

# Hospital Respiratory Care Catalogue

*Emergency  
Transport*




*Recovery  
Intensive care*



*Critical care*





Air Liquide Healthcare is a world leader in medical gases, home healthcare, hygiene products and healthcare specialty ingredients. Our aim is to provide continuous care from hospital to home with medical products, specialty ingredients and services that contribute to protecting vulnerable lives.

Air Liquide Medical Systems, a subsidiary of Air Liquide Healthcare, are experts in the field of ventilation and respiratory assistance devices. Its employees are committed to the design, manufacture and sale of innovative products and solutions for ventilation, devices for distribution and administration of medical gases, and aerosol therapy.

With a constant concern for improving patient care and satisfying the expectations of healthcare professionals, Air Liquide Medical Systems offers solutions combining quality with ergonomics.



## Innovation

Innovation is central to Air Liquide Medical Systems' products. Our priority is to contribute to the quality of care by optimizing patient comfort and simplifying the use of our products.

## Expertise

Air Liquide Medical Systems has a 40 year history of listening to its customers and working with healthcare professionals. We create solutions that keep up with the changes in medical practice.

## Commitment

### Safety, Quality and Environment

We design our products based on ensuring safety and quality in respect of patients, users and employees, and regulatory compliance. Air Liquide Medical Systems is committed to an ongoing initiative to reduce its environmental impact.

## Service

### Local and responsive

Whatever the situation, you can always count on the expertise of our hotline and our local technical teams. They will help you ensure the safety of your patients and get the best performance out of your equipment.

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# 1 Critical care — Intensive care



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# eXtend<sup>XT</sup>

## Simplicity to the power of <sup>XT</sup>

**E**Xtend<sup>XT</sup> has been developed to enhance a wide range of treatments for critical-care patients.

Its user-friendly interface and wide screen make it easy and safe to use. EXtend<sup>XT</sup> has a large range of monitoring capacities like lung recruitability evaluation to assist in the diagnosis and decision-making process for the most critical patients.

Critical care  
Intensive care



### Critical care

- Patients from newborns to adults
- Invasive and non-invasive ventilation: automatic leak compensation
- Complete range of ventilation modes including VCV, PSV, Duo-Levels, APRV, MRV\*, PRVC

\*ALMS innovation

### Functional exploration

- 15-inch screen for comfortable reading
- Automatic compliance and resistance measurement
- Total PEEP, Auto-PEEP, plateau pressure
- Display of four simultaneous curves: real-time curves and loop curves
- Weaning index: P0.1, RR/Vt

**Natural Interface**

- Single page
- Full touch-screen
- Intuitive use

### Automatic alveolar recruitment measurement

- Lung recruitability evaluation
- Additional indicator of PEEP setting
- Easy set-up without additional accessories



# eXtend<sup>XT</sup> Technical specifications

## CPX Care, the integrated medical air compressor

- Stand specially designed for the eXtend<sup>XT</sup> ventilator
- Indicators and alarms guaranteeing safe use
- Automatic back-up function in case of hospital's medical air network failure



## eXtend<sup>XT</sup>

Patient range	Adult, child, infant
Patient weight	3 to 250 kg / 20 to 2,000 ml
Standards	EN CEI 60601-1, EN CEI 60601-2-12
<b>Settings</b>	
Main parameters	Vt (20 to 2,000 ml), RR (5 to 100 Bpm), PI (3 to 60 cm H <sub>2</sub> O), PS (0 to 35 cm H <sub>2</sub> O), Vpeak (200 l/min)
Invasive ventilation modes	VCV, PCV, PRVC, SIMV, PSIMV, PSV, VS/PS-Vt mini, MRV, IMPRV, APRV, Duo-Levels
Non invasive ventilation modes	VCV, PCV, SIMV, PSIMV, PSV, CPAP, Duo-Levels, APRV
Safety ventilation	Apnea ventilation
<b>Monitoring</b>	
Volumes	MVe, Vte, Vti, MV <sub>i</sub> , Vpeak I, Vpeak E, Spont. MVe, Spont. Vte
Pressures	Ppeak, PEEP, total PEEP, Pplat, Pmean, Patm, Pexternal
Respiratory rates	RR, Spont. RR
Ratios	Ti/Ttot, I/E, leak index
Loops and waveform presentations	Real-time waveforms: pressure, flow rate, volume, CO <sub>2</sub> Loops: pressure/volume, volume/flow rate, flow rate/pressure
Respiratory mechanics	Rstat, Cstat, Pplat, P0.1, Auto-PEEP, RR/Vt
Advanced functional exploration	Automatic alveolar recruitment measurement (option), lowest insufflation flow P/V curve
Gas	FIO <sub>2</sub> , etCO <sub>2</sub> , FICO <sub>2</sub>
Event history	Alarms triggered / settings / functional exploration / pauses
Trends	Stored trend values for up to 13 days
<b>Physical specifications</b>	
Autonomy of internal battery	1h in standard ventilation
Ventilator dimensions	(H)49x(W)35.5x(D)29 cm
Ventilator weight	27 kg
Screen	Type: flat color touch-screen, TFT-LCD module Size: 15 inches
Pneumatic supply (O <sub>2</sub> /Air)	2.8-6 bar / 280-600 kPa / 36-86 psi
Medical air compressor	CPX Care: 39 kg / 46 kg with stand (option)
<b>Computerized systems compatibility</b>	
VUELINK interface	Vital sign monitors from Philips Medical Systems interface module
DATA CAPTOR interface	Numbers of CIS and HIS ( <a href="http://www.capsuletech.com">www.capsuletech.com</a> )
CLINISOFT interface	Communication with GE Healthcare data collection software
<b>Directives</b>	Class IIb device. Manufactured by Air Liquide Medical Systems S.A. <b>CE</b> 0459. Read carefully the user manual.



# eXtend<sup>XT</sup>

## Accessories and options

### Accessories and options

Designation	Reference
eXtend <sup>XT</sup> ventilator	KB020700

A country kit including user manual, gas plug and power cord is necessary with the ventilator.

#### Capnography option

	IRMA™ CO <sub>2</sub> probe	KB020500
Single use	IRMA™ CO <sub>2</sub> adaptors x25 (adult/child)	KB020300
	IRMA™ CO <sub>2</sub> adaptors x10 (infant/new-born)	KB032800

#### Complementary option

	Alveolar recruitment measurement option	KB030300
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#### Expiratory assemblies

	Expiratory valve	KY600400
	Small size water trap	KY440800
	Membrane	KY600900
Auto-clavable	Silicone plug for Y connection	KY453300
	Expiratory flow sensor	KY442400
	Flow sensor fastener	KY544700
	Large size water trap	KY517400
	Equipped block	VB098400

#### Patient circuits and accessories

	Patient circuit for adult dual limb smooth inside surface x20 1.6 m Ø22 (without water-trap)	KG020100
Single use	Patient circuit for child dual limb smooth inside surface x20 1.5 m Ø15 (without water-trap)	KG020200
	Patient circuit for adult dual limb creased inside surface x15 1.6 m Ø22 (with water-trap)	VD315100
	Patient circuit for child dual limb creased inside surface x10 1.6 m Ø15 (with water-trap)	VD317600
Auto-clavable	Patient circuit for adult dual limb smooth inside surface x1 Ø22 (with water-trap)	VB095200
	Patient circuit for child dual limb smooth inside surface x1 Ø15 (with water-trap)	VB095100
	Silicone plug for Y connection	KY453300

#### Masks and accessories

Single use	Hospital full-face mask non vented size S	KM222100
	Hospital full-face mask non vented size M	KM222200
	Hospital full-face mask non vented size L	KM222300
Auto-clavable	Hospital full-face mask non vented size S	KM218800
	Hospital full-face mask non vented size M	KM218900
	Hospital full-face mask non vented size L	KM219000
	Cushion Respireo size S x10	KM218500
	Cushion Respireo size M x10	KM218600
	Cushion Respireo size L x10	KM218700
	Disposable headgear x10	KM222400

#### Test lungs

	Test lung 1 liter (adult/child)	VS206103
	Test lung 0.3 liter (infant)	KV103500

#### Filters

Single use	Bacterial filters for inspiratory output x50	KV103300
	Bacterial filters for inspiratory output x6	KY185200



# eXtend<sup>XT</sup>

## Accessories and options

### Accessories and options

	Designation	Reference
<b>Arms</b>		
	Articulated arm with quick central fixation and rail holder 1 m (with collet fixture)	KB019200
	Articulated chromed arm with flexible end 1.43 m (without collet fixture)	KB005200
	Flexible hose	KY087100
	Hose holder	VD305300
	Hand lever with screw	VS103027
	Articulated arm with setting by push button 1.05 m (without collet fixture)	KB029900
	Anesthetic tube holder 0.45 m for operating table	VB098700
	Rail holder Ø16 (for arms KB005200 and KB029900)	KY252800
<b>Humidification</b>		
	Heating humidifier MR850* (plug 230 V EUR)	VD324500
Auto-clavable	Adult accessories kit (for heating humidifier MR850)	VD324900
	Child accessories kit (for heating humidifier MR850)	VD324800
	Rail holder for MR850 humidifier	VY800000
<b>Nebulization</b>		
Single use	Pneumatic nebulizer x20	KB025200
	International Aeroneb Solo nebulizer*	KB029200
Auto-clavable	International Aeroneb Pro nebulizer*	KB025500
	Kit for pneumatic nebulizer	KB007200
	Sidestream durable nebulizer	KD005500
	Kapsto protection cap	YG001000
	T piece with probe holder	KB007600
	Silicone spiral hose 5x8	YB002400
	Pall bacterial filter for nebulizer (single use)	KD005700
<b>Fixing and transfer systems</b>		
	Roll stand (3 parts kit)	KY630100
	Basket for roll stand	KY629200
	Cylinder holder for roll stand (kit x2)	KY629900
	Connecting rod for screen (upper position)	KY606000
<b>Medical Air compressors</b>		
	Stand-alone CPX Care compressor with back-up	KB034200
	CPX Care compressor with stand and back-up	KB031800
	Ekom standard compressor 230 V/50 Hz	KY631100
	Ekom compressor with stand for eXtend <sup>XT</sup> 230 V/50 Hz	KY631200
	Ekom smart compressor on wheels 230 V/50 Hz	KB030400
<b>Oxygen supply hoses and accessories</b>		
	O <sub>2</sub> supply hose 1.5 m NF	BF030600
	Air supply hose 1.5 m NF	BF030800
	O <sub>2</sub> supply hose 3 m NF	BF030200
	Air supply hose 3 m NF	BF030500
	O <sub>2</sub> supply hose 5 m NF	BF030000
	Air supply hose 5 m NF	BF030400
	O <sub>2</sub> supply hose 3 m NIST/BS	BF060400
	Air supply hose 3 m NIST/BS	BF060300
	Air Filtrabloc NF	KB002700
	O <sub>2</sub> Filtrabloc NF	KB002800
	5 microns filter	KV103600
<b>Oxygen monitoring</b>		
	Oxygen cell	YR049700
	Inspiratory flow sensor	KY318300

**The essentials**  
for ventilation

- ▲ 1 Country kit
- ▲ 1 O<sub>2</sub> supply hose
- ▲ 1 Air supply hose
- ▲ 1 Expiratory valve
- ▲ 1 Patient circuit
- ▲ 1 Bacteriological filter
- ▲ 1 Full face mask in NIV

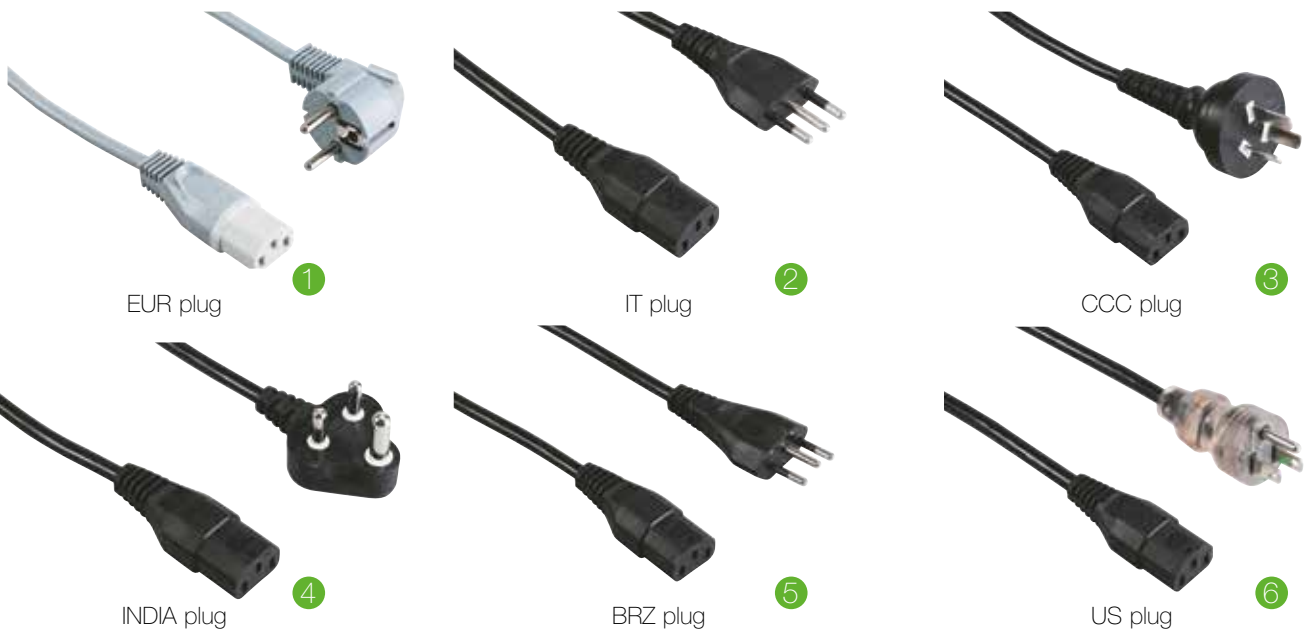
\*For other available versions, see part 2 of the catalogue.

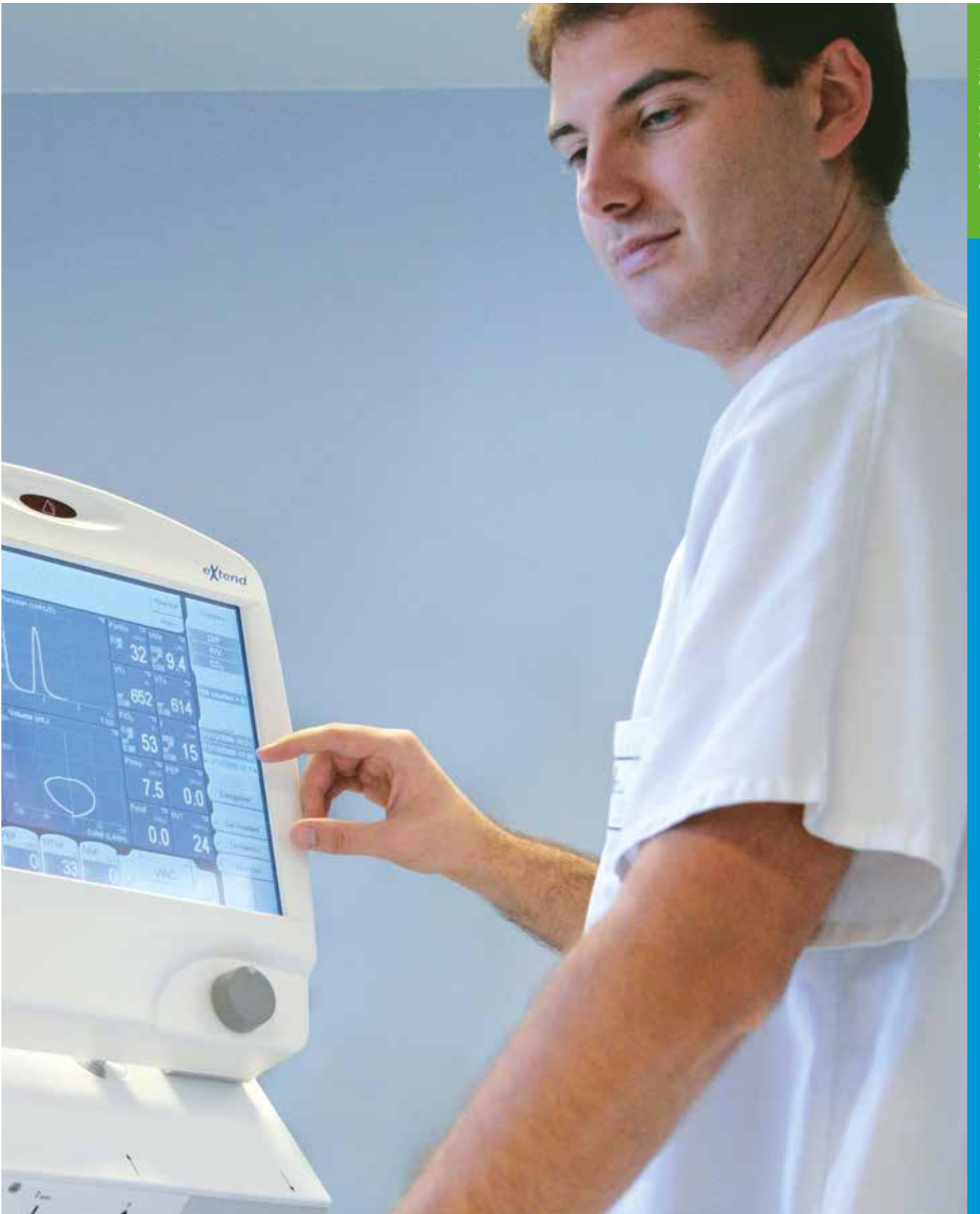
# eXtend<sup>XT</sup> Country kits

Critical care  
Intensive care

## Country kits eXtend<sup>XT</sup>

Country	Ref. CK	U.M. language	Gas	Plug	Ref. powercord
Algeria • France • Jordan • Kuwait • Morocco Tunisia • Overseas French departments and territories	KB021300	French	NF	EUR	KY120500 ①
Saudi Arabia • Egypt • Iran • Israel • Lebanon Pakistan • Syria • Turkey	KB021400	English	NF	EUR	KY120500 ①
Poland	KB021800	Polish	NF	EUR	KY120500 ①
Czech Republic	KB021900	Czech	NF	EUR	KY120500 ①
Russia	KB022000	Russian	NF	EUR	KY120500 ①
Spain	KB022200	Spanish	NF	EUR	KY120500 ①
Italy	KB021500	Italian	NF	EUR	KY120500 ①
Italy	KB021600	Italian	NF	IT	KY647200 ②
China	KB022100	Chinese	NF	CCC	KY647400 ③
India	KB022700	English	NF	INDIA	KY647300 ④
Venezuela • Cape Verde • Portugal	KB022400	Portuguese	NF	BRZ	YR113800 ⑤
Argentina • Bolivia • Chile • Colombia • Ecuador Mexico • Peru • Uruguay • Venezuela	KB022300	Spanish	NF	US	KY485100 ⑥
Brazil	KB021700	Portuguese	NF	US	KY485100 ⑥
Brazil	KB033800	Spanish	DISS	US	KY485100 ⑥
Brazil	KB033900	Portuguese	DISS	BRZ	YR113800 ⑤
International	KB032700	English	DISS	US	KY485100 ⑥
UK	KB027600	English	NIST	EUR	KY120500 ①





# Monnal T75

## Tailor-made breathing

**M**onnal T75 performances and versatility offer a new solution to respiratory medicine. Its compact, mobile design and built-in power source fulfil patient and health care staff requirements. Monnal T75 is a simple, innovative device: it is quick, convenient and safe to operate, making it ideal for a wide range of health care use.

Critical care  
Intensive care



Integrated turbine

### High performances

- From intermediate to critical care
- Synchronization and pressurization quality in invasive and non-invasive ventilation
- Wide range of ventilation modes including PSV, Duo-Levels, APRV, high-flow oxygen therapy function, PS-PRO

### Versatility

- Patients from newborns to adults
- Air and power supply autonomy
- Optimized mobility

### Monitoring

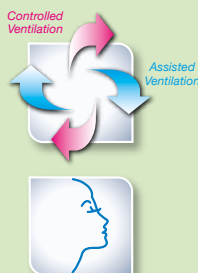
- Automatic compliance and resistance measurement
- Complete capnography including EtCO<sub>2</sub>, VMCO<sub>2</sub>, VMaV, VDaw
- Weaning index: P0.1, NIF, WOBI



### Natural Interface

- Single page
- Full touch-screen
- Intuitive use

## PS-Pro mode: a self-adapting mode for patient recovery



### Self-adapting

- From mandatory pressure ventilation to pressure support ventilation

### Comfortable

- Patient is free to breath spontaneously above Respiratory Rate minimum

### Safe

- 3 parameters to secure ventilation: Respiratory Rate, Target Vt, PI max

### Continuous

- Smooth recovery and maximum tolerance of the treatment

# Monnal T75

## Technical specifications

### Monnal T75

Patient range	Adult, child, infant
Patient weight	3 to 250 kg / 20 to 2,000 ml
Standards	ISO 14971, EN CEI 60601-1, EN CEI 60601-2-12
<b>Settings</b>	
Main parameters	Vt (20 to 2,000 ml), RR (4 to 120 Bpm), PI (2 to 99 cm H <sub>2</sub> O), PS (2 to 40 cm H <sub>2</sub> O), Vpeak (180 l/min)
Invasive ventilation modes	VCV, PCV, PRVC, SIMV, PSIMV, PSV, CPAP, PS-Pro, Duo-Levels
Non invasive ventilation modes	PSV, CPAP, Duo-Levels, APRV
Safety ventilation	Apnea ventilation
Advanced measures	Measures: P0.1, NIF, WOB Inspiratory and expiratory pauses: Rstat, Cstat, Pplat, Auto-PEEP
Special functions	O <sub>2</sub> high flow, PS-Pro mode, TC tube compensation, O <sub>2</sub> intelligent suction, nebulization
<b>Monitoring</b>	
Volumes	MVe, Vte, Vti, Spont. MVe, Vpeak I, Vpeak E, leak flow (in NIV)
Pressures	Ppeak, PEEP, Pplat, Pmean
Respiratory rates	RR, Spont. RR
Ratios	Ti/Ttot, RR/ Vte, Spont. index, leak index, I/E
Loops and waveform presentations	Real-time waveforms: pressure, flow rate, volume, CO <sub>2</sub> (option) Loops: pressure/volume, volume/flow rate, flow rate/pressure, SBACO <sub>2</sub> ou VCO <sub>2</sub>
Respiratory mechanics	Rstat, Cstat, Rdyn, Cdyn, Pplat, Auto-PEEP, RR/Vt
Gas	FiO <sub>2</sub> , CO <sub>2</sub> (option)
Event history	Chronological list of 200 last triggered alarms and recorded events
Trends	Stored trend values for up to 80 hours
<b>Physical specifications</b>	
Autonomy of internal battery	2.5 to 3h in standard ventilation
Ventilator dimensions	(H)35x(W)30x(D)40 cm
Ventilator weight	16 kg
Screen	Type: flat color touch-screen, TFT-LCD module Size: 10.4 inches
Pneumatic O <sub>2</sub> supply	High pressure: 2.8-6 bar / 280-600 kPa / 40-86 psi Low pressure: 0-1.5 bar / 0-150 kPa / 0-21 psi
Pneumatic Air supply	Turbine peak flow: 200 l/mn at Patm
<b>Computerized systems compatibility</b>	
BOW MEDICAL interface	Communication with DIANE anesthesia sheet
DATA CAPTOR interface	Numbers of CIS and HIS ( <a href="http://www.capsuletech.com">www.capsuletech.com</a> )
CLINISOFT interface	Communication with GE Healthcare data collection software
PHILIPS interface	Vuelink / Intellibridge connexion
<b>Directives</b>	Class IIb device. Manufactured by Air Liquide Medical Systems S.A. CE 0459. Read carefully the user manual.



# Monnal T75

## Accessories and options

### Accessories and options

Designation	Reference
Monnal T75 ventilator	KB022600
Monnal T75 ventilator (CO <sub>2</sub> )	KB033600

A country kit including a single use or autoclavable valve, a user manual, a gas plug and a mains power cord is necessary with the ventilator.

#### Capnography option

	CO <sub>2</sub> software option	KB034000
	IRMA™ CO <sub>2</sub> probe	KB020400
Single use	IRMA™ CO <sub>2</sub> adaptors x25 (adult/child)	KB020300
	IRMA™ CO <sub>2</sub> adaptors x10 (infant/new-born)	KB032800

#### Expiratory assemblies

Single use	Expiratory valve Monnal Eva x1 (valve body and membrane)	KY694600
	Expiratory valve Monnal Eva x5 (valve body and membrane)	KY694800
	Expiratory valve Monnal Eva x20 (valve body and membrane)	KY694900
	Expiratory flow sensor x1	KY632500
	Expiratory flow sensor x5	KY664500
	Expiratory flow sensor x20	KY664600
Auto-clavable	Expiratory valve Monnal Eva x1 (valve body and membrane)	KY694500
	Expiratory flow sensor x1	KY632200
	Membrane x5 (for autoclavable valve KY694500)	KY665300

#### Patient circuits and accessories

Single use	Patient circuit for adult dual limb smooth inside surface x20 1.6 m Ø22 (without water-trap)	KG020100
	Patient circuit for child dual limb smooth inside surface x20 1.5 m Ø15 (without water-trap)	KG020200
	Patient circuit for adult dual limb creased inside surface x15 1.6 m Ø22 (with water-trap)	VD315100
	Patient circuit for child dual limb creased inside surface x10 1.6 m Ø15 (with water-trap)	VD317600
	Patient circuit for adult dual limb smooth inside surface x10 1.5 m Ø22 (with water-trap)	KG019300
	Patient circuit for child dual limb smooth inside surface x12 1.6 m Ø15 (with water-trap)	KG019400
	Patient circuit for adult dual limb smooth inside surface x1 Ø22 (with water-trap)	VB095200
Auto-clavable	Patient circuit for child dual limb smooth inside surface x1 Ø15 (with water-trap)	VB095100
	Silicone plug for Y connection	KY453300
	Autoclavable silicone plug (attached on Monnal T75 roll stand)	KY669800

#### Masks and accessories

Single use	Hospital full face mask non vented size S	KM222100
	Hospital full face mask non vented size M	KM222200
	Hospital full face mask non vented size L	KM222300
Auto-clavable	Hospital full face mask non vented size S	KM218800
	Hospital full face mask non vented size M	KM218900
	Hospital full face mask non vented size L	KM219000
	Cushion Respireo size S x10	KM218500
	Cushion Respireo size M x10	KM218600
	Cushion Respireo size L x10	KM218700
	Disposable headgear x10	KM222400

#### Test lungs

	Test lung 1 liter (adult/child)	VS206103
	Test lung 0.3 liter (infant)	KV103500

#### Filters

Single use	Bacterial filters for inspiratory output x50	KV103300
	Removable air intake filters x6	KY650300
	Monnal Clean'In filter Monnal T75 (HEPA filter)	KB030100
	Monnal Clean'In filter kit Monnal T75 (for Monnal T75 with a serial number under MT75-00889)	KY681700



# Monnal T75

## Accessories and options

### Accessories and options

	Designation	Reference
<b>Arms</b>		
	Articulated arm with quick central fixation and rail holder 1 m (with collet fixture)	KB019200
	Articulated arm with quick central fixation 1.44 m (without collet fixture)	KB024200
	Articulated chromed arm with flexible end 1.43 m (without collet fixture)	KB005200
	Flexible end (for arm KB005200)	KY087100
	Hose holder (for arm KB005200)	VD305300
	Hand lever with screw (for arm KB005200)	VS103027
	Articulated arm with setting by push button 1.05 m (without collet fixture)	KB029900
<b>Humidification</b>		
	Heating humidifier MR850* (plug 230 V EUR)	VD324500
Auto-clavable	Adult accessories kit (for heating humidifier MR850)	VD324900
	Child accessories kit (for heating humidifier MR850)	VD324800
<b>Nebulization</b>		
Single use	Pneumatic nebulizer x20	KB025200
	International Aeroneb Solo nebulizer*	KB029200
	International Aeroneb Pro nebulizer*	KB025500
	Kit for pneumatic nebulizer	KB007200
Auto-clavable	Sidestream durable nebulizer	KD005500
	Kapsto protection cap	YG001000
	T piece with probe holder	KB007600
	Silicone spiral hose 5x8	YB002400
	Pall bacterial filter for nebulizer (single use)	KD005700
<b>Fixing and transfer systems</b>		
	Roll stand	KY659700
	International roll stand	KB031700
	Basket for roll stand	KY664700
	Cylinder holder for roll stand	KY665000
	Cable fastener for roll stand	KY669700
	Lateral hook for roll stand (with clips)	KY669600
	Lateral support 34X23 for roll stand (with clips)	KY669500
	Infusion pole 1 meter for roll stand	KB029600
	Wall support (47.5x45x12 cm, maximum load 20 kg)	KY690500
	Transfer trolley	KB030900
	Cover	KB028500
<b>Oxygen supply hoses and accessories</b>		
	O <sub>2</sub> supply hose 1.5 m NF	BF030600
	O <sub>2</sub> supply hose 3 m NF	BF030200
	O <sub>2</sub> supply hose 5 m NF	BF030000
	O <sub>2</sub> supply hose 3 m NIST/BS	BF060400
	O <sub>2</sub> Filtrabloc NF	KB002800
	5 microns filter	KV103600
<b>Electric supply</b>		
	External battery pack (compatible with roll stands KY659700 and KB031700)	YR109900
	External battery pack fixing support (compatible with roll stand KY659700)	KY690700
	External battery pack fixing support (compatible with roll stand KB031700)	KY702300
	EU multi-plug box	YR110000
	PSE multi-plug box	YR122500
<b>Oxygen monitoring</b>		
	Oxygen cell	YR049700

### **The essentials** for ventilation

- ▀ 1 Country kit with expiratory valve
- ▀ 1 Patient circuit
- ▀ Full face mask in NIV
- ▀ Full face mask in NIV

\*For other available versions, see part 2 of the catalogue.

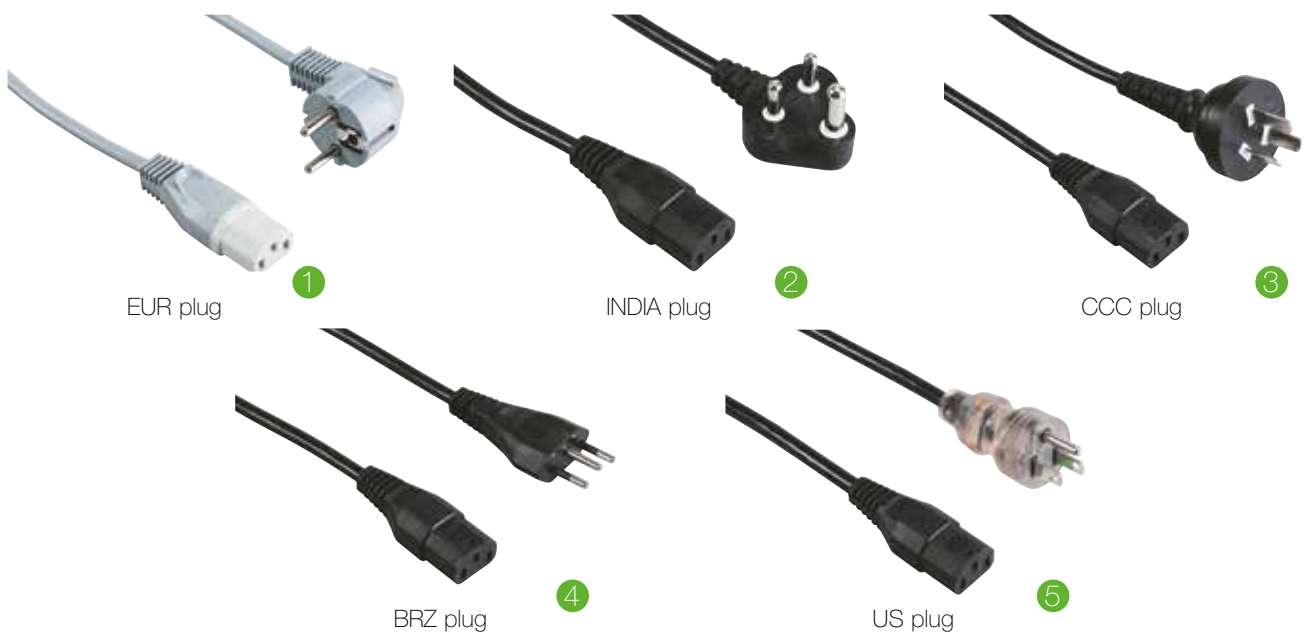


# Monnal T75 Country kits

## Country kits Monnal T75

Country	Ref. CK	Ref. CK CO <sub>2</sub> Option	U.M. language	Gas	Plug	Ref. power cord	Expiratory assemblies
France	KB025400	KB034400	French	NF	EUR	KY120500	① Single use
Algeria • France • Morocco • Tunisia Overseas French departments and territories	KB025800	KB034600	French	NF	EUR	KY120500	① Autoclavable
Anglophone Africa • Egypt • Irak • Iran • Israel • Jordan • Kuwait • Lebanon • Pakistan • Syria • Turkey • UK	KB025900	KB034700	English	NF	EUR	KY120500	① Autoclavable
Italy	KB026000	KB035000	Italian	NF	EUR	KY120500	① Autoclavable
Poland	KB026200	KB035100	Polish	NF	EUR	KY120500	① Autoclavable
Russia	KB026400	KB035200	Russian	NF	EUR	KY120500	① Autoclavable
Czech Republic	KB026600	KB035300	Czech	NF	EUR	KY120500	① Autoclavable
Argentina • Spain	KB026700	KB035400	Spanish	NF	EUR	KY120500	① Autoclavable
India	KB026100	KB034800	English	NF	INDIA	KY647300	② Autoclavable
China	KB027000	KB035700	Chinese	NF	CCC	KY647400	③ Autoclavable
Germany	KB026300	KB035800	German	NIST	EUR	KY120500	① Autoclavable
Lithuania	KB026500		Lithuanian	NIST	EUR	KY120500	① Autoclavable
Saudi Arabia	KB030700		English	NIST	EUR	KY120500	① Autoclavable
Switzerland	KB034300	KB036000	French German Italian	NIST	CH	YR128901	Single use
Brazil	KB027400	KB035900	Portuguese	DISS	BRZ	YR113800	④ Autoclavable
Philippines • Thailand	KB030800	KB034900	English	DISS	US	KY485100	⑤ Autoclavable
Colombia • Ecuador • Mexico • Uruguay • Venezuela	KB027200	KB035600	Spanish	DISS	US	KY485100	⑤ Autoclavable
Japan	KB027100		Japanese	DISS	US	KY485100	⑤ Autoclavable

Country kits including NIST and DISS gas connections are sold with the O<sub>2</sub> adaptors. See opposite.



# Monnal T75 Country kits

## O<sub>2</sub> plug adapter

Ref. adapter	Plug
KY677200	NIST
KY677300	DISS



## Country kits for external battery pack

Ref. CK	U/ language	Power cord		Mark
		Type	Reference	
KB032200	English	PSE	YR118801	6
KB032300	English	EUR	KY656201	7
KB032400	English	INDIA	YR117800	8

Ref. External battery pack: YR109900



PSE plug

6



EUR plug

7



INDIA plug

8



# 2 Emergency Transport



Monnal T60 .....20



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# Monnal T60

## Touch and breathe

**M**onnal T60 is designed for mobile medical interventions. It provides medical teams with the highest standards in ventilation. Providing effective respiratory support in short time limits, it is THE quick and safe health care solution. Monnal T60 adapts easily to all environments requiring mobile intensive care.



**Natural Interface**

- Single page
- Full touch-screen
- Intuitive use



**Air transport**

- Approved for air transport: standards EN 13718 and RTCA DO-160F
- 20 G resistance
- Automatic compensation of changes in atmospheric pressure
- Adjustable screen brightness
- Highly visible alarms

### Mobility

- Designed for intensive care transport: extra, intra, inter-hospital and air transport
- Light and compact: 3.7 kg
- Autonomous in air and electricity
- Adapted fastening and transport systems: carry bag, wall-mounted charging station for ambulance (10 G), support hooking to patient's bed, roll stand

### Emergency ventilation

- Automatic mode by simply adjusting the weight (IBW) for quick and safe starting of the ventilation
- Peak flow of 230 l/min for effective respiratory assistance in NIV (patented technology)
- Critical patients from newborns to adults
- Screen readability in all conditions



Integrated turbine

# Monnal T60

## Technical specifications

### Monnal T60

Patient range	Adult, child, infant
Patient weight	Adjustable Ideal Body Weight (IBW*) 3 to 120 kg / 20 to 2,000 ml
Standards	ISO 14971, EN CEI 60601-1, EN CEI 60601-2, EN CEI 60601-2-12, EN 794-3
Transport standards	EN13718-1, RTCA DO-160F, EN1789
<b>Settings</b>	
Main parameters	Vt (20 to 2,000 ml), RR (1 to 80 Bpm), PI (5 to 60 cm H <sub>2</sub> O), PS (5 to 40 cm H <sub>2</sub> O), Vpeak (2 to 150 l/min)
Invasive ventilation modes	VCV, PCV, SIMV, PSV Options: PSIMV, PRVC, PS-Pro
Non invasive ventilation modes	VCV, PCV, SIMV, PSV, CPAP Options: Duo-Levels
Emergency modes	Automatic pre-selection of ventilation parameters with the setting of Ideal Body Weight (IBW) - Choice of ratio ml/kg
Safety ventilation	Apnea ventilation (adjustable apnea ventilation volume, frequency and duration)
Special functions	Inspiratory and expiratory pauses: Pplat and Auto-PEEP, sigh, plateau, 100% O <sub>2</sub> , O <sub>2</sub> high flow, screen locking
<b>Monitoring</b>	
Volumes	MVe, Vte, MVi, Vti
Pressures	Ppeak, PEEP, Pplat, Pmean
Respiratory rates	RR
Ratios	Ti/Ttot, leak index, I/E
Loops and waveform presentations	Real-time waveforms: pressure, flow rate, volume, CO <sub>2</sub> (option) Loops (options): pressure/volume, pressure/ flow rate, flow rate/volume, volume/CO <sub>2</sub>
Gas	FiO <sub>2</sub> , etCO <sub>2</sub> (option)
Alarms	Adjustable by users: pressure, Vti, MVi, MVe, Vte, respiratory rate, FiO <sub>2</sub> , etCO <sub>2</sub> Specific alarms: patient disconnection, expiratory obstruction, inoperating flow sensor, insufficient power supply, low battery, gas inlet, patient pre-oxygenation
Event history	Chronological list of 200 last triggered alarms and recorded events
Trends	Stored trend values for up to 80 hours
<b>Physical specifications</b>	
Autonomy of internal battery	2.5 h per battery / total of 5 h with an interchangeable battery
Ventilator dimensions	(H)25x(W)29x(D)11 cm
Ventilator weight	3.7 kg with one battery
Screen	Type: LDC 262k, color (18 bits), resistive flat touch-screen Size: 8.4 inches Resolution: 640x480 pixels Brighness: 800 cd/m <sup>2</sup> , LED backlight, brighness adjustment, day/night screen display
Pneumatic O <sub>2</sub> supply	High pressure: 2.8-6 bar / 280-600 kPa / 40-86 psi Low pressure: 0-1.5 bar / 0-150 kPa / 0-22 psi
Pneumatic Air supply	Integrated turbine: turbine peak flow 230 l/mn at Patm
<b>Computerized systems compatibility</b>	
Interface connection	VGA, USB, CO <sub>2</sub> (option)
<b>Directives</b>	Class IIb device. Manufactured by Air Liquide Medical Systems S.A. <b>CE</b> 0459. Read carefully the user manual.

\* IBW : Ideal Body Weight

# Monnal T60

## Accessories and options

### Accessories and options

	Designation	Reference
	Monnal T60 ventilator	KA010000
A country kit including a user manual, a gas plug and a mains power cord is necessary with the ventilator.		
<b>Capnography option</b>		
	EtCO <sub>2</sub> software option	KA010700
	IRMA™ CO <sub>2</sub> probe	KB020400
Single use	IRMA™ CO <sub>2</sub> adaptors x25 (adult/child)	KB020300
	IRMA™ CO <sub>2</sub> adaptors x10 (infant/new-born)	KB032800
<b>Optional ventilation and complementary monitoring</b>		
	Duo-Levels mode	KA012300
	Loops (pressure/volume, pressure/flow rate, flow rate/volume, volume/CO <sub>2</sub> )	KA012400
<b>Expiratory assemblies</b>		
Single use	Expiratory valve Monnal Eva x1 (valve body and membrane)	KY694600
	Expiratory valve Monnal Eva x5 (valve body and membrane)	KY694800
	Expiratory valve Monnal Eva x20 (valve body and membrane)	KY694900
	Expiratory flow sensor x1	KY632500
	Expiratory flow sensor x5	KY664500
	Expiratory flow sensor x20	KY664600
Auto-clavable	Expiratory valve Monnal Eva x1 (valve body and membrane)	KY694500
	Expiratory flow sensor x1	KY632200
	Membrane x5 (for autoclavable valve KY694500)	KY665300
<b>Patient circuits and accessories</b>		
Single use	Patient circuit for adult dual limb smooth inside surface x20 1.6 m Ø22 (without water-trap)	KG020100
	Patient circuit for child dual limb smooth inside surface x20 1.5 m Ø15 (without water-trap)	KG020200
	Patient circuit for adult dual limb creased inside surface x15 1.6 m Ø22 (with water-trap)	VD315100
	Patient circuit for child dual limb creased inside surface x10 1.6 m Ø15 (with water-trap)	VD317600
	Patient circuit for adult dual limb smooth inside surface x10 1.5 m Ø22 (with water-trap)	KG019300
	Patient circuit for child dual limb smooth inside surface x12 1.6 m Ø15 (with water-trap)	KG019400
Auto-clavable	Patient circuit for adult dual limb smooth inside surface x1 Ø22 (with water-trap)	VB095200
	Patient circuit for child dual limb smooth inside surface x1 Ø15 (with water-trap)	VB095100
	Silicone plug for Y connection	KY453300
<b>Masks and accessories</b>		
Single use	Hospital full-face mask non vented size S	KM222100
	Hospital full-face mask non vented size M	KM222200
	Hospital full-face mask non vented size L	KM222300
Auto-clavable	Hospital full-face mask non vented size S	KM218800
	Hospital full-face mask non vented size M	KM218900
	Hospital full-face mask non vented size L	KM219000
	Cushion Respireo size S x10	KM218500
	Cushion Respireo size M x10	KM218600
	Cushion Respireo size L x10	KM218700
	Disposable headgear x10	KM222400
<b>Test lungs</b>		
	Test lung 1 liter (adult/child)	VS206103
	Test lung 0.3 liter (infant)	KV103500
<b>Filters</b>		
Single use	Bacterial filters for inspiratory output x50	KV103300
	Monnal Clean'In filter Monnal T60 (HEPA filter)	KY691400



# Monnal T60

## Accessories and options

### Accessories and options

Designation	Reference
<b>Arms</b>	
Articulated arm with quick central fixation and rail holder 1 m (with collet fixture)	KB019200
Articulated chromed arm with flexible end 1.43 m (without collet fixture)	KB005200
Flexible end (for arm KB005200)	KY087100
Hose holder (for arm KB005200)	VD305300
Hand lever with screw (for arm KB005200)	VS103027
Articulated arm with setting by push button 1.05 m (without collet fixture)	KB029900
<b>Humidification</b>	
Heating humidifier MR850* (plug 230 V EUR)	VD324500
Auto-clavable Adult accessories kit (for heating humidifier MR850)	VD324900
Child accessories kit (for heating humidifier MR850)	VD324800
<b>Nebulization</b>	
Single use International Aeronex Solo nebulizer*	KB029200
Auto-clavable International Aeronex Pro nebulizer*	KB025500
<b>Fixing and transfer systems</b>	
Carry bag	KF007800
Coyote bag	KA013400
Coyote bag trolley	KA013500
Wall-mounted charging station	KA010300
Kit for wall-mounted charging station	KA011100
Universal rail holder	PE750003
Intra-hospital universal support	KA010400
Roll stand	KA010100
Table top	KA012600
Snap hooks	KA013300
<b>Oxygen supply hoses and accessories</b>	
O <sub>2</sub> supply hose 1.5 m NF	BF030600
O <sub>2</sub> supply hose 3 m NF	BF030200
O <sub>2</sub> supply hose 5 m NF	BF030000
O <sub>2</sub> supply hose 3 m NIST/BS	BF060400
O <sub>2</sub> Filtrabloc NF	KB002800
5 microns filter	KV103600
<b>Electric supply</b>	
Interchangeable battery	KY692800
Battery charger	KA012700
Vehicle power adapter	YR123700
External power supply 2.5 m	YR115700
<b>Oxygen monitoring</b>	
Oxygen cell	YR049700
<b>Information transfer</b>	
2GB USB flash drive	YR112900
Gender changer for RS232-USB serial port	YR113200

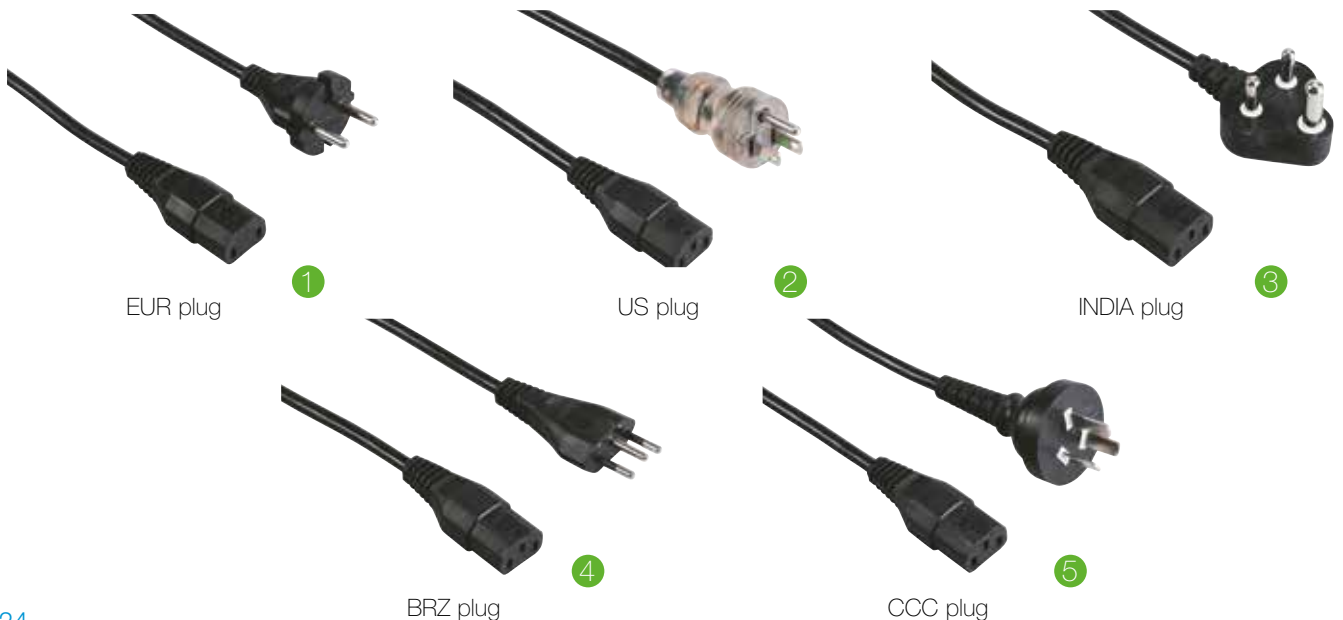
- The essentials**  
for ventilation
- ▀ 1 Country kit
  - ▀ 1 Expiratory valve
  - ▀ 1 Patient circuit
  - ▀ 1 Bacteriological filter
  - ▀ 1 Full face mask in NIV

\*For other available versions, see part 2 of the catalogue.

# Monnal T60 Country kits

## Country kits Monnal T60

Country	Ref. CK	U.M. language	Gas	Plug	Ref. powercord
Algeria • France • Morocco • Syria • Tunisia • Turkey • Overseas French departments and territories	KA010200	French	NF	EUR	YR094100 ①
Anglophone Africa • Egypt • Indonesia • Irak • Iran • Israel • Jordan • Kuwait • Lebanon • Pakistan	KA011300	English	NF	EUR	YR094100 ①
Spain	KA011500	Spanish	NF	EUR	YR094100 ①
Italy	KA010800	Italian	NF	EUR	YR094100 ①
Poland	KA011600	Polish	NF	EUR	YR094100 ①
Portugal	KA011700	Portuguese	NF	EUR	YR094100 ①
Czech Republic	KA011800	Czech	NF	EUR	YR094100 ①
Russia	KA012200	Russian	NF	EUR	YR094100 ①
Chile • Ecuador • Peru	KA013900	Spanish	NF	US	KY485100 ②
India	KA011000	English	NF	INDE	KY647300 ③
Belgium	KA011900	French • German • Dutch	NF	EUR	YR094100 ①
Belgium	KA012900	French • German • Dutch	NIST	EUR	YR094100 ①
Argentina	KA013100	Spanish	DISS	EUR	YR094100 ①
Philippines • Thailand	KA014400	English	DISS	US	KY485100 ②
Brazil	KA014500	Portuguese	DISS	BRZ	YR113800 ④
Colombia • Mexico • Uruguay • Venezuela	KA014000	Spanish	DISS	US	KY485100 ②
UK	KA010900	English	DISS	BS	KY128501
Saudi Arabia	KA014100	English	DISS	EUR	YR094100 ①
Saudi Arabia	KA014200	English	NIST	EUR	YR094100 ①
Germany	KA011400	German	NIST	EUR	YR094100 ①
China	KA013000	Chinese	NIST	CCC	KY647400 ⑤
Nederland	KA012500	Dutch	NIST	EUR	YR094100 ①
Switzerland	KA012000	French • German • Italian	NIST	EUR	YR094100 ①
Switzerland	KA013600	French • German • Italian	NIST	CH	YR128901
Malaysia	KA014600	English	DISS	BS	KY128501





# Osiris

Osiris 1, 2 and 3 transport ventilators are light and easy to use. They are highly shock-resistant in all conditions. Their 10-hours battery life allows healthcare staff to stay on the go. Robust and easy to use, Osiris is recommended by many medical teams.



- Light and easy-to-use portable ventilators
- A full range to meet different requirements: non-invasive ventilation and spirometry measurement
- Proven robustness: highly shock-resistant, to be used in all conditions
- Long battery life: 10 hours continuous operation



# Osiris

## Technical specifications

### Osiris

	Osiris 1	Osiris 2	Osiris 3
Patient range	Adult, child	Adult, child	Adult, child
Applications	Emergency, transport, post-operative recovery room		
<b>Settings</b>			
Ventilation modes	CMV, ACMV with PEEP	CMV, ACMV with PEEP PSV with PEEP	CMV, ACMV with PEEP PSV with PEEP Spirometry measurement <sup>t</sup>
<b>Technical properties</b>			
Tidal volume	100 to 1,500 ml	100 to 1,500 ml	100 to 2,000 ml
PEEP	0 to 15 cmH <sub>2</sub> O	0 to 15 cmH <sub>2</sub> O	0 to 15 cmH <sub>2</sub> O
Pressure support		5 to 40 cmH <sub>2</sub> O	5 to 40 cmH <sub>2</sub> O
Respiratory rate	6 to 40 Bpm	6 to 40 Bpm	6 to 40 Bpm
I/E ratio	1/3 to 1/1	1/3 to 1/1	1/3 to 1/1
Inspiratory trigger	-0.5 to -4 cmH <sub>2</sub> O	-0.5 to -4 cmH <sub>2</sub> O	OFF, -0.5 to -4 cmH <sub>2</sub> O
FiO <sub>2</sub>	100% or air/O <sub>2</sub> mixture	100% or air/O <sub>2</sub> mixture	100% or air/O <sub>2</sub> mixture
Alarms	Pmax (10 to 80 cmH <sub>2</sub> O), Pmin (5 to 10 cmH <sub>2</sub> O above the PEEP, maxRR (20 to 60 Bpm), mains or battery power indicator, electrical autonomy indicator, electrical power supply failure alarm		MVemin (0.1 to 40 l/min), leak, disconnection, technical alarms
<b>Monitoring</b>			
Volumes			Vt, MVe
Pressures	-4 to 80 cmH <sub>2</sub> O (baragraph)	-4 to 80 cmH <sub>2</sub> O (baragraph)	Ppeak (electronic manometer)
Respiratory rate	RR	RR	RR
Flow rate			Peak expiratory flow rate
I/E ratio	I/E	I/E	I/E
<b>Physical specifications</b>			
Battery autonomy	10 h	10 h	6 h minimum, 14 h hours usually
Time to charge battery	10 h	10 h	3 h
Ventilator dimensions	(H)210x(W)250x(D)170 mm	(H)210x(W)250x(D)170 mm	(H)210x(W)250x(D)170 mm
Ventilator weight	5 kg	5 kg	5 kg
Gas consumption of unit itself	1 l/min	1 l/min	1 l/min
CMV-ACMV peak flow rate	100 l/min	100 l/min	100 l/min
PS-PEEP peak flow rate		130 l/min	130 l/min
<b>Directives</b>	Class IIb devices. Manufactured by Air Liquide Medical Systems S.A. <b>CE</b> 0459. Read carefully the user manual.		

# Osiris Accessories

## Accessories

Designation	Reference
Osiris 1 ventilator with large screen	KA006800
Osiris 2 ventilator with large screen	KA006500
Osiris 3 ventilator with large screen	KA005800

### Expiratory valve and flow sensors

Osiris 1 and 2    Osiris 3

		Osiris 1 and 2	Osiris 3	Reference
Auto-clavable	Expiratory valve	X	X	KY133900
	3 ways valve body	X	X	KY099100
	Diaphragm with nut x2	X	X	KY098000
	Assembled diaphragm	X	X	KY075300
	Diaphragm nut	X	X	KY075600
	Diaphragm lid	X	X	KY220400
	Flow sensor x10 (adult/child)		X	LH155362
Single use	Flow sensor x1 (adult/child)		X	KY572200
	Flow sensor x1		X	KY582900

### Patient circuits and accessories

		Osiris 1 and 2	Osiris 3	Reference
Single use	Patient circuit single limb smooth inside x20 1.6 m (with valve)	X		KG020300
	Patient circuit single limb smooth inside x20 1.6 m (with valve and flow sensor)		X	KG020400
Auto-clavable	Patient circuit single limb smooth inside x1 1.3 m	X	X	KG018700
	Quick connector M22/F15 (for patient circuit KG018700)	X	X	KY135900

### Masks and accessories

		Osiris 1 and 2	Osiris 3	Reference
Single use	Hospital full face mask non vented size S	X	X	KM222100
	Hospital full face mask non vented size M	X	X	KM222200
	Hospital full face mask non vented size L	X	X	KM222300
	Hospital full face mask non vented size S	X	X	KM218800
	Hospital full face mask non vented size M	X	X	KM218900
	Hospital full face mask non vented size L	X	X	KM219000
Auto-clavable	Cushion Respireo size S x10	X	X	KM218500
	Cushion Respireo size M x10	X	X	KM218600
	Cushion Respireo size L x10	X	X	KM218700
	Disposable headgear x10	X	X	KM222400
	Silicone full face mask size 5 (adult)	X	X	KM030000
	Silicone full face mask size 4 (child)	X	X	KM030100
	Harness for silicone full face masks	X	X	KY049600

# Osiris Accessories

## Accessories

Designation	Osiris 1 and 2		Osiris 3	Reference
<b>Test lungs and connectors</b>				
Test lung 1 liter (adult/child)	X	X		VS206103
Straight connector M22/F22 (for test lung VS206103 connection)	X	X		VX210000
90° angled connector F22/M22 (complementary to VX210000)	X	X		KV990800
Neoprene balloon 3 liters	X	X		KY000600
Red reduced connector Ø5 (for balloon KY000600 connection)	X	X		KY241800
<b>Bacterial filters</b>				
Bacterial filters for inspiratory output x50	X	X		KV103300
Bacterial filters for inspiratory output x6	X	X		KY185200
<b>Fixing and transfer systems</b>				
Carrying bag	X	X		KF006500
Ambulance wall support	X	X		KY581900
Fixing nut (for wall support KY581900)	X	X		KB016800
Roll stand	X	X		KB018200
<b>Oxygen supply hoses and accessories</b>				
O <sub>2</sub> supply hose 1.5 m NF	X	X		BF030600
O <sub>2</sub> supply hose 3 m NF	X	X		BF030200
O <sub>2</sub> supply hose 5 m NF	X	X		BF030000
O <sub>2</sub> supply hose 3 m NIST/BS	X	X		BF060400
O <sub>2</sub> Filtrabloc NF	X	X		KB002800
5 microns filter	X	X		KV103600
<b>Electric supply</b>				
NiMH battery pack	X	X		KY564600
AC/DC adapter 12/24 V	X	X		KY564800
Vehicle power adapter 2.30 m	X	X		KA005600





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# 1

## Patient- ventilator interface



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and connectors .....45

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# Monnal Eva expiratory assemblies for Monnal T60 and T75

The expiratory assembly, including a valve and a flow sensor, enables the user to control gases pressure in the patient circuit.



Blue: autoclavable



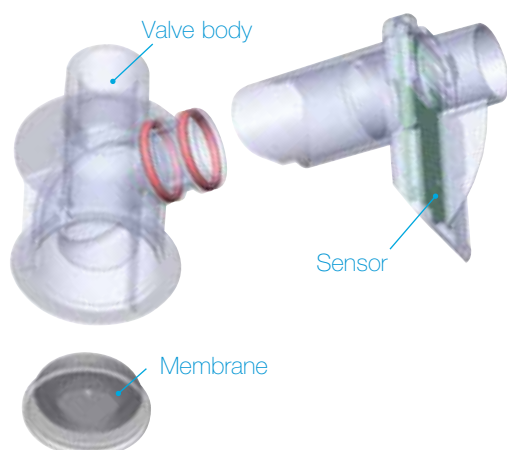
Transparent: single use



### Monnal Eva expiratory assembly

- Adaptation to the different hospital environments: single use or autoclavable assembly
- Patient comfort: silent valve
- Safety: valve integrated with the ventilators
- Patient circuit directly accessible and easy to clean: self-eject valve

## Single-use expiratory assembly



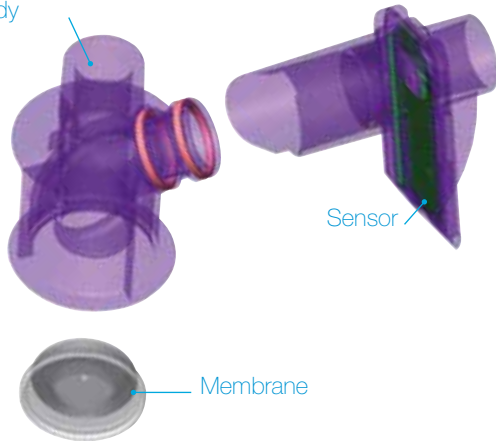
### References

Designation	Reference	Lot	Compatibilities	
			M. T75	M. T60
Expiratory valve Monnal Eva Valve body and membrane	KY694600	1	X	X
Expiratory valve Monnal Eva Valve body and membrane	KY694800	5	X	X
Expiratory valve Monnal Eva Valve body and membrane	KY694900	20	X	X
Expiratory flow sensor	KY632500	1	X	X
Expiratory flow sensor	KY664500	5	X	X
Expiratory flow sensor	KY664600	20	X	X

# Monnal Eva valves and sensors for Monnal T60 and T75

## Autoclavable expiratory assembly

Valve body



### References

Designation	Reference	Lot	Compatibilities	
			M. T75	M. T60
Expiratory valve Monnal Eva Valve body and membrane	KY694500	1	X	X
Expiratory flow sensor	KY632200	1	X	X
Membrane	KY665300	5	X	X

## Specifications

Patient categories	Adults, children, infants
Replacement frequency	Autoclavable version: every 50 autoclave cycles
Materials	Single use version: polycarbonate (PC) RADEL Autoclavable version: polyphenylsulfone (PPSU) Membrane and discs: medical grade silicone

### Hygiene protocol for autoclavable version

#### A Preparation

Remove the expiratory assembly: separate the expiratory flow sensor with hot wire ①, the valve body ②, the membrane ③ and the silicone disc.

#### B Disinfection / Cleaning

Use of ANIOS products: ANIOSYME DD1, SALVANIOS PH7, HEXANIOS G+R (follow product manufacturer's instructions).

#### C Sterilization

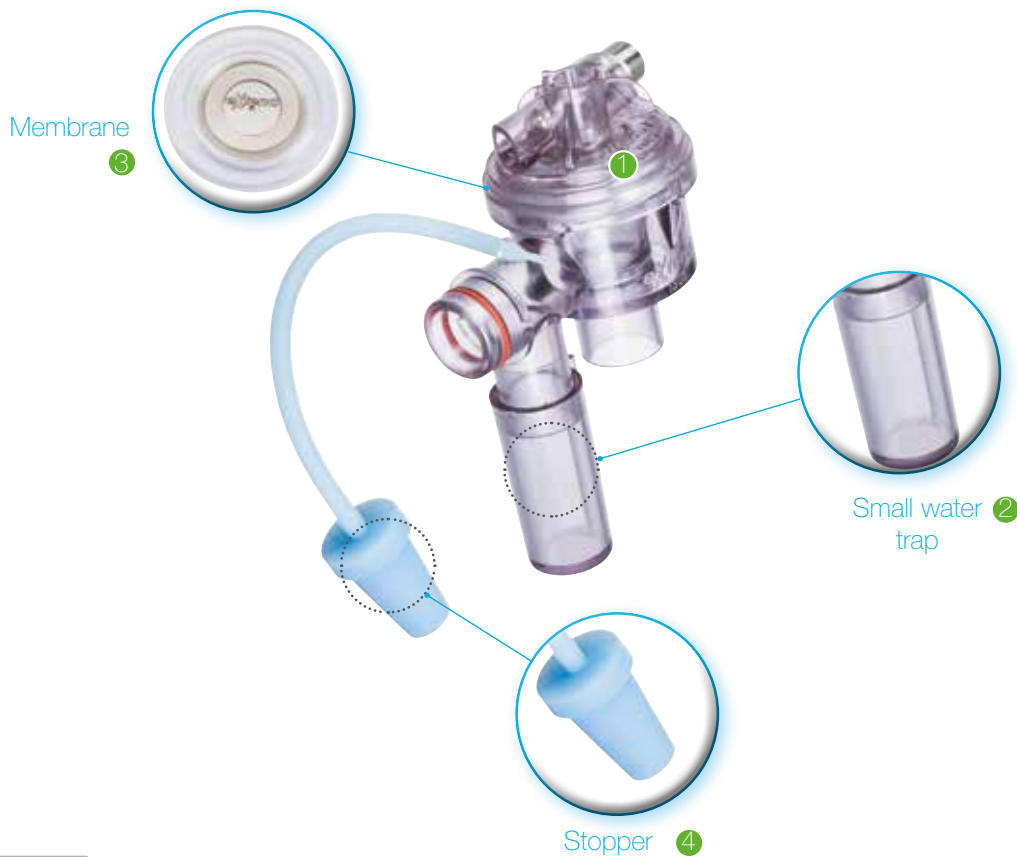
Prion cycle 134°C 18 min. Sterilize the following parts of the expiratory assembly: expiratory flow sensor, valve body, membrane, silicone disc.

#### D Reassembly

Before any further use of the expiratory assembly, check that it has been correctly reassembled by connecting it to the ventilator and performing the automatic tests.



# Autoclavable expiratory assembly for eXtend<sup>XT</sup> ventilator



## References

Designation	Reference	Lot	Compatibilities eXtend <sup>XT</sup>	Mark
Complete expiratory valve*	KY600400	1	X	①
<b>Including:</b>				
• Small water trap	KY440800	1	X	②
• Membrane	KY600900	1	X	③
• Y silicone plug	KY453300	1	X	④
Equipped block	VB098401	1	X	⑧

Designation	Reference	Lot	Compatibilities eXtend <sup>XT</sup>	Mark
Expiratory flow sensor	KY442400	1	X	⑤
Flow sensor fastener	KY544700	1	X	⑥
Large water trap	KY517400	1	X	⑦

\* The valve body and the cap are not sold individually.

## Specifications

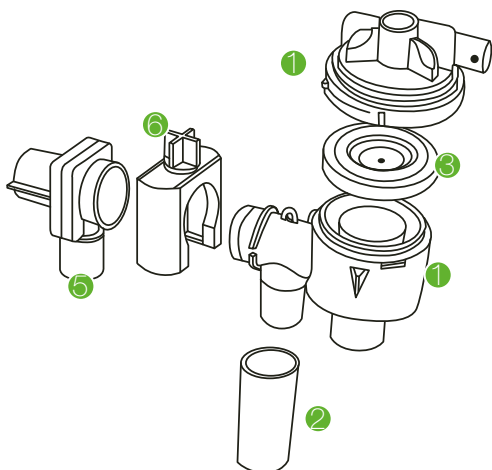
Patient categories	Adults, children, infants
Materials	Polysulfone - silicone



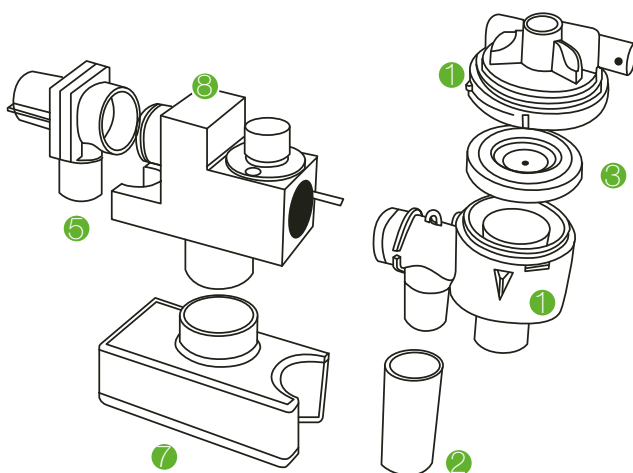


# Autoclavable expiratory assembly for eXtend<sup>XT</sup> ventilator

## Simple assembly



## Assembly with large water trap



### Hygiene protocol for autoclavable valve

#### A Preparation

Disconnect the electrical connector of eXtend<sup>XT</sup> main supply. Press both push buttons to remove the expiratory valve. Remove the components of the expiratory valve: lid, membrane, valve body, water trap(s), equipped block, flow sensor

#### B Pre-disinfection / Cleaning

Use of ANIOSYME DD1 type products (follow the product manufacturer's instructions).

#### C Disinfection

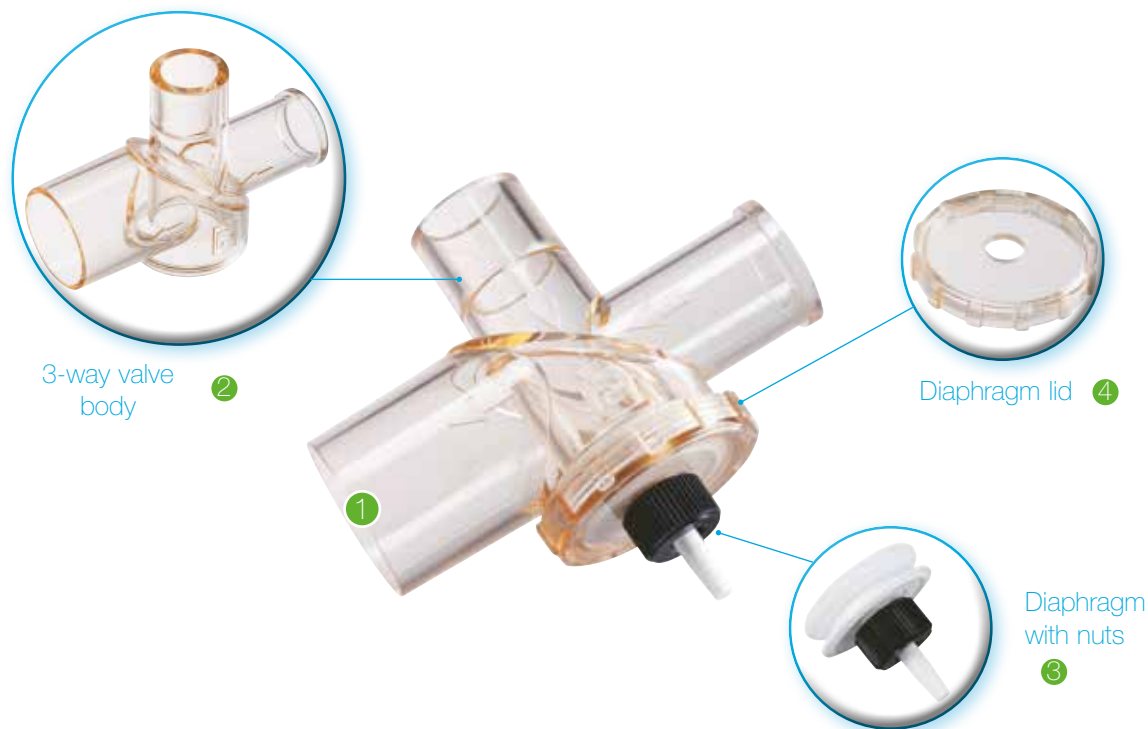
Use of ANIOSYME 1000 type products (follow the product manufacturer's instructions).

#### D Sterilization

Autoclave 134°C 18 min. Sterilize the following components of the expiratory valve: lid, membrane, valve body, water trap(s), indicator attachment or fitted block, flow sensor.  
50 autoclave cycles maximum.

# Expiratory assembly for Osiris ventilators

## Expiratory valve



References				
Designation	Reference	Lot	Compatibilities Osiris 1 and 2    Osiris 3	Mark
Expiratory valve	KY133900	1	X    X	①
<b>Including:</b>				
• 3 ways body valve	KY099100	1	X    X	②
• Diaphragm with nuts	KY098000	2	X    X	③

References			
Designation	Reference	Lot	Mark
Diaphragm with nuts	KY098000	2	③
<b>Including:</b>			
• Assembled diaphragm	KY075300	1	
• Diaphragm nut	KY075600	1	
• Diaphragm lid	KY220400	1	④

### Hygiene protocol for valve

- A Cleaning**  
Use of cleaning solutions (follow the product manufacturer's instructions) or use soapy water.
- B Disinfection**  
Use of disinfectants (follow the product manufacturer's instructions)..
- C Sterilization**
  - EtO 55 °C
  - Autoclave 136 °C 20 min
 Sterilize the following parts of the expiratory assembly: valve body, diaphragm with nuts.

# Expiratory assembly for Osiris ventilators

## Single use flow sensor for Osiris 3 ventilator



1

### References

Designation	Reference	Lot	Compatibilities		Mark
			Osiris 1 and 2	Osiris 3	
Expiratory flow sensor	KY582900	1	X		1

## Autoclavable flow sensors for Osiris 3 ventilator



2

### References

Designation	Reference	Lot	Compatibilities		Mark
			Osiris 1 and 2	Osiris 3	
Expiratory flow sensor	LH155362	10	X		2
Expiratory flow sensor	KY572200	1	X		2

### Hygiene protocol for autoclavable flow sensors

- A Cleaning**  
Use of cleaning solutions (follow the product manufacturer's instructions) or use soapy water.
- B Disinfection**  
Use of disinfectants (follow the product manufacturer's instructions).
- C Sterilization**
  - EtO 55 °C
  - Plasma 37 at 50 °C
  - No autoclave

# Patient circuits

*P*atient circuits guarantee the highest performances of our ventilators. Our complete offer meets all the requirements of the different types of patients and hospital environments.

## Single use patients circuits

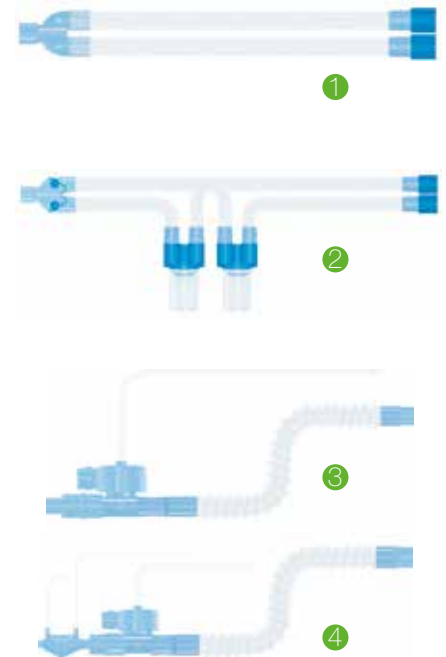


### Dual limb references

Designation	Reference	Lot	Diameter	Water trap*	Compatibilities			Mark
					eXtend <sup>KT</sup>	M. T75	M. T60	
Patient circuit 1.6 m Smooth inside surface	KG020100	20	22		X	X	X	①
Patient circuit 1.5 m Smooth inside surface	KG020200	20	15		X	X	X	①
Patient circuit 1.6 m Creased inside surface	VD315100	15	22	X	X	X	X	②
Patient circuit 1.6 m Creased inside surface	VD317600	10	15	X	X	X	X	②
Patient circuit 1.5 m Smooth inside surface	KG019300	10	22	X		X	X	②
Patient circuit 1.6 m Smooth inside surface	KG019400	12	15	X		X	X	②

### Single limb references

Designation	Reference	Lot	Diameter	Compatibilities		Mark
				Osiris 1/2	Osiris 3	
Patient circuit with valve 1.6 m Smooth inside surface	KG020300	20	22	X		③
Patient circuit with valve and flow sensor 1.6 m	KG020400	20	22		X	④



\* A water trap is used to collect the humidity contained in the gas expired by the patient.

# Patient circuits and caps

## Autoclavable circuits

### Dual limb references

Designation	Reference	Lot	Diameter	Water trap*	Compatibilities			Mark
					eXtend <sup>KT</sup>	M. T75	M. T60	
Silicone patient circuit Smooth inside surface	VB095200	1	22	X	X	X	X	5
Silicone patient circuit Smooth inside surface	VB095100	1	15	X	X	X	X	5



### Single limb references

Designation	Reference	Lot	Diameter	Compatibilities		Mark
				Osiris 1/2	Osiris 3	
Patient circuit 1.3 m** Smooth inside surface	KG018700	1	22	X	X	6
Quick connector M22/F15 (for patient circuit KG018700)	KY135900	1		X	X	7



\* A water trap is used to collect the humidity contained in the gas expired by the patient.

\*\* Order autoclavable expiratory valve KY133900 (see page 38).

### Autoclave conditions

**VB095200 Adults:** autoclave 134 °C • 18 min

**VB095100 Children:** autoclave 134 °C • 18 min

**KG018700 Adults / Children:** autoclave 136 °C • 20 min

## Patient circuit caps

The connector caps are used to perform the auto-tests on the ventilators not connected to the patient.

### References

Designation	Reference	Lot	Compatibilities		
			eXtend <sup>KT</sup>	M. T75	M. T60
Silicone plug for Y connection	KY453300	1	X	X	X
Autoclavable silicone plug Attached on Monnal T75 roll stand	KY669800	1		X	



# Full face masks

**H**ospital masks range enhances the use of non-invasive ventilation.

- For effective, comfortable non-invasive ventilation.
- Single use or reusable products to meet all your requirements
- The safety of an accessory approved with Monnal and eXtend<sup>XT</sup> ventilators



## Single use masks for adults patients



### Codes

Codes	Designation	Size	Lot	Compatibilities			
				eXtend <sup>XT</sup>	M. T75	M. T60	Osiris
KM222100	Respireo Hospital F Non Vented Disposable (manufacturer reference 472542*)	S	1	X	X	X	X
KM222200	Respireo Hospital F Non Vented Disposable (manufacturer reference 472543*)	M	1	X	X	X	X
KM222300	Respireo Hospital F Non Vented Disposable (manufacturer reference 472544*)	L	1	X	X	X	X

### Specifications

Maximum duration of use	7 days
Replacement frequency	Single use
Dead space	215 ml (for size L mask)
Materials	Polycarbonate - polypropylene - nylon - silicone - polyurethane Latex-free - phthalate-free
Regulatory conformity	Please read the manual. (* ) Medical device class IIa <b>CE</b> 0051 manufactured by Air Liquide Medical Systems S.p.A. Distributed by Air Liquide Medical Systems S.A.

# Full face masks

## Reusable masks for adults patients

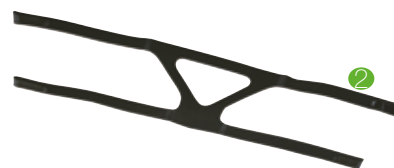


### Codes

Codes	Designation	Size	Lot	eXtend <sup>®</sup>	Compatibilities			Mark
					M. T75	M. T60	Osiris	
KM218800	Respireo Hospital F Non Vented Reusable (manufacturer reference 472545*)	S	1	X	X	X	X	
KM218900	Respireo Hospital F Non Vented Reusable (manufacturer reference 472546*)	M	1	X	X	X	X	
KM219000	Respireo Hospital F Non Vented Reusable (manufacturer reference 472547*)	L	1	X	X	X	X	
KM218500	Cushion Respireo (manufacturer reference 472615)	S	10	X	X	X	X	①
KM218600	Cushion Respireo (manufacturer reference 472616)	M	10	X	X	X	X	①
KM218700	Cushion Respireo (manufacturer reference 472617)	L	10	X	X	X	X	①
KM222400	Disposable headgear (manufacturer reference 472453)		10	X	X	X	X	②



Respireo cushion



Disposable headgear

### Specifications

Replacement frequency	Masks : Every year** Cushion: Every 6 months** Headgear: Every use
Dead space	215 ml (for size L mask)
Materials	Polycarbonate - polypropylene - nylon - silicone - polyurethane Latex-free - phthalate-free
Directives	Please read user manual. (* ) Medical device class IIa <b>CE</b> 0051 manufactured by Air Liquide Medical Systems S.p.A. Distributed by Air Liquide Medical Systems S.A.

\*\* Do not exceed the recommended maximum disinfection and sterilization cycles.

### Hygiene protocol

**A**

#### Cleaning

Aniosyme DD1, neutral pH detergent

**B**

#### Disinfection

- High-level thermal: Aniosyme DLM Maxi, neutral pH detergent • 93°C 10 min (EU standard)
- High-level chemical: Aniosept Activ, Anioxyde 1000, Cidex Opa, Opaster Plus

**C**

#### Sterilization

- Chemical: Sterrad 100S/NX/100NX
  - Autoclave: 121°C 15 min
- Authorised number of cycles: 20

All delivered masks are assembled with 1 cushion and 1 headgear. A sizing gauge is available on the packaging.  
The hospital masks are compatible with all valve ventilators.

# Full face masks for Osiris ventilators



1



2

## References

Designation	Reference	Lot	Size	Compatibilities		Mark
				Osiris 1 and 2	Osiris 3	
Full face silicone mask	KM030000	1	Adult	X	X	1
Full face silicone mask	KM030100	1	Child	X	X	1
Harness for silicone full-face mask	KY049600	1		X	X	2

## Specifications

Patient categories	Adults, children
Materials	Silicone
Sterilization	Autoclave 134 °C 18 min



# Test lungs and connectors

**T**est lungs are used to check the functions and accuracy of the ventilator when disconnected from a patient and to simulate the resistance and compliance of a lung.



## References

Designation	Reference	Compatibilities					Mark
		eXtend <sup>XT</sup>	M. T75	M. T60	Osiris 1/2	Osiris 3	
Test lung 1 liter Adult, child	VS206103	X	X	X	X	X	1
For Osiris ventilators, order the 2 following connectors:							
Straight connector M22/F22	VX210000				X	X	2
90° angled connector F22/M22	KV990800				X	X	3
Test lung 0.3 liter Infant	KV103500	X	X	X			4
Neoprene balloon 3 liters	KY000600				X	X	5
For KY000600 neoprene balloon connection, order the following connector:							
Red reduced connector Ø5	KY241800				X	X	6

## Specifications for 1 L test lung

Patient categories	Adults, children
Compliance	25 ml/mbar with Vt = 500 ml, PEEP = 0 mbar
Volume	1l
Dimensions	300x115x42 mm
Resistance	20 mbar/l/s
Weight	190 g
Sterilization	Autoclave at 134 °C

## Specifications for 0.3 L test lung

Patient categories	Infants
Compliance	0,35 ml/mbar with Vt = 150 ml 0,70 ml/mbar with Vt = 300 ml
Volume	0-150 ml or 0-300 ml
Dimensions	120x250x60 mm

## Operating tests

No formal test is required. We nevertheless suggest that you check before any use each of the spare parts: side panel, retainer clip, silicone bag, complete resistance head and tension nut.

# Filters

Hydrophobic filters with pleated membrane ensure viral and bacterial protection of patients, medical staff, ventilators as well as Oxygen concentrators.

## Bacteriological filters



1



2

### References

Designation	Reference	Lot	Compatibilities					Mark
			eXtend <sup>KT</sup>	M. T75	M. T60	Osiris 1/2	Osiris 3	
Bacterial filter For Inspiratory output	KV103300	50	X	X	X	X	X	1
Bacterial filter For Inspiratory output	KY185200	6	X			X	X	2

### Specifications for filter KV103300

Use	Device protection
Replacement frequency	Single use
Connection type	22F-22M/15F
Compressible volume	120 ml
Type of filter	Pleated membrane
Hydrophobicity	100%
Weight	56 g
Flow resistance	30 l/min : 0,7 cm H <sub>2</sub> O 60 l/min : 1,7 cm H <sub>2</sub> O
Filtration efficiency	Viral: > 99,9999% Bacterial : > 99,99999%
Materials	Filter body: ABS - polycarbonate Filter media: polypropylene - polyurethane

### Specifications for filter KV185200

Use	Device protection
Replacement frequency	Single use • 24 hrs max.
Connection type	22M-22F
Compressible volume	90 ml
Type of filter	Pleated membrane
Hydrophobicity	100%
Weight	39 g
Flow resistance	30 l/min : 1,0 cm H <sub>2</sub> O 60 l/min : 2,0 cm H <sub>2</sub> O
Viral and bacterial filtration efficiency	> 99,999%
Materials	Mineral fibers bound with a silicone resin

### Recommendations

For ventilator protection, we recommend positioning a filter on the inspiratory branch at the machine's outlet. For the protection of the patient, a second filter should preferably be placed on Y-piece. The filters must be replaced for each new patient. In these conditions, a filter placed on the device's expiratory branch is not necessary.

# Filters

## Monnal Clean'In (HEPA\*) filters for Monnal T60 and T75 ventilators

Monnal Clean'In (HEPA) filters guarantee the purity of the air insufflated to the patient:

- Filters 99.97% of the particles
- Protects the ventilator and the patient



**Monnal Clean'In filters:**

- Fully integrated in the ventilator's ergonomics
- Easy access for the user



### References

Designation	Reference	Compatibilities		Mark
		M. T75	M. T60	
Monnal Clean'In filter Monnal T75 HEPA filter	KB030100	X		1
Monnal Clean'In filter kit Monnal T75 For Monnal T75 with a serial number under MT75-00889	KY681700	X		
Monnal Clean'In filter Monnal T60 HEPA filter	KY691400		X	2

### MT75 Monnal Clean'In specifications

Patient categories	Adults, children, infants
Replacement frequency	At least once a year
Filtration	99,97%

### Specifications for MT60 Monnal Clean'In

Patient categories	Adults, children, infants
Replacement frequency	At least once every six months
Resistance at 60 l/min	1,15 mbar
Filtration	99,97%
Particles	> 0,5 µm

\* HEPA: High efficiency for Particulate Air

## Air input filter for Monnal T75 ventilator



### References

Designation	Reference	Lot
Removable air intake filters	KY650300	6

### Specifications

Use	Device protection
Inspection / cleaning frequency	Once every 3 months
Filtration	81%
Maximum pressure drop	250 Pa
Materials	Fibroidelastov 10

# Arms

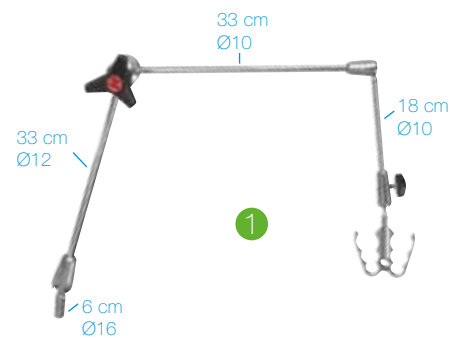
**A**rms range proposed meets all medical teams' different requirements.  
All models ensure:

- An appropriate integration to the need of medical environments
- A rapid assembly
- A great degree of stability

## References and specifications

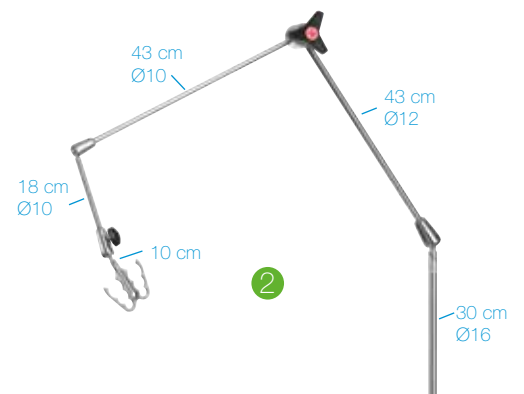
Designation	Reference	Compatibilities			Mark
		eXtend <sup>KT</sup>	M. T75	M. T60	
Articulated arm with quick central fixation and rail holder	KB019200	X	X	X	①

Specifications  
100 cm • with collet fixture • 3 joints  
Materials: Stainless steel, chromed steel, bronze, polyamide



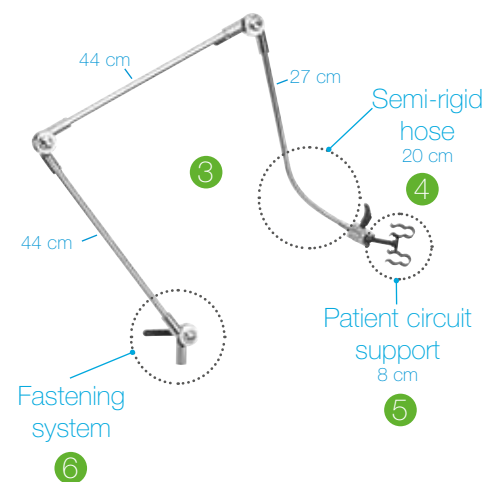
Articulated arm with quick central fixation	KB024200		X		②
---------------------------------------------	----------	--	---	--	---

Specifications  
144 cm • without collet fixture • 3 joints  
Materials: Stainless steel, chromed steel, bronze, polyamide



Articulated chromed arm with 3 clampings and flexible end	KB005200	X*	X	X	③
Spare parts separately available:					
• Flexible end	KY087100				④
• Hose holder	VD305300				⑤
• Hand lever with screw	VS103027				⑥

Specifications  
143 cm • without collet fixture • 3 joints  
Materials: Chromed steel

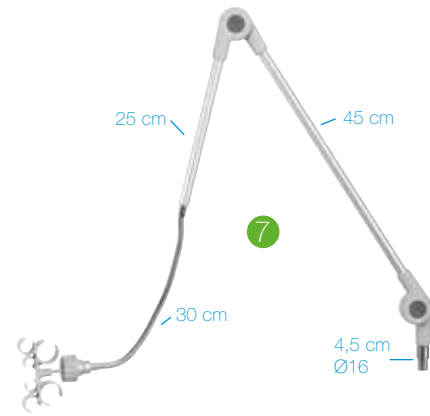


\*To enable the use of both arms KB005200 and KB029900 with eXtend<sup>KT</sup> ventilator, the rail support system for KY252800 arm is required.

# Arms

## References and specifications

Designation	Reference	Compatibilities			Mark
		eXtend <sup>KT</sup>	M. T75	M. T60	
Articulated arm with setting by push button	KB029900	X*	X	X	7



Specifications  
105 cm • without collet fixture • 2 joints  
Materials: Aluminium, stainless steel, chromed steel

Anesthetic tube holder For operating table	VB098700	X			8
-----------------------------------------------	----------	---	--	--	---



Specifications  
45 cm  
1 joint

\*To enable the use of both arms KB005200 and KB029900 with eXtend<sup>KT</sup> ventilator, the rail support system for KY252800 arm is required.

## Arm accessories



### Reference

Designation	Reference	eXtend <sup>KT</sup> Compatibility
Rail holder Ø 16 For arms KB005200 and KB029900	KY252800	X



# 2 Monitoring, humidification and nebulization



CO<sub>2</sub> probe, capnography  
and other options .....52



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# CO<sub>2</sub> probe, capnography and other options

## CO<sub>2</sub> probe



The IRMA™ Mainstream probe has been designed for complete CO<sub>2</sub> monitoring. Infrared rays measurement accurately determines the gaseous mixture concentration.

- Immediate connection and use: no probe pre-heating time and no calibration required
- Lightweight: less than 25 g
- Unique device for newborns to adults patients
- Adaptor for all types of application (from newborns to adults patients)
- Technology adapted to paediatrics: no sampling of the delivered volume

### References

Designation	Reference	Compatibilities	
		eXtend <sup>XT</sup>	M. T75 M. T60
CO <sub>2</sub> IRMA™ Monnal probe	KB020400		X X
CO <sub>2</sub> IRMA™ eXtend <sup>XT</sup> probe	KB020500	X	



### Specifications

Input voltage	4,5-5,5 V DC
Weight	< 25 g
Size	38x37x34 mm
Operating temperature	0 to 40 °C
Atmospheric operating pressure	525 to 1200 hPa (525 hPa correspond to an altitude of 4572 m)
Primary agent threshold	0.15% vol.
CO <sub>2</sub> precision in all conditions	± (0.3% vol. + 4% of the measurement)
Total response time of system	< 1 seconde
Calibration of 0	Replace the adaptor and go to the calibration menu
Probe calibration	Do this when you observe a deviation from the measurement or when the « calibrate the IRMA™ probe » alarm is triggered
Probe cleaning	With a cloth wetted with alcohol (max. 70% ethanol or 70% isopropanol)



# CO<sub>2</sub> probe, capnography and other options

## IRMA™ probe adaptators



1



2

### References

Designation	Reference	Lot	Compatibilities			Mark
			eXtend <sup>KT</sup>	M. T75	M. T60	
CO <sub>2</sub> IRMA™ adaptor Adult, child	KB020300	25	X	X	X	1
CO <sub>2</sub> IRMA™ adaptor Infant, new-born	KB032800	10	X	X	X	2

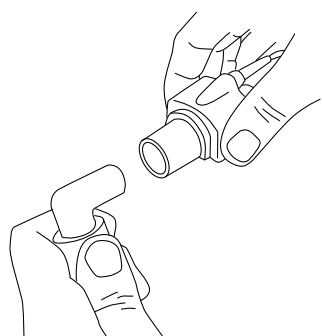
### Specifications for adult/child adaptor

Patient categories	Adults, children
Use	Single use
Dead space	6 ml
Résistance	0,3 cm H <sub>2</sub> O at 30 l/min
Packing	25

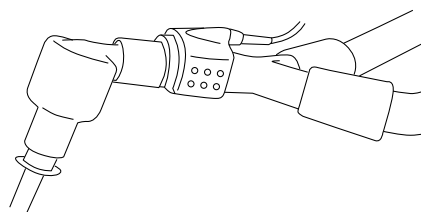
### Specifications for infant/newborns adaptor

Patient categories	Infants, newborns
Use	Single use
Dead space	1 ml
Résistance	1,3 cm H <sub>2</sub> O at 10 l/min
Packing	10

### Example of assembly



Simple assembly on endotracheal tube



Assembly with heat and humidity exchanger

## Software options

### References

Designation	Reference	Compatibilities		
		eXtend <sup>KT</sup>	M. T75	M. T60
CO <sub>2</sub> software option, Monnal T75	KB034000		X	
EtCO <sub>2</sub> software option, Monnal T60	KA010700			X

# Humidification

The Fisher & Paykel humidification solutions deliver and guarantee an invariable humidity content in the gases regardless of variations in flow. They are adapted to invasive or non-invasive ventilation of newborns, children and adults patients in emergency or critical-care situations.

## Fisher & Paykel MR850 humidification solutions



### Fisher & Paykel MR850 heated humidifier

- Achieves and maintains an optimum humidity level
- A single system for all types of patient
- Easy to set, with a clear display
- Intuitive alarms
- Standby mode automatically triggered by flow sensor

### References

Designation	Reference	eXtend <sup>RT</sup>	Compatibilities	
			M. T75	M. T60
Heating humidifier MR850 Plug 230 V EUR • User manual French, English, Spanish	VD324500	X	X	X
Heating humidifier MR850 Plug 115 V US • User manual Spanish, Portuguese	VD324600	X	X	X
Heating humidifier MR850 Plug 230 V EUR • User manual Italian, Spanish, Portuguese	VD324700	X	X	X

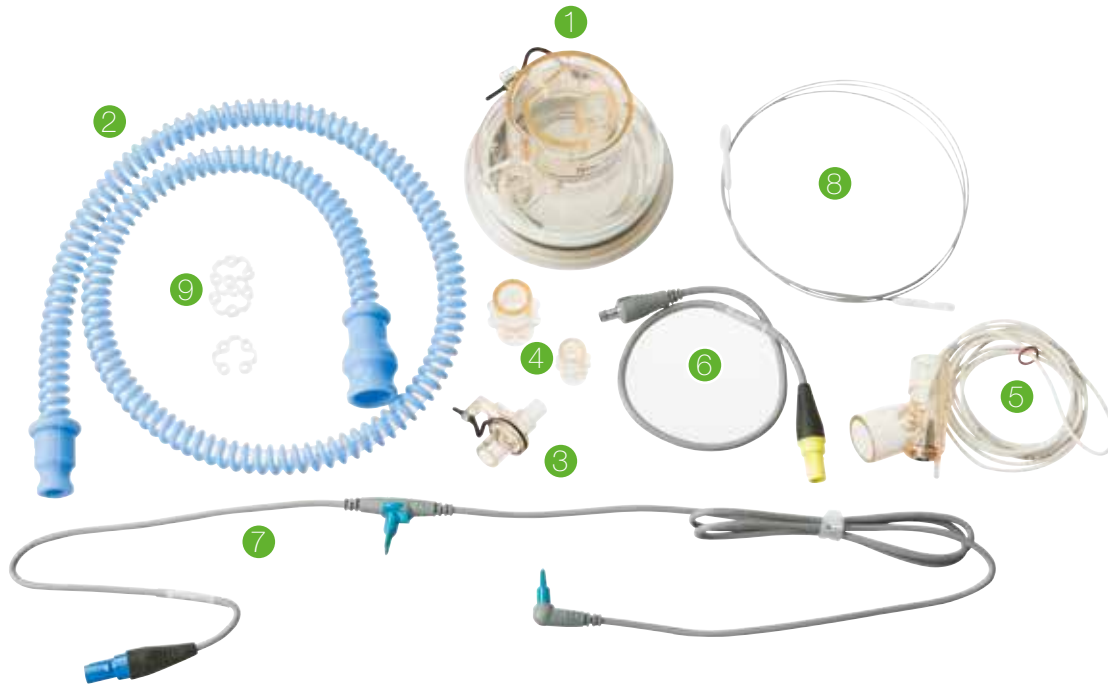
### Specifications

Patient categories	Adults, children, infants, newborns
Dimensions	140x173x135 mm
Weight	2,8 kg
Max. temperature of plate	110 °C
Flow range	Invasive ventilation: 3 to 60 l/min Non-invasive ventilation: 3 to 120 l/min
Settings	Invasive ventilation - Chamber outlet: 37°C to 42°C - Y-piece: 40°C Non-invasive ventilation - Chamber outlet: 31°C to 36°C - Y-piece: 34°C
High temperature alarm	41 °C (signal sound)
Humidity alarm in invasive ventilation	29.4 °C after 10 min 34.4 °C after 60 min Signal sound
Directives	Class IIb medical device. Distributed by Air Liquide Medical Systems S.A. CE 0123. Please read the user manual carefully.

MR850 heating humidifier is compatible with all Fisher & Paykel humidification chambers.

# Humidification

## Single use patient kit for humidifier MR850



### Adult kit references

Designation	Reference	Compatibilities			Mark
		eXtend <sup>KT</sup>	M. T75	M. T60	
Adult accessories kit for heating humidifier MR850	VD324900	X	X	X	
<b>Including:</b>					
• Accessories for adult kit*	VD325201	X	X	X	
• Adult humidification chamber	VD027360	X	X	X	1
• Silicone hose	KT085100	X	X	X	2

### Child kit references

Designation	Reference	Compatibilities			Mark
		eXtend <sup>KT</sup>	M. T75	M. T60	
Child accessories kit for heating humidifier MR850	VD324800	X	X	X	
<b>Including:</b>					
• Accessories for child kit*	VD325301	X	X	X	
• Child humidification chamber	VD027340	X	X	X	1
• Silicone hose	KT086400	X	X	X	2

\* Adult and child accessories kits contain:

- 3 F22-M22/F15 connector
- 4 M22/F15 connectors
- 5 Temperature probe
- 6 Probe adaptor
- 7 Sensor
- 8 Cable entry
- 9 Hose clips

## Accessory for humidifier



### References

Designation	Reference	Compatibilities	
		eXtend <sup>KT</sup>	M. T75 M. T60
Rail holder for humidifier	VY800000	X	

# Nebulization Aeroneb solutions

**A**eroneb solutions provide effective distribution of doses of solutions for inhalation in situations requiring assisted respiration by positive airway pressure, including mechanical ventilation and treatment via portable nebulizer. They have been developed for all patients, from newborns to adults. With this unique aerosol generator, Aeroneb solutions produce an aerosol of fine particles with low propagation speed.



Aeroneb Pro X control module



Single use electronic tank and micro-pump

### Efficient

- Doesn't heat up and doesn't degrade the medicine solution
- Optimises the respirable dose with an average mass median aerodynamic diameter of 2.1  $\mu\text{m}$ , a low residual volume and minimum losses

### Flexible

- Works with a wide range of medicine solutions on all types of patient, from newborns to adults patients
- Usable in hospitals, in intensive care units and during patient transport

### Economical

- Limited loss of medicine, re-usable or disposable device

## Aeroneb Solo single use solutions

### References

Designation	Reference	Compatibilities		
		eXtend <sup>XT</sup>	M. T75	M. T60
International aeroneb Solo nebulizer	KB029200	X	X	X
Aeroneb Solo nebulizer FR/DE/NL/IT	KB029300	X	X	X
Aeroneb Solo nebulizer SP/IT/PT/GR/TR	KB029400	X	X	X

### Specifications

Patient range	Newborns to adults
Use	Single use • max. 26 days
Residual volume	< 0.1 ml per dose 3-ml dose
Average diameter of nebulized particles	As measured with the Andersen cascade impactor: specification range from 1 to 5 $\mu\text{m}$ - average tested 3.1 $\mu\text{m}$ . As measured with the Marple 298 cascade impactor: specification range from 1.5 to 6.2 $\mu\text{m}$ - average tested 3.9 $\mu\text{m}$
Percentage of deposited dose	13 to 17%
Directives	Class IIBF medical device. Distributed by Air Liquide Medical Systems S.A. CE 0050. Please read the user manual carefully.

Example of possible assembly



# Nebulization Aeroneb solutions

## Aeroneb Pro autoclavable solutions



Aeroneb Pro  
control module



Autoclavable electronic tank  
and micro-pump

### References

Designation	Reference	Compatibilities		
		eXtend <sup>KT</sup>	M. T75	M. T60
Aeroneb Pro nebulizer INT Plug: EUR User manual: English	KB025500	X	X	X
Aeroneb Pro nebulizer FR Plug: EUR User manual: French	KB028600	X	X	X
Aeroneb Pro nebulizer IT Plug: EUR User manual: Italian	KB028700	X	X	X
Aeroneb Pro nebulizer SP Plug: EUR User manual: Spanish	KB028800	X	X	X
Aeroneb Pro nebulizer PT Plug: EUR User manual: Portuguese	KB028900	X	X	X
Aeroneb Pro nebulizer LATIN AM Plug: US User manual: Spanish	KB029000	X	X	X
Aeroneb Pro nebulizer CH Plug: EUR User manual: French • Italian • German	KB029100	X	X	X
Aeroneb Pro nebulizer JP Plug: US User manual: Japanese	VE090020	X	X	X

### Specifications

Patient range	Newborns to adults
Use	Re-usable • autoclavable at 132°C-135°C
Replacement frequency	Once a year • once every 26 autoclave cycles
Maximum capacity	10 ml
Nebulization rate	> 0,2 ml/min
Standard geometric deviation	2,2
Residual volume	< 0.3 ml per dose 3 ml dose
Average diameter of nebulized particles	As measured with the Andersen cascade impactor: specification range from 1 to 5 µm - average tested 3,1 µm. As measured with the Marple 298 cascade impactor: specification range from 1.5 to 6.2 µm - average tested 3,9 µm
Percentage of deposited dose	13%
Directives	Class II BF medical device. Distributed by Air Liquide Medical Systems S.A. <b>CE</b> 0050. Please read the user manual carefully.

### Examples of possible assemblies



Flexible and integrated



Portable and lightweight

Each Aeroneb Solo single use nebulizer contains one Aeroneb ProX control module and two disposable devices.

Each Aeroneb Pro autoclavable nebulizer contains one Aeroneb Pro control module and one re-usable device.

To renew the disposable and re-usable devices, write directly to [info@aerogen.com](mailto:info@aerogen.com). You will be sent a reply with the details of your nearest dealer.

# Nebulization Pneumatic solutions

Aerosol therapy by pneumatic nebulization enables you to administer effective medicine treatment at a low flow rate. Nebulization solutions thus cover the treatment of different types of pathologies in patients ranging from adults to newborns.

## Single use solution



### References

Designation	Reference	Lot	Compatibilities	
			eXtend <sup>KT</sup>	M. T75 M. T60
Pneumatic nebulizer*	KB025200	20	X	X

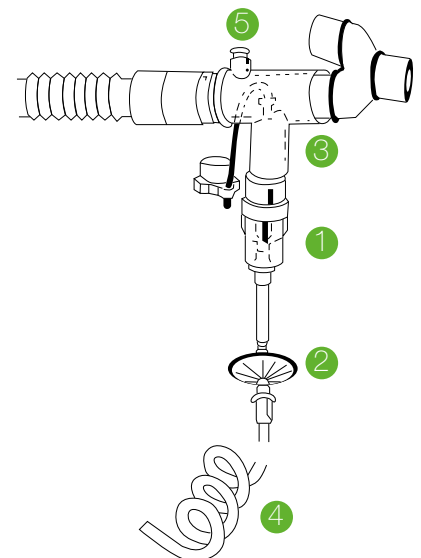
## Autoclavable solution



### References

Designation	Reference	Lot	Compatibilities			Mark
			eXtend <sup>KT</sup>	M. T75	M. T60	
Kit for pneumatic nebulizer*	KB007200	1	X	X		
Including:						
• Sidestream durable nebulizer	KD005500	1	X	X		1
• Pall bacterial filter for nebulizer	KD005700	1	X	X		2
• T piece with probe holder	KB007600	1	X	X		3
• Silicone spiral hose 5x8	YB002400	1	X	X		4
• Kapsto protection cap	YG001000	1	X	X		5

Example of assembly



## Specifications

Use	Nebulizer protection
Replacement frequency	Single use • 1 week max.

\* The pneumatic nebulization devices are not integrated in the ventilators.





# 3 Environment and mobility integration



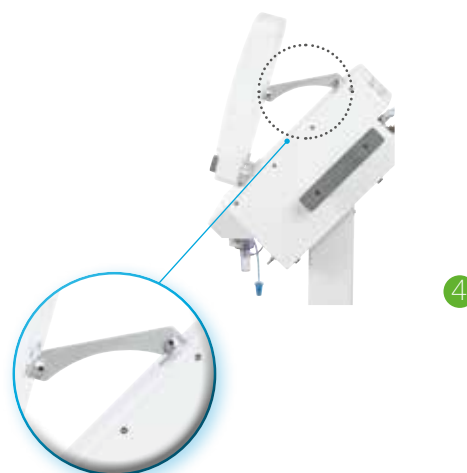
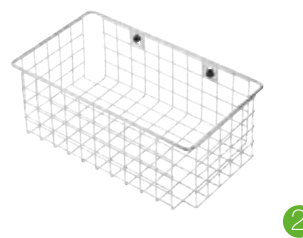
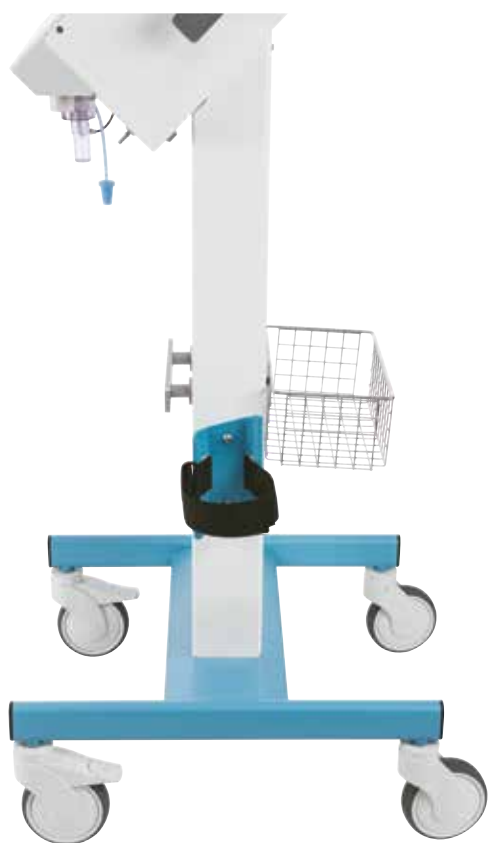


Fastening and transporting systems....60



# Fastening and transporting systems for eXtend<sup>XT</sup> ventilator

The carrying and fastening accessories are designed to adapt ventilators to their health care environment, thus providing mobile and functional solutions.



## References

Designation	Reference	Mark
Roll stand (3 parts kit)	KY630100	1
Basket for roll stand	KY629200	2
Cylinder holder for roll stand (kit x2)	KY629900	3
Connecting rod for screen (upper position)	KY606000	4

# Fastening and transporting systems for Monnal T75 ventilator

## Roll stand and accessories



### References

Designation	Reference	Mark
Roll stand	KY659700	1
International roll stand	KB031700	2
Basket for roll stand	KY664700	3
Cylinder holder for roll stand	KY665000	4
Cable fastener for roll stand	KY669700	5
Lateral hook with clips for roll stand	KY669600	6
Lateral support 34x23 with clips for roll stand	KY669500	7
Infusion pole 1 meter for roll stand	KB029600	8



## Other accessories

### References

Designation	Reference	Mark
Wall support 47.5x45x12 cm Maximum load: 20 kg	KY690500	9
Transfer trolley	KB030900	10
Cover	KB028500	11



# Fastening and transporting systems for Monnal T60 ventilator

## Carrying bag

**M**onnal T60 carry bag guarantees that the ventilator is protected for any type of extra-hospital intervention and enhances medical teams' mobility.



### Sturdiness

- A semi-rigid thermoformed design for shock absorption
- Self-locking zip closures
- An impermeable and naturally anti-UV coating
- Non-slip and wear-proof feet

### Mobility

- Carried with removable shoulder strap and non-slip ergonomic handle
- Tilted position for adaptation to the different environments
- A removable rear access panel for compatibility with wall-mounted charging station

### Ergonomic

- Removable soft storage pocket for accessories and consumables
- Numerous aerations and protections for gas, electricity connections and CO<sub>2</sub> probe
- Highly visible luminous alarms

## Specifications

Dimensions	28,5(H)x32(L)x21(P) cm
Weight	1,25 kg
Materials	Polyurethane rubbery appearance - polypropylene - non-slip PVC feet

## References

Designation	Reference
Carrying bag	KF007800



Profile view



Tilted position



Back view



Carried with removable shoulder strap

# Fastening and transporting for Monnal T60 ventilator

## Oxygen therapy bag

The COYOTE™ carry bag is designed to hold one 2 or 5 litre O<sub>2</sub> cylinder. It can carry Monnal T60 at the front in its carry bag and provides a storage space for accessories and consumables.



### Ergonomic and functional

- Two side pockets and one front pocket, all removable and large-capacity
- Two cylinder retaining straps
- Carried on back with concealable anatomical shoulder straps or by hand with non-slip moulded handles
- Winching ring

### Resistant

- Stain-proof, impermeable polyamide fabrics
- Double hypalon bottom making it fire and acid proof

### References

Designation	Reference
COYOTE™ bag	KA013400
COYOTE™ bag trolley	KA013500

### Specifications for COYOTE™ bag

Dimensions on empty	75(H)x50(L)x28(P) cm
Weight	3,80 kg
Materials	Polyamide 1680 D - aluminium - hypalon

### Specifications for trolley

Dimensions	32(L)x32(P) cm
Min. Height	60 cm
Max. Height	110 cm
Materials	Aluminium - plastic

### Examples of use\*



Transporting on trolley



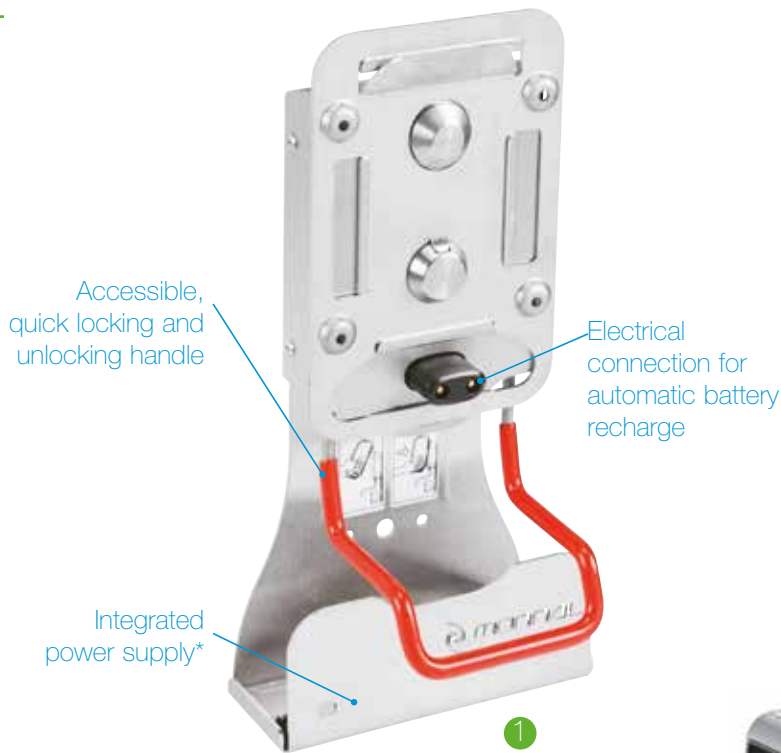
Carrying on back with shoulder straps

\* Air Liquide Healthcare only sells COYOTE™ bag in midnight blue.

# Fastening and transporting systems for Monnal T60 ventilator

## Wall-mounted charging station

The wall-mounted charging station is specially designed to securely fasten Monnal T60 ventilator in land mobile vehicles.



- This fastening withstands an acceleration of 10 G in accordance with standard EN1789
- A fastening system adapted to the different types of installation
- Compatible with Monnal T60 carry bag
- Device in stainless steel, strong and hygienic

### Dual function: fastening and recharging

- Wall-mounted charging station for land mobile vehicles
- Battery recharge

### References

Designation	Reference	Mark
Wall-mounted charging station	KA010300	1
Kit for wall-mounted charging station (fixing kit to the rail)	KA011100	
Including:		
• Universal rail holder	PE750003	2



### Examples of installation



On aeronautical rail



On medical rail



Directly to the wall

\* The power supply is not supplied with the wall-mounted charging station. We advise you to order it separately.

# Fastening and transporting systems for Monnal T60 ventilator

## Intra-hospital universal support

The universal intra-hospital support system has been developed to make Monnal T60 mobile within the hospital



### Flexibility

- Hooking system compatible with the various bed and stretcher bar standards

### Adaptation

- A rotating hooks system to adapt the support to its environment: hooked on stretcher, tilted on tablet or in the Monnal T60 roll stand
- Stable hooking system thanks to the hooks' PVC coating

### Finishing

- An ABS lid for better integration
- Simple installation on the ventilator

### Dual function: fastening and tilting

- Hooks onto the bed
- Tilted placement for table top use

### References

Designation	Reference
Intra-hospital universal support	KA010400

### Installation examples



On bed or stretcher bars



Tilted on tablet



# Fastening and transporting systems for Monnal T60 ventilator

## Roll stand and accessories

### References

Designation	Reference	Mark
Roll stand	KA010100	①
Table top	KA012600	②
Snap hooks	KA013300	③



②



①



③

## Information transfer for Monnal T60 ventilator



①



②

### References

Designation	Reference	Mark
2GB USB flash drive	YR112900	①
Gender changer for RS232-USB serial port	YR113200	②



# Fastening and transporting systems for Osiris ventilators

## Fastening and transporting accessories



1



2



3



4

### References

Designation	Reference	Mark
Carrying bag	KF006500	1
Ambulance wall support	KY581900	2
Fixing nut for wall support	KB016800	3
Roll stand	KB018200	4



# 4

## Gases & — power supply



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# Medical air compressors

Medical air compressors provide a source of clean and dry compressed air. They can be used as main air source or as back-up in case of failure of the primary source.

## CPX Care compressors



### References

Designation	Reference
CPX Care compressor with stand and back-up	KB031800
Stand-alone CPX Care compressor with back-up	KB034200



Integrated



Back-up function



Compact and mobile

# Medical air compressors

## Specifications

Physical features	
Dimensions	CPX Care: (H)520x(W)560x(D)530 mm CPX Care with stand: (H)1200x(W)560x(D)530 mm
Weight	CPX Care: 39 kg CPX Care with stand: 46 kg
Loading capacity	30 kg
Operating specifications	
Output pressure	3.6 kg/cm <sup>2</sup> 3.5 bar
Continuous flow at 3.5 kg/cm <sup>2</sup>	> 55 l/min
Peak flow	200 l/min
Tank capacity	2 l
Particulate filter	5 µm
Automatic central pipeline switching	2.9 kg/cm <sup>2</sup> • 2.8 bar
Wall inlet pressure range	4.1 à 6.1 kg/cm <sup>2</sup> • 4 à 6 bar
Dew point depression	> 5 °C from the ambient temperature
Operating voltage	230 V, 50 Hz, 3 A, 700 VA
Connections	Electrical: EUR, NF, CCC, US Gaz : NF, DISS, NIST
Safety features	
Low pressure alarm	< 2.2 kg/cm <sup>2</sup> < 2.2 bar Visual and audible indicator
Temperature alarm	60 °C Visual and audible indicator
Power supply failure alarm	Audible indicator
Hour indicator	Total working hours
Directives	Class IIb devices. Manufactured by Air Liquide Medical Systems S.A. <b>CE</b> 0459. Read carefully the user manual.
Standards	IEC 60601-1Ed3 IEC 60601-1-8 IEC 60601-1-2-5 (EMI/EMC)

## Other compressors



1



2



3

### References

Designation	Reference	Mark
Ekomp standard compressor 230 V/50 Hz	KY631100	1
Ekomp compressor with stand for eXtend <sup>KT</sup> 230 V/50 Hz	KY631200	2
Ekomp smart compressor on wheels 230 V/50 Hz	KB030400	3

# Gas supply Supply hose

**S**upply hose is a low pressure hose connector for medical gases.  
It safely supplies medical equipment from a standard connector or from a gas cylinder.



## Resistant

- Lifetime of 10 years
- Anti-static hose composed of 3 layers: inner tube made of EPDM, adhered polyester reinforced fibres, EPDM gas colour coated
- High resistance to bursting, traction and crushing

## Safe

- Gas quickly identified by the tube's colour and its marking
- Factory crimped non-removable standard connector making it impossible to invert the hoses
- Guaranteed latex-free and odourless

## Air supply hose references

Designation	Reference	Features		Compatibilities eXtend <sup>XT</sup>	Mark
		Gas	Length		
Air supply hose NF 1.5 m	BF030800	NF	1,5 m	X	①
Air supply hose NF 3 m	BF030500	NF	3 m	X	①
Air supply hose NF 5 m	BF030400	NF	5 m	X	①
Air supply hose NIST/BS 3m	BF060300	NIST/BS	3 m	X	①

## Designed to last

- High-resistance hose in 3 layers
- Crimped connectors
- Lifetime of 10 years

## O<sub>2</sub> supply hose references

Designation	Reference	Features		Compatibilities					Mark
		Gas	Length	eXtend <sup>XT</sup>	M. T75	M. T60	Osiris1/2	Osiris3	
O <sub>2</sub> supply hose NF 1.5 m	BF030600	NF	1,5 m	X	X	X	X	X	②
O <sub>2</sub> supply hose NF 3 m	BF030200	NF	3 m	X	X	X	X	X	②
O <sub>2</sub> supply hose NF 5 m	BF030000	NF	5 m	X	X	X	X	X	②
O <sub>2</sub> supply hose NIST/BS 3m	BF060400	NIST/BS	3 m	X	X		X	X	②

## Specifications

Available gases	O <sub>2</sub> • Medical air
Lengths	1,5 m • 3 m • 5 m
Internal diameter	5 mm +/- 0.5 mm
External diameter	11.5 mm +/- 0.5 mm
Max. operating pressure	14 bar maximum
Burst pressure at 23°C	> 56 bar
Burst pressure at 40°C	> 40 bar
Operating temperature range	-10° C to + 40° C
Connectors	AFNOR (NFS 90 116)
Magnetic mass	0,4 g
Materials	Connectors: crimped chromed brass • Inner and outer tubes: EPDM
Cycle life	10 years
Cleaning	With damp cloth, disinfected with product with EC marking (Hexanios G+R type)
Directives	Class IIa medical device. Manufactured by Air Liquide Medical Systems S.A. <b>CE</b> 0459 Please read the instructions carefully. Conforms to standard EN ISO 5359.

# Gas supply Filtrabloc

**F**iltrablocs are devices connected between the Oxygen or Air supply and the ventilator. They make the humidity content of the gas network safe, in particular when using medical air compressors.



**EASYCLIC NF inlet connector:  
connection in total safety**

- Can be handled with one hand, stable and precise connection
- No risk of pinching fingers
- Robust inlet connector
- 360° orientation

- Easy connection**
- Push, turn, it's installed!
  - One-handed set up
- Simplification of the medical procedure**
- 360° rotation: can be adapted to all situations
  - Simple orientation of the device: limits the risks of bending the tubing

Filtrablocs have an EasyClic inlet connector, for a safer connection. This patented technology is available with O<sub>2</sub> and medical air.

- Robustness in all circumstances**
- Chrome-plated brass
  - Shock resistant
  - Anti-UV treated housing

## References

Designation	Reference	Compatibilities					Mark
		eXtend <sup>KT</sup>	M. T75	M. T60	Osiris1/2	Osiris3	
O <sub>2</sub> Filtrabloc NF	KB002800	X	X	X	X	X	1
Air Filtrabloc NF	KB002700	X					2
5 microns filter Common to O <sub>2</sub> Filtrabloc KB002800 and Air Filtrabloc KB002700	KV103600	X	X	X	X	X	3

## 5-micron filter specifications

Flow rate through filter	15 l/s for a flow rate of 6.3 bar and a pressure drop of 0.5 bar
Recommended replacement frequency	On each machine service Abnormal pressure drops
Materials	Sintered polypropylene



# Power supply for Monnal T75 ventilator

## External battery for Monnal T75



1



2



### References

Designation	Reference	Mark
External battery pack (compatible with KY659700 and KB031700* roll stands)	YR109900	1
External battery pack fixing support (compatible with KY659700 roll stand)	KY690700	2
External battery pack fixing support (compatible with KB031700 roll stand)	KY702300	2

\* To order an adapted country kit, see page 17.

### External battery pack specifications

Use	Additional standalone electrical power supply for Monnal T75 ventilator
Type	NiMH
Weight	4.5 kg
Dimensions	9(H)x15(L)x28(P) cm
Battery life	3 h
Charging time	12 h
Supply voltage	24 V / 2x4500 mAh

## Multi-socket for Monnal T75

### References

Designation	Reference	Mark
EU multi-plug box	YR110000	1
PSE multi-plug box	YR122500	2



1



2

### EU multi-sockets specifications

Weight	850 g
Dimensions	12(H)x19(L)x6(P) cm
Supply voltage	250 V
Max. Power	3000 W

### PSE multi-sockets specifications

Weight	850 g
Dimensions	12(H)x19(L)x6(P) cm
Supply voltage	125 V
Max. Power	1500 W



# Power supply for Monnal T60 ventilator

## Power supply for Monnal T60



1



2



3

### References

Designation	Reference	Mark
Interchangeable battery	KY692800	1
Battery charger for interchangeable battery	KA012700	

### References

Designation	Reference	Mark
Vehicle power adapter	YR123700	2
External power supply 2.5 m	YR115700	3

## Hot-swappable battery specifications

Type	Lithium-ion
Battery life	2h.30 per battery
Charging time	2h.20 on standby • 5h.30 in ventilation
Number of recharge-rundown cycles	Approx. 500
Weight	350 g
Nominal voltage	22.2 V
Nominal capacity	2600 mAh
Peak current	5.5 A
Battery check	Once every 6 months

# Power supply for Osiris ventilators



1



2



3

### References

Designation	Reference	Mark
NiMH battery pack	KY564600	1
AC/DC adapter 12/24 V	KY564800	2
Vehicle power adapter 2.30 m	KA005600	3

### Specifications NiMH battery

Battery life	6 h minimum / 14 h nominal
Charging time	3 h

# Oxygen monitoring

## Oxygen cell



### References

Designation	Reference	Compatibilities			
		eXtend <sup>XT</sup>	M. T75	M. T60	Osiris1/2 Osiris3
Oxygen cell	YR049700	X	X	X	

### Specifications

Cycle life	10,000 hours at 100% O <sub>2</sub> (i.e. approx. 416 days) 1000000% O <sub>2</sub> /h
Measurement range	0% to 100% O <sub>2</sub>
Precision	< 1% of the O <sub>2</sub> volume (for calibration at 100% O <sub>2</sub> )
Calibration frequency	On each auto-test (each new patient ventilated)
Offset voltage of 0	< 200 μV for 100% nitrogen applied for 5 min
Ambient air outlet	13 to 16 mV
Power interface	3 pin
Brand	Envitec

## Inspiratory flow sensor for eXtend<sup>XT</sup>



### References

Designation	Reference
Inspiratory flow sensor for eXtend <sup>XT</sup>	KY318300





# 5 Manual resuscitators



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resuscitators .....82



# Manual resuscitators

Single use manual resuscitators for child or adult manual ventilation.



## Safe

- One tank for each patient size, preventing hyperventilation
- Enrichment system by oxygen tank

## Ergonomic

- Masks have a soft bead and a transparent dome to check the patient's skin colour
- The tanks are ergonomically designed with an adjustable hook and handle

## References

Designation	Reference
Adult single use manual resuscitator With mask size 5	KA009800
Child single use manual resuscitator With mask size 3	KA009900

## Specifications

Insufflation	99 to 100% O <sub>2</sub>
Operating temperature	-18 °C to 50 °C
Materials	PVC - latex free
Safety	Overpressure valve 35 cmH <sub>2</sub> O for child insufflator O <sub>2</sub> Hose: doesn't snag, no blockage of O <sub>2</sub> inlet



# General conditions of sales

## GENERAL POINTS

Our sales are made under the following terms and conditions, except for the points that could cover different special terms expressly accepted in writing by Air Liquide Medical Systems. Air Liquide Medical Systems is bound only by its written acceptance of the order. The prices considered by Air Liquide Medical Systems, in the absence of special supply agreements, are those that figure in the price list in force on the day of the sale; they are quoted excluding taxes. Taxes applicable on the delivery date will be added to the amount of the invoices. Any modification of the plan of taxes and duties that directly or indirectly affects Air Liquide Medical Systems products will entail a corresponding modification of the invoicing. In case of non-payment on scheduled due dates (general and special terms), the legal interest rates in force, increased by 4 points will be added to the amount of the unpaid invoices. The prices and information mentioned in the catalogues, brochures and price lists are not binding on Air Liquide Medical Systems which reserves the right to make changes to them. In case estimates are established, the supply will comprise exactly and solely the equipment specified on the estimate. For additional supplies, a new contract will be signed, with terms and conditions that cannot change those of the initial order. For any low-value order, Air Liquide Medical Systems reserves the right to include a part of the administrative charges in the invoice.

## PAYMENT TERMS AND CONDITIONS

Payment is due in advance by swift transfer or at sight, by irrevocable Letter of Credit confirmed by a French Bank, unless different special terms expressly accepted in writing by Air Liquide Medical Systems. Any invoice issued by Air Liquide Medical Systems shall be paid directly by your company through a financial institution located in your country.

## STUDIES AND PROJECTS

Studies and documents of any kind remitted or sent by Air Liquide Medical Systems always remain its entire property. These must be returned when asked by Air Liquide Medical Systems, which preserves the totality of the intellectual property of its projects, which cannot be communicated or executed without its prior written permission.

## DELIVERY

Whatever the destination of the equipment and the conditions of the sale, the transfer of ownership and risks to the buyer is done in the factories or warehouses of Air Liquide Medical Systems subject to the provisions of the retention of title clause given later. Air Liquide Medical Systems is not responsible for a delivery fault or delay in the execution of the sale caused by a case of force majeure, strikes, epidemics, lock-out, manufacturing accidents, third part acts, third party faults, faults in essential supplies, etc., and generally, any event beyond its control. If the dispatch is delayed for a reason not attributable to Air Liquide Medical Systems, and if ALMS gives its consent, the equipment will be stored and handled, if necessary, at the costs and risks of the buyer. Air Liquide Medical Systems refuses any responsibility in this matter. These provisions in no way change the payment obligations for the supply and do not constitute any kind of substitution.

Except if expressly stipulated by Air Liquide Medical Systems in its confirmation of the order, the delivery schedules are given for information purposes. No penalty for delay in delivery can be claimed from Air Liquide Medical Systems. If the goods are delivered in successive deliveries, a fault in one delivery does not invalidate the contract for the other deliveries.

The formal acceptance of the goods by the buyer on receiving them abolishes any claim by him, unless he expresses his reservations by a registered letter within three days of the date of receiving mentioned, according to the terms of sale, either in the shipping notice or in the acknowledgement given to the transporters. The use of the goods that have been accepted by the buyer cannot give room for claims. Should the case arise, the return of equipment requested by the buyer can be done only with prior permission from Air Liquide Medical Systems. The equipment must be restored in perfect condition, free of all duties. No port due will be accepted. A sum equal to 20% of the amount of the equipment (with a minimum of (50€ excl. tax) ) plus restoration costs, if any, will be deducted as administrative and return inspection charges and entered as reduction from the corresponding credit note for the returned equipment.

## TRANSPORT, CUSTOMS, INSURANCE, ETC.

All operations of transport, insurance, customs, handling, carried out on site, are charged to the buyer. In any case, Air Liquide Medical Systems does not guarantee the means of transport, even in the case of transport done according to the buyer's request. The dispatched goods are transported at the buyer's risk, as the transfer of ownership and risks takes place at the factories of Air Liquide Medical Systems subject to the provisions of the retention of title clause given later.

Transportation is done at the lowest rates, unless otherwise expressly requested by the buyer.

## GUARANTEES

The normal guarantee period (except for special terms) of the equipment supplied by Air Liquide Medical Systems against all manufacturing or assembling defects – if the assembling is done by Air Liquide Medical Systems – is one year from the date of delivery. The period of this guarantee does not apply to consumable goods. In case of defective delivery, the responsibility of Air Liquide Medical Systems is strictly limited to the obligation to supply or repair, or replace the goods, as the case may be, free of any damages. Air Liquide Medical Systems repairs in its workshops or replaces free of charge, including labour costs, but free of transport and packing charges, all the parts it inspects and acknowledges as defective.

Or Air Liquide Medical Systems repairs on site or replaces free of charge, including labour costs, but free of travel and staying charges, all parts it inspects and acknowledges as defective.

With a view to fulfilling this guarantee, Air Liquide Medical Systems reserves the right to change the devices in place or to replace the said parts. The parts taken back as per the guarantee will be the property of Air Liquide Medical Systems. Any repair or replacement does not consequently extend the guarantee.

The guarantee does not apply to replacements or repairs that may arise from the normal wear and tear of appliances or deterioration or accidents caused by negligence, lack of supervision or faulty maintenance or use of these appliances.



# General conditions of sales

Further, this guarantee will cease when the client carries out himself repairs or changes to the sold equipment. In the case of custom work, Air Liquide Medical Systems guarantees exclusively an execution in compliance with the order. The transport costs of defective equipment or parts, as well as those of returning equipment or repaired or replaced parts, are charged to the buyer, as also, in case of repairs on the plant site, the travel and staying expenses of the employees or representatives of Air Liquide Medical Systems, in accordance with its rates in force at that time.

Air Liquide Medical Systems guarantees only that the equipment is suitable for the use defined in its accompanying documents consisting especially of the operating instructions, the delivery documents, the labels, the symbols, etc. The user must strictly and necessarily comply with the laws, regulations and prescriptions in force concerning the use of the equipment sold by Air Liquide Medical Systems.

## CLEANING AND STERILISATION OF EQUIPMENT

Before any kind of intervention (taking back, returning, repairing, etc.) by the personnel of Air Liquide Medical Systems or a person appointed by Air Liquide Medical Systems, on the equipment or parts, whether it takes place at Air Liquide Medical Systems or at the Buyer's place, the Buyer agrees to hand over the equipment and/or parts in question, in a clean and sterilized state as far as the exterior is concerned.

If this obligation, specified by circular DGS/5C/DHOS/E2/2001/138 dated 14 March 2000, is not honoured, Air Liquide Medical Systems reserves the right to suspend its intervention until the equipment holds no more risk for its personnel or people it has appointed. Air Liquide Medical Systems reserves the right to send back to the Buyer equipment or a part that does not fulfill this condition, with the transport costs charged to the Buyer.

## WASTE DISPOSAL

In accordance with article 18 of the Order n° 2005- 829 of 20 July 2005 regarding the composition of electric and electronic equipment, the client will ensure the financing and organization of the disposal of waste coming from equipments under the conditions defined in articles 21 and 22 of the said Order. In case of inspection, the producer may ask his client to send him the documents that show he has, for these equipments, respected all the obligations that were transferred to him under the sales contract. If these documents are not sent, it will be presumed that the client is responsible for non -execution of obligations given to his charge and the producer reserves the right to ask him for reparation of any damages he may incur because of this.

In accordance with article 6 of the Order 2005-829 of 20 July 2005, a marking giving the identity of the producer and the date of placing on the market figures on all the equipments.

The producer was duly registered in the National Register of Producers as defined in the Order dated 13 March 2006 regarding the Registration procedure and information figuring in the National Register of Producers as given in Article 23 of Order n° 2005- 829, under the following SIREN No : 348 921 735 00026.

According to the legal provisions in force, the client who has taken over the obligations regarding waste disposal has to:

- make sure that the selective treatment, the valuation and destruction of waste from electric and electronic equipments collected selectively is done in plants that satisfy the technical requirements fixed by the Order of 23 November 2005 regarding the methods of treating waste from electric and electronic equipments as given in article 21 of Order n° 2005-829, or in any other plant authorized for this purpose in another member State of the European Union or in another State when the transfer of this waste outside France is done in accordance with the provisions of the abovementioned Regulation of 1<sup>st</sup> February 1993.
- make sure that the selective treatment of material and components of waste from electric and electronic equipments is done and getting all fluids extracted, in accordance with the prescriptions of the Order of 23 November 2005 regarding the methods of treating waste from electric and electronic equipments as given in article 21 of Order n° 2005-829,

## RESPONSIBILITES

In the framework of the Regulations regarding Medical Device Vigilance and the EC markings of Medical Devices , the acquirer agrees to implement (or arrange to do so) the articles of the European Directive 93/42/CEE, especially in the matter of traceability of equipment, registration and declaration of malfunctions, control of documentation and training of technical personnel.

For any equipment fitted with software, the acquirer agrees, before installing it, to take all the necessary precautions for saving, controlling the media (virus).. ; in the absence of these arrangements, Air Liquide Medical Systems would not be held responsible for any kind of damage whatsoever.

It is forbidden to copy or reproduce the software products fully or partially by any means and in any form whatsoever.

## RETENTION OF TITLE CLAUSE

**THE GOODS REMAIN THE PROPERTY OF AIR LIQUIDE MEDICAL SYSTEMS UNTIL FULL PRICE PAYMENT IS MADE (ACT 80.335 OF 12.05.1980).**

They cannot be used as security or for hypothecation before the full price is paid.

Nevertheless, if the buyer holds the unpaid goods, he will personally bear all risks, and in case of disappearance or destruction of the goods, he will still be the debtor of the agreed price.

In case of payment default, Air Liquide Medical Systems reserves the right to suspend or cancel the delivery of current or future orders.

## CONTESTATIONS

**ANY DISPUTE WILL COME UNDER THE JURISDICTION OF THE "TRIBUNAL DE COMMERCE" (Court for commercial causes) OF NANTERRE**, even in the case of multiple defendants or introduction of third parties. The Bills of Exchange or acceptances of Air Liquide Medical Systems can entail neither substitution nor overriding of this clause of attribution of jurisdiction.

**ANY PURCHASE OF OUR SUPPLIES IMPLIES ACCEPTANCE OF OUR GENERAL CONDITIONS OF SALE.**

# Notes

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## Contact

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