

Data sheet

monnalT60

Emergency and Transport ventilator



TECHNICAL SPECIFICATIONS

Emergency and Transport ventilator



Monnal T60 was designed for mobile medical treatment in any intensive-care environment, whether in a hospital or not.

Monnal T60 provides mobile medical teams with the highest possible standards of ventilation for critical-care patients: adults, children and enfant over 3 kg. With many modes and high performance NIV, Monnal T60 allows medical teams to adjust the treatment to suit different patients.

It guarantees quick, intuitive use via its large color touch-screen. Combined with complete and very accessible monitoring (etCO₂, plateau pressure, etc.), Monnal T60 provides safe ventilation throughout the patient transportation.

VENTILATION	
Types	Volume controlled, Pressure controlled, Pressure support, Spontaneous
Modes	(A)VCV, (A)VCV - NIV (A)PCV, (A)PCV - NIV SIMV, SIMV - NIV PSV, PSV/NIV, CPAP, Option: PS-Pro, Duo-Levels, PSIMV / PSIMV-VNI, PRVC
"Emergency" modes	Automatic pre-selection of ventilation parameters with the setting of the Ideal Body Weight (IBW) of the patient (infants and adults) Choice of ratio mL / Kg
Function	High flow oxygen therapy

SCREEN	
Technology	LCD color resistive touch-screen. 262k colors (18 bits)
Dimensions	8.4 inches
Display resolution	640*480 pixels
Luminosity	800 cd/m ² LED backlight Luminosity adjustment. Day / Night screen display

PHYSICAL SPECIFICATIONS	
Dimensions	29x25x11 cm (lwxhx)
Weight	3.7 kg (4 kg with 2 batteries)

STANDARDS	
	NF EN ISO 14971:2001 and A1:2003
	CEI 60601-1:2000 and its appendices
	CEI 60601-1-2:2007
	CEI 60601-2-12:2001
	NF EN 794-3:1998, A1:2005 A2:2009
	NF EN 1789: 2010 section 6.3 and 6.4
Air ambulance (helicopter and airplane)	EN13718-1 (including the RTCA DO160F)

ACCESSORIES	
Technology	LCD color resistive touch-screen. 262k colors (18 bits)
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PARAMETERS SETTINGS

Patient categories	Adult / Children / Infant (including New-born)
Patient weight	Adjustable (IBW)
Tidal volume	20 to 2000 mL
Frequency	1 to 80 Bpm
PEEP	0 to 20 cmH ₂ O
FiO ₂	21 to 100 %
I:E ratio	10 to 50 % of total time
Inspiratory time	0.25 to 5 s
Inspiratory flow rate trigger	Desactivated. 0.5 to 10 l/min
Inspiratory pressure	5 to 60 cmH ₂ O
Pressure support	5 to 40 cmH ₂ O
Rise time	50 to 120 cmH ₂ O/s
P.max	80 cmH ₂ O
P.limit	90 cmH ₂ O
Expiratory trigger	10 to 90% of peak flow
Peak flow	2 to 150 l/min in volumandric mode 230 l/min in spontaneous mode
Inspiratory and expiratory pause	0 to 15 s

ALARMS

Adjustable by users	High pressure, Low pressure, Plateau pressure VTi low/high, MVl low/high, MVe low/high, VTe low/high, Frequency low/high, FiO ₂ low/high and CO ₂ low/high
Specific alarms	Disconnection, expiratory obstruction, flow sensor, power supply, battery, gas inlet and patient pre-oxygenation
Features	Adjustable volume, 4-levels of criticality

SPECIFIC FUNCTIONS

Apnea ventilation	Adjustable apnea ventilation volume, frequency and duration
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MONITORING SPECIFICATIONS

MEASURED PARAMETERS	SETTINGS RANGE	TRENDED VALUE
Expired minute volume (MVe)	0 to 99 L/min	yes
Expired tidal volume (VTe)	0 to 3000 mL	yes
Insufflated minute volume (MVl)	0 to 99 L/min	yes
Insufflated tidal volume (V _{Ti})	0 to 3000 mL	yes
Frequency (f)	0 to 120 c/min	yes
Peak airway pressure (P _{peak})	0 to 100 cmH ₂ O	yes
Positive expiratory pressure (PEEP)	0 to 99 cmH ₂ O	yes
Mean airways pressure (P _{mean})	0 to 99 cmH ₂ O	yes
Plateau pressure (P _{plat})	0 to 99 cmH ₂ O	yes
Leak index (VMi-VM _e)/VMi)	0 to 100 %	yes
Ti/T _{tot}	1 to 99 %	yes
I:E ratio	1 / 1 to 9.9	yes
FiO ₂	15 to 105 %	yes
etCO ₂ (option)	0 to 25 %	yes

CURVES

	Pressure, flow, volume, CO ₂ (option)
	Adjustable scales
Loop curves (option)	P/V, P/Q, Q/V, V/CO ₂

TRENDS

	80 hours
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ELECTRICAL SPECIFICATIONS

Main power supply

Input voltage 100 – 240 V AC (tolerance -25% ; +15%)

Electrical power consumption 115 VA

Battery

Type Lithium-ion

Battery capacity 2.30 hours per battery: total of 5 hours (with the standard adult ventilation configuration)

Charging time per battery 2.20 hours (machine in stand-by)
5.30 hours (machine ventilating)

PNEUMATIC SPECIFICATIONS

Type of gas fitting NF, DISS, NIST

O₂ pneumatic supply 2.8 – 6 bar / 280 – 600 kPa / 40 – 86 psi (HP)

O₂ low pressure 0 – 1.5 bar / 0 – 150 kPa / 0 – 22 psi (LP)

Air supply Integrated turbine

ENVIRONMENT

OPERATING CONDITIONS

Temperature -10°C to +40°C (14°F to 104°F)

Relative humidity 0 to 95% without condensation at 40°C max.

Atmospheric pressure 600 to 1150 hPa

STORAGE CONDITIONS

Temperature -30°C to +70°C (-22°F to +158°F)

Relative humidity 0 to 95% without condensation at 40°C max.

Atmospheric pressure 500 to 1150 hPa

PROTECTION

Protection index IP34

INTERFACE CONNECTION

VGA, USB, RS-232, CO₂ (option)

COMMUNICATION

- Capsule Technology
- Clinisoft (GE)
- Exacto (Mexys Xnet)

Contact

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Read carefully the user manual.
Manufactured by Air Liquide Medical Systems S.A.
Class IIb medical device. CE0459



Air Liquide Healthcare is a world leader in medical gases, home healthcare, hygiene products, and healthcare speciality ingredients. It aims to provide customers in the continuum of care from hospital to home with medical products, speciality ingredients and services that contribute to protecting vulnerable lives.