult, Pediatric, Infant
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)
	NIV (Non-invasive ventilation)
	O_2 Therapy

Controlled Parameters

Flow (O_2 Therapy)	2 to 80 L/min
O_2%	21 to 100 vol.%
TV (Tidal Volume)	Adult: 100 to 4000 mL
	Pediatric: 20 to 300 mL
	Infant: 20 to 100 mL
MV%	25% to 350%
f	1 to 100 /min
fsimv (Ventilation frequency in SIMV mode)	
	1 to 60 /min
I:E	1:10 to 4:1
Tinsp	0.10 to 10.00 s

Tslope (Time of pressure rising)

	0.00 to 2.00 s
Thigh	0.10 to 30.00 s
Tlow	0.20 to 30.00 s
Tpause	OFF, 5% to 60%
Flow Pattern	Square, 100% Decelerating, 50% Decelerating
ΔPinsp	1 to 60 cmH$_2$O
ΔPsupp	0 to 60 cmH$_2$O
Phigh	0 to 60 cmH$_2$O
Plow	0 to 50 cmH$_2$O
PEEP	0 to 50 cmH$_2$O
Flow trigger	OFF, 0.5 to 20.0 L/min;
Pressure trigger	OFF, -20.0 to -0.5 cmH$_2$O
Exp% (Expiration termination level)	
	Auto, 1% to 85%

Apnea Ventilation

TVapnea	Adult: 100 to 4000 mL
	Pediatric: 20 to 300 mL
	Infant: 20 to 100 mL
ΔPapnea	1 to 60 cmH$_2$O
fapnea	1 to 100 /min
Apnea Tinsp	0.10 to 10.00 s

Sigh

Sigh Switch	ON, OFF
Interval	20 s to 180 min
Cycles Sigh	1 to 20
Δint. PEEP	OFF, 1 to 40 cmH$_2$O

Automatic Leakage Compensation

Maximum leakage compensation flow	
	Adult: 65L/min
	Pediatric: 45L/min
	Infant: 15L/min

IntelliCycle

Automatically adjust parameters	
	Trigger, Tslope, Exp%
IntelliCycle Switch	ON, Off

Monitored parameters

Airway pressure range	Ppeak, Pplat, Pmean (Range -20 to 120 cmH$_2$O) PEEP (Range 0 to 120 cmH$_2$O)
Tidal volume range	TVi, TVe, TVe spn (Range 0 to 6000 mL)
Frequency range	ftotal, fmand, fspn (Range 0 to 200 /min)
Minute volume range	MV, MVspn, MVleak (Range 0 to 100 L/min)
Leak%	0 to 100%
Resistance	Rinsp, Rexp (Range 0 to 600 cmH$_2$O/L/s)
Compliance	Cstat, Cdyn (Range 0 to 300 mL/cmH$_2$O)
Inspired Oxygen (FiO$_2$)	15 to 100 vol.%
RSBI	0 to 9999 1/(min*L)
WOB	0 to 100 J/min
P0.1	-20 to 0 cmH$_2$O
PEEPi	0 to 50 cmH$_2$O
RCexp	0 to 10 s

I:E	100:1 to1:150	
Tinsp	0.00 to 60.00s	
Waveforms	Airway pressure-time, Flow-time, Volume-time, CO_2-time	
Loops	Paw-Volume, Flow-Volume, Paw-Flow	

Alarm settings

Tidal Volume	High	Infant: Off, 21 to 200 mL
		Ped: Off, 25 to 600 mL
		Adu: Off,110 to 4000 mL
	Low	Infant: Off, 5 to 195 mL
		Ped: Off, 10 to 595 mL
		Adu: Off, 50 to 5995 mL
Minute Volume	High	Ped/Infant: 0.2 to 60.0 L/min
		Adu: 0.2 to 100.0 L/min
	Low	Ped/Infant: 0.1 to 30.0 L/min
		Adu: 0.1 to 50.0 L/min
		(can be set to Off in NIV)
Airway pressure	High	10 to 65 cmH$_2$O
Frequency	High	OFF, 2 to 160 /min
Inspired Oxygen (FiO$_2$)	High	Auto, internal alarm limit: min (FiO$_2$ set value + max (7 vol.% or FiO$_2$ set value ×10%), 100 vol.%).
	Low	Auto, internal alarm limit: max (FiO$_2$ setvalue-max (7 vol.% or set value×10%), 18%).
Apnea alarm time	Low	5 to 60 s

Trend

Type	Tabular, Graphic
Length	120 hours
Content	Monitor Parameters, Setting Parameters

Log

Type	Alarm, Operation
Max number	10000

Screenshot

	50 pictures

O$_2$ sensor

Type	Non-consuming O$_2$ sensor
Response time	< 18 s

Mainstream CO$_2$ Module

Displayed numerics	EtCO$_2$
Measurement range	0 to 150 mmHg
Resolution	1 mmHg
Waveforms / Loop	CO$_2$ - time
System response time	< 2.0 s
EtCO$_2$ High alarm limit	2 to 150 mmHg
EtCO$_2$ Low alarm limit	0 to 148 mmHg

Safety specifications

Classification	Class IIb
Water protection	IP34
Major standards used	IEC 60601-1-12, ISO 80601-2-12, ISO 80601-2-55, ISO 80601-2-61, IEC60601-1-2:2020

EN1789, EN13718-1, RTCA DO-160G, ISO 80601-2-84(EN 794-3), MIL-STD-461G, MIL-STD-810G

Environmental specifications

Temperature	-20 to 50°C(operating); -20 to 60°C(storage)
Relative Humidity	5 to 95 % (operating); 10 to 95 % (storage)
Barometric Pressure	37.6 to 110 kPa (operating); 60 to 110 kPa (storage)
Altitude compensation	Automatic compensation

O$_2$ supply

High pressure O$_2$	0.28 ~0.65MPa
Pipe Connector	NIST, DISS
Low pressure O$_2$	≤ 0.1MPa
Low pressure O$_2$ Flow	≤ 15L/min

Air supply (Blower)

Maximum flow	≥ 210 L/min
Maximum pressure	≥ 60 cmH$_2$O

External AC power supply

Power input voltage	100 to 240 V
Power input frequency	50/60 Hz
Power input current	2.2 to 1.0 A
Fuse	T3.15 A/250 V

External DC power supply

Power input voltage	12 to 28V
Power input current	15 to 6.5 A

Internal battery

Number of batteries	One or Two
Battery type	Build-in Lithium-ion battery, 14.4 VDC, 6600 mAh
Battery run time	300 min (Powered by one new fully-charged battery according to ISO 80601-2-12)
	600 min (Powered by two new fully-charged battery according to ISO 80601-2-12)
Charging time	≤ 3h (One battery, from 0 to 90%)
	≤ 6h (Two battery, from 0 to 90%)

Special Functions and procedures

Sigh
O$_2$↑
Suction
Manual breath
Inspiratory hold
Screen lock
Oxygen consumption calculation
Storage mode

Specifications are subject to change without notice. Some features are options. Not all features/products are available in all markets. Please contact your local Mindray sales representative for the most current information.

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