

TV80

Ventilator



Physical Specification

Dimensions and weight

Dimensions (HxWxD)	293 mm×296 mm×254 mm (Excluding the trolley)
Weight	Approximately 6.5kg (Excluding the trolley)

Display

Screen	10.1" Capacitive TFT touch screen
Resolution (HxV)	1280×800 pixels
Brightness	Adjustable (Manual, automatic)

Ink screen

Ventilator ON	Outdoor mode
Ventilator OFF	Battery indicator

Mounting method	Mounting handle, dock, trolley
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Communication interface

RS232, VGA connector, USB Port, Ethernet, wireless network, 5G, Bluetooth

Ventilation Specifications

Patient Type	Adult, Pediatric, Neonate
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) nCPAP (Nasal Continuous Positive Airway Pressure ventilation) NIV (Non-invasive ventilation) O ₂ Therapy

Controlled Parameters

Flow (O ₂ Therapy)	Adult/Pediatric: 2 to 80 L/min Neonate: 2 to 20 L/min
O ₂ %	21 to 100 vol.%
TV (Tidal Volume)	Adult: 100 to 4000 mL Pediatric: 20 to 300 mL Neonate: 2 to 100 mL
MV%	25% to 350%
f	Adult/Pediatric: 1 to 100 /min Neonate: 1 to 150 /min

fsimv (Ventilation frequency in SIMV mode)

	1 to 60 /min
I:E	1:10 to 4:1
T _{insp}	0.10 to 10.00 s
T _{slope} (Time of pressure rising)	0.00 to 2.00 s
Thigh	0.10 to 30.00 s
T _{low}	0.20 to 30.00 s
T _{pause}	OFF, 5% to 60%
Flow Pattern	Square, 100% Decelerating, 50% Decelerating
ΔP _{insp}	1 to 80 cmH ₂ O
ΔP _{supp}	0 to 80 cmH ₂ O
Phigh	0 to 80 cmH ₂ O
Plow	0 to 50 cmH ₂ O
PEEP	0 to 50 cmH ₂ O
Flow trigger	Adult/Pediatric: OFF, 0.5 to 20.0 L/min Neonate: 0.1 to 5.0 L/min
Pressure trigger	OFF, -20.0 to -0.5 cmH ₂ O
Exp% (Expiration termination level)	Auto, 1% to 85%

Apnea Ventilation

TV _{apnea}	Adult: 100 to 4000 mL Pediatric: 20 to 300 mL Neonate: 2 to 100 mL
ΔP _{apnea}	1 to 80 cmH ₂ O
f _{apnea}	Adult/Pediatric: 1 to 100 /min Neonate: 1 to 150 /min
Apnea T _{insp}	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 Neonate: 15L/min
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IntelliCycle

Applicable patient type	Adult / Pediatric
Automatically adjust parameters	Trigger, T _{slope} , Exp%
IntelliCycle Switch	ON, Off

Monitored parameters

Airway pressure range	P _{peak} , P _{plat} , P _{mean} (Range -20 to 120 cmH ₂ O) PEEP (Range 0 to 120 cmH ₂ O)
Tidal volume range	TV _i , TV _e , TV _e spn (Range 0 to 6000 mL)
Frequency range	f _{total} , f _{mand} , f _{spn} (Range 0 to 200 /min)
Minute volume range	MV, MV _{spn} , MV _{leak}

	(Range Adult/Pediatric: 0 to 100 L/min, Neonate: 0 to 30 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
PEEPtotal	0 ~ 120 cmH ₂ O
PEEPi	0 to 80 cmH ₂ O
RCexp	0 to 10 s
I:E	100:1 to 1:150
Tinsp	0.00 to 60.00s
Pdrive	0~120 cmH ₂ O
Waveforms	Airway pressure-time, Flow-time, Volume-time, CO ₂ -time, Pleth-time
Loops	Paw-Volume, Flow-Volume, Paw-Flow, Volume-CO ₂
Monitoring display	Waveform screen, Big Numeric screen, Values screen, Spirometry screen

Alarm settings

Tidal Volume	High Neonate: Off, 3 to 200 mL Ped: Off, 25 to 600 mL Adu: Off, 110 to 4000 mL Low Neonate: Off, 1 to 195 mL Ped: Off, 10 to 595 mL Adu: Off, 50 to 5995 mL
Minute Volume	High Neonate: 0.02 to 30 L/min Ped: 0.2 to 60.0 L/min Adu: 0.2 to 100.0 L/min (can be set to Off in nCPAP) Low Neonate: 0.01 to 15 L/min Ped: 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 85 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 set value-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
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Monitor Module

Monitor parameters of Monitor	ECG, SpO ₂ , CO ₂ , Temp, NIBP, IBP, CQI
Display method	Upper part of ventilator screen
ECG	3/5/6/12 lead
SpO ₂	Mindray SpO ₂
CO ₂	Sidestream CO ₂
Temperature	0 °C to 50 °C

NIBP	Manual, Automatic
IBP	- 50 mmHg to 360 mmHg
CQI	0 to 100

O₂ sensor

Type	Non-consuming O ₂ sensor
Response time	< 18 s

Sidestream CO₂ Module

Displayed numeric	EtCO ₂
Measurement range	0 to 152 mmHg
Resolution	1 mmHg
Waveforms	CO ₂ -time
Sampling rate	Adult/Pediatric: 120 mL/min Neonate: 90 mL/min
System response time	Adult/ Pediatric: <5.5 s @ 120 mL/min Neonate: <4.5 s @ 90 mL/min
Rise time	Adult/Pediatric: <300 ms @120 mL/min Neonate: <330 ms @90 mL/min
Water trap cleaning time	Adult/Pediatric: ≥26 h @120 mL/min Neonatal: ≥35 h @90 mL/min
EtCO ₂ High alarm limit	2 to 152 mmHg
EtCO ₂ Low alarm limit	0 to 150 mmHg

Mainstream CO₂ Module

Displayed numerics	EtCO ₂ , VeCO ₂ , ViCO ₂ , MVCO ₂ , Vtalv, MValv, VDaw, VDaw/TVe, SlopeCO ₂ , VDalv, VDphy, VDphy/TVe, OI, P/F, VCO ₂
Measurement range	0 to 150 mmHg
Resolution	1 mmHg
Waveforms / Loop	CO ₂ - time, Volume - CO ₂
System response time	< 2.0 s
EtCO ₂ High alarm limit	2 to 150 mmHg
EtCO ₂ Low alarm limit	0 to 148 mmHg

SpO₂ module

Displayed numeric	SpO ₂ , PR, PI
SpO ₂ Measurement range	0 to 100 %
PR measurement range	20 to 300 1/min
PI measurement range	0.05 to 20 %
Waveform	Pleth
SpO ₂ High alarm limit	2 to 100 %
SpO ₂ Low alarm limit	0 to 98 %
SpO ₂ Desat alarm limit	0 to 98 %
PR High alarm limit	17 to 300 1/min
PR Low alarm limit	15 to 298 1/min

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

O₂ 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	≥ 280 L/min
Maximum pressure	≥ 80 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	330 min (Powered by one new fully-charged battery according to ISO 80601-2-12) 660 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
O₂↑
Suction
Manual breath
Inspiratory hold
Expiratory hold
PulmoSight
Static PV loop
Weaning Tool (SBT)
Lung Recruitment Tool (SI)
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.

www.mindray.com

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