

medin-NC3®

Technical specification



The medin-NC3® CPAP driver is used in combination with the Medijet® nCPAP generator to administer CPAP therapy or with a suitable Nuflow® nasal cannula to administer High Flow therapy to premature infants and newborns. The medin-NC3® must be used under the supervision of expert, specially trained staff in a clinical setting or during intrahospital transport, and the patient's oxygen saturation must be monitored at the same time.

Specification

Dimensions (L x W x H)	34 x 25 x 25 cm
Weight	6.25 kg
Gas feed system	Computer-controlled electronic gas mixer with integrated oxygen sensor and integrated blower; flow-controlled Setting range: 0 L/min to 17.5 L/min (in 0.1 L/min increments) Control range: 2 L/min to 17.5 L/min Accuracy: ± 1 L/min (2 to 10 L/min) ± 2 L/min (10 to 17.5 L/min)
Gas feed	Air: Ambient air, internal blower Oxygen: 300 to 700 kPa (= 3.0 to 7.0 bar)
Gas connection	Connector standard: DISS or NIST (as preferred)
Patient flow outlet	Dimensions M22 (OD) or F15 (ID)
CPAP pressure meter connection	Luer-type – 4.3 mm ID
Power supply	1x internal battery, 1x external battery (optional), 14.4 V DC, run time approx. 2 hours per battery, rechargeable External power supply 100 to 240 V AC / 50 to 60 Hz
Display	7.0" – color, 800 x 480 pixel
Data	Patient pressure (diagram and measurement) Trend: CPAP, FiO ₂ , RR, push frequency, flow, rate, I:E (up to 28 days)
CPAP	Measurement range 0 to 20 mbar (in 0.1 mbar increments) Verification: Redundant measurement by two sensors Accuracy: ± 1.3 mbar
Push (inspiration support)	Setting range Additional flow during the inspiration push with up to 70% of the basic flow: Min: 0 L/min Max: 17.5 L/min (basic flow + push flow) Duration 200 ms to 3 seconds Manual and automatic triggering of pushes Accuracy: Analogous to the accuracy of the basic flow, after the adjustment time has expired
Leak-Assist	Leakage compensation (± 5 L/min to maintain the target pressure) in all CPAP modes (not in High Flow mode)
RR (respiration rate)	Optional display of the measured respiratory rate, no display up to 120 breaths per minute, in CPAP and Apnea CPAP mode



Apnea time	2 to 30 s (in 1 s increments)
T _{insp.}	0.2 to 3.0 s (in 0.1 s increments)
Triggering	Pressure trigger, based on the CPAP pressure sensitivity, ± 0.2 to ± 1.0 mbar (in 0.1 mbar increments)
FiO ₂	Oxygen concentration Setting range: 21 to 100% (in 1% increments) Measurement range: 21 to 100% Alarm settings: ± 2 -5% difference O ₂ flush (level: +5, +10, +15% (vol.) above set target oxygen concentration) for 60 s Accuracy: $\pm 5\%$ (2 to 4 L/min), $\pm 2\%$ (from 4 L/min)
Alarms	Visual (LED & display) and acoustic (adjustable push alarm settings) Alarm countdown
Safety	Mechanical overpressure valve (opening pressure 6 kPa (= 60 mbar))
External data	USB/RS232 port, export of live and trend data
Operating time	The medin-NC3® can be used for continuous, long-term operation up to 4 weeks without a restart in the interim.

Environmental Conditions

Operation	Temperature:	15 to 40°C
	Relative humidity:	5% to 95% (not condensing)
Storage	Short-term/transport:	Temperature: -20 to +50°C
	Relative humidity:	5 to 95% (not condensing)
	Long-term:	Temperature: Room temperature (about 20°C)
		Relative humidity: 20 to 80% (not condensing)

Description of modes

CPAP	Standard CPAP; additional function: Leak-Assist
Apnea CPAP	CPAP with apnea detection (automatically generated pushes); additional functions: Backup (backup rate: 5 to 120 L/min as a function of T _{insp.} (minimum 0.2 s), Leak-Assist
NIPPV	Bi-level CPAP with measurement of the I:E ratio as a function of the set rate and inspiration time (minimal I:E ratio 1:1.5), additional function: Leak-Assist
High Flow	Flow emission for Nuflow® nasal cannulas in flow range of 0 to 12 L/min, adjustable O ₂ flush
Standby	No flow, deactivated alarms, settings made are saved, keeps medin-NC3® ready for use

Software settings

Languages	EN, DE, FR, IT, NL, ES, EL, CS, PL, NO, DA, SV, RU, LT, ZH, TR, JA, RO
Pressure units	mbar or cmH ₂ O
Pressure scale	Three settings: 0 to 10, 0 to 15 and 0 to 20 mbar
Respiration rate	Optionally shown in display

Standards and approvals

Meaning	The medin-NC3® is manufactured in accordance with a certified quality assurance system according to EN ISO 13485, EN ISO 9001, EU directive 93/42/EEC, Annex II without section 4. The nCPAP device meets the basic requirements of council directive 93/42/ EEC, Annex I.
Classification according to EC directive 93/42/EEC	Class IIb
IEC certification	60601-1, 60601-1-2, 60601-1-8
Protection class	Class II device
IP protection class	IP20

Warranty and services

Period	24 months
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Accessories and configurations

Suitable accessories and possible configurations of the device can be found in the corresponding configuration sheet.

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