



## Elisée™ 150

INVASIVE AND NONINVASIVE  
VENTILATOR

### Data Management Guide

English

ResScan™ 3.16 supports Elisée 150 devices with software version 2.50 and above. Data from the Elisée 150 device can only be downloaded to ResScan via a RS 232 serial link cable (Product code: CAB012527) which connects the device directly to the computer. Please refer to your Elisée 150 Clinical Manual for instructions on Elisée 150 and ResScan 3.16 Clinical Guide for instructions on ResScan 3.16.

#### Notes:

- Use only the cable provided by ResMed.
- Do not download data while the device is delivering therapy to the patient.
- Do not navigate the Elisée 150 device menu while download is in progress.
- Data presented via ResScan should not be used alone for therapy outcome evaluation purposes.

#### ResScan Review Screen

	Device Settings Dialog <sup>1</sup>	Statistics	Summary Graph	Detail Graph	Oximetry Statistics <sup>2</sup>	Device Log
Function Availability	–	✓	✓	✓	–	✓
Data Availability (per download)	–	Depends on Recording Time Setting <sup>3</sup>	Depends on Recording Time Setting <sup>3</sup>	Depends on Recording Time Setting <sup>3,4</sup>	–	At least the most recent 1100 events

1. Elisée 150 device settings cannot be modified using ResScan. Therefore, the "Device Settings" dialog in ResScan, which is used for modifying device settings, is disabled for Elisée 150.
2. Elisée 150 does not have oximetry connectivity, therefore oximetry data is not available.
3. Data available from the Elisée 150 depends on the device data sampling frequency, which varies according to the device recording settings. The recording settings and the resulting sampling frequencies can be set based on the following table. Please note that "days" in the "Recording Time Settings on Device" refers to a setting period, and not a calendar day.

Eg: if settings = 1 day, it means approximately 24 hours worth of data can be recorded. If the patient used the device for 10 hours on day 1, 14 hours on day 2, 3 hours on day 3, then data from day 1 and day 2 are recorded (10+14=24hours), but data from day 3 will not be recorded because the memory is full and does not record any further data.

Recording Time Setting on Device	Sampling frequency Based on Recording Setting
1 day	1 sample every second
7 days	1 sample every 5 seconds
15 days	1 sample every 10 seconds
30 days	1 sample every 20 seconds
90 days	1 sample every 60 seconds
180 days	1 sample every 120 Seconds

4. If the detailed graph "View" range selected is smaller than the sampling frequency of the data, then the start time of the detailed graph may be up to 2 minutes earlier than expected. For example, if the Elisée 150 "Recording Time Settings on Device" is set to 180 days, then the resulting sampling frequency based on the recording setting is 1 sample every 120 seconds. If the detailed graph "View" range is set to 30 seconds in ResScan, which is smaller than the sampling frequency, then the detailed graphs may be plotted up to 2 minutes earlier than actually recorded.

**Note:** When the time setting on the device is changed:

- If the time is changed forward: no affect on data.
- If the time is changed backward then the resulting stored data may contain therapy sessions that overlap. If an overlap occurs then the overlapped portion from the earlier session will be deleted and the sessions will be processed in ResScan.

## Viewing Data

The following table shows the list of parameters that can be viewed from Elisée 150 and ResScan. ResScan displays data that is recorded and can be downloaded from Elisée 150.

To view real time live data from Elisée 150 on a computer, please use ResMed's EasyView™ software.

Parameter	Elisée 150	ResScan 3.16		
	Monitoring Screen	Statistics <sup>1</sup>	Summary Graphs <sup>1</sup>	Detailed Graphs
Type of Data	LIVE	STORED	STORED	STORED
Alarms/Events	✓	✓ Displayed in Device Log		
Therapy Program <sup>1</sup>	✓	–	–	–
Therapy Mode <sup>2</sup>	✓	✓	–	✓
Therapy Settings	✓	–	–	–
Circuit Type	✓ (circuit type used during the last manual test)	–	–	–
Usage (hrs)	–	✓	✓	–
Total Usage (hrs)	✓	✓	✓	–
Leak percentage (%) <sup>3</sup>	✓ in alarms page	✓	✓	✓
Respiratory Rate (bpm) <sup>4</sup>	✓	✓	✓	✓
Inspiratory Minute Ventilation (L/min)	–	✓	✓	✓
Expiratory Minute Ventilation (L/min) <sup>5</sup>	–	✓	✓	✓
Spontaneous Minute Volume (L/min)	✓	✓	✓	✓
Inspiratory Tidal Volume (mL)	✓	✓	✓	✓
Expiratory Tidal Volume (mL) <sup>5</sup>	✓	✓	✓	✓
Inspiratory Time (sec)	✓	✓	✓	✓
Expiratory Time (sec)	✓	✓	✓	✓
Mean Airway Pressure (cm H <sub>2</sub> O)	✓	✓	✓	✓
Peak Inspiratory Pressure (cm H <sub>2</sub> O)	✓	✓	✓	✓
Positive End Expiratory Pressure (cm H <sub>2</sub> O)	✓	✓	✓	✓
I:E Ratio	✓	✓	✓	✓
Maximal Inspiratory Flow (L/min)	✓	✓	✓	✓
Maximal Expiratory Flow (L/min) <sup>5</sup>	✓	✓	✓	✓
FiO <sub>2</sub> (if measured) (%) <sup>6</sup>	✓	✓	✓	✓

1. Elisée 150 has two configurable programs. Statistics are calculated across multiple modes or programs used during the selected session(s).
2. ResScan Statistics screen shows the most recent mode used for the selected session. ResScan detailed graph shows the mode used associated with each session.
3. Leak percentage:
  - When a single circuit is used, leak percentage is not available and indicated by "– – –".
  - When a double circuit is used, leak percentage will be between 0–99%.
Leak percentage is calculated by ResScan using: Leak percentage = 100\*(Inspiratory Tidal Volume - Expiratory Tidal Volume)/Inspiratory Tidal Volume.
4. Respiratory Rate is calculated by ResScan using: Respiratory Rate = 60/(Inspiratory Time + Expiratory Time).
5. Parameter not available when a single circuit is used.

6. When FiO<sub>2</sub> sensor is connected:

- the data displayed should be 21% or above.
- If data is lower than 20%, it indicates that the sensor requires recalibration or replacement.

When FiO<sub>2</sub> sensor is not connected it displays as 0% in Statistics and Detailed Graphs and the Summary graph will be empty.

## ResScan Detailed Graphs Specifications

Parameter	Range*	Sampling period
Leak percentage (%)	0–100	Depends on Recording Time Setting on Device
Inspiratory Minute Ventilation (L/min)	0.0–30.0	
Expiratory Minute Ventilation (L/min)	0.0–30.0	
Spontaneous Minute Volume (L/min)	0.0–30.0	
Inspiratory Tidal Volume (mL)	0–4000	
Expiratory Tidal Volume (mL)	0–4000	
Respiratory Rate (bpm)	0–99	
Inspiratory Time (sec)	0.0–12.0	
Expiratory Time (sec)	0.0–30.0	
Mean Airway Pressure (cm H <sub>2</sub> O)	0.0–80.0	
Peak Inspiratory Pressure (cmH <sub>2</sub> O)	0.0–80.0	
Positive End Expiratory Pressure (cmH <sub>2</sub> O)	0.0–30.0	
I:E Ratio (%)	0.0–200.0	
Maximal Inspiratory Flow (L/min)	0–150	
Maximal Expiratory Flow (L/min)	0–150	
FiO <sub>2</sub> (if measured) (%)	2–100	

\* Data out of this range will be displayed as "--".

## ResScan Review Screen Display Descriptions

Parameters	Statistics	Summary Graphs	Detailed Graphs
Usage Hours	Total hours used, Daily usage, Used Days ≥X:YY hours, Used days <X:YY hours, Total days and % used days. Calculated for the sessions selected in the Data Browser.	Each period is shown as a solid bar. A hollow bar indicates a period of usage where the end-time is unknown. There is a limit on the maximum number of separate bars shown for a single session.	N/A
Total Usage	N/A	Shows the total hours used per day with compliance threshold indicated by a red line.	N/A
Therapy Mode	Shows the most recent mode used for the selected session in the Data Browser.	N/A	Shows the modes used during a session. Each mode is indicated with a different colour.
Leak Percentage	Shows the median, 95 <sup>th</sup> percentile and maximum statistics for the selected session in the Data Browser.	Shows the median, 95 <sup>th</sup> percentile and maximum statistics for single session.	Shown as a blue trace
Inspiratory Minute Ventilation			
Expiratory Minute Ventilation			
Spontaneous Minute Ventilation			
Inspiratory Tidal Volume			
Expiratory Tidal Volume			
Respiratory Rate			
Inspiratory Time			
Expiratory Time			
Mean Airway Pressure			
Peak Inspiratory Pressure			
Positive End Expiratory Pressure			
Maximal Inspiratory Flow			
Maximal Expiratory Flow			
FiO <sub>2</sub> (if measured) (%)			

Parameters	Statistics	Summary Graphs	Detailed Graphs
I:E ratio	Shows the median, 95 <sup>th</sup> percentile and maximum statistic for the selected session in the Data Browser.	Shows the median percentage for single session.  Ti - Inspiratory Time (purple) and Te - Expiratory Time (blue) are expressed as a percentage of the total breath cycle time.	Shows the breath percentage. Ti (purple) and Te (blue) are expressed as a percentage of the total breath cycle time. A red line provides reference to I:E = 1:2 (33%).

## Glossary

### Daily Usage

Daily Usage is total usage in a single session (a session starts at midday and finishes 24 hours later).

- **Average Daily Usage**

Average daily usage is the result of the sum of Daily Usage divided by Used Days, over a selected time period.

- **Median Daily Usage**

Median Daily Usage is the middle value for daily usage, where values for Daily Usage are listed from low to high, over a selected time period. While a few exceptionally high or low values can have a significant influence on an average measure, the median is typically more reflective of the true central tendency.

### Device Logs

An event is the occurrence of an alarm, a setting change or a system event.

### Expiratory Time (Te)

Expiratory time is the duration of expiration (ie, the respiratory flow out of the lungs).

### FiO<sub>2</sub>

FiO<sub>2</sub> is the fraction of inspired oxygen in a gas mixture. The FiO<sub>2</sub> is expressed as a number from 0% to 100%. The FiO<sub>2</sub> of normal room air is 21%. A patient's FiO<sub>2</sub> may be varied through the use of different masks, in combination with varying oxygen flow rates. In addition, most mechanical ventilators have controls for adjusting FiO<sub>2</sub>.

### Inspiratory Time (Ti)

Inspiratory time is the duration of inspiration (ie, the respiratory flow into the lungs). On the Results screen, it is calculated by averaging the inspiration time for the last five breaths. As a setting in ST and T modes, it sets the duration of inspiration in timed breath.

### I:E Ratio

The ratio of inspiratory time to expiratory time.

### Leak Percentage

Leak percentage is calculated for Elisée 150 based on the total rate of air escaping from interface leaks.

### Maximal Expiratory Flow

The maximum expiratory flow exhaled to the patient during a breathing cycle.

### Maximal Inspiratory Flow

The maximum inspiratory flow delivered to the patient during a breathing cycle.

### Mean Airway Pressure

The average airway pressure from beginning of inspiration to end of expiration. It is the area under the pressure-time curve from one breathing cycle divided by the total breath time (ie, inspiratory time plus expiratory time).

### Minute Ventilation

Minute ventilation is the volume of air breathed in (or out) within any 60-second period.

### Peak Inspiratory Pressure

The highest pressure that occurs during inhalation.

### Positive End Expiratory Pressure (PEEP)

Pressure supplied by the ventilator and maintained during exhalation. It is the maintenance of a positive airway pressure at the end of an expiratory phase.

### Respiratory Rate

Respiratory rate is the frequency of breathing, expressed as the number of breaths per minute.

### Session

In ResScan, a session is defined as a 24 hour period, noon to noon.

### Tidal Volume

Tidal volume is the volume of air inspired or expired in one respiratory cycle (breath).

### Total Usage

Total hours used on a daily basis for a selected time range.

### Usage (Hours used)

Usage is the length of time that a patient receives therapy from the device.

The start and end times of the first ten individual periods of usage are available for each session when using ResScan and it is displayed in Statistics and Summary Graphs.

### Used Days

Used days is the total number of days during which daily usage exceeded the compliance threshold (X hours Y minutes).

### % Used Days

% used days calculates the percentage of used days out of the total number of days selected.

 **ResMed Paris**  
 240 rue de la Motte  
 77550 Moissy-Cramayel France.  
 (Elisée 150)

 **ResMed Ltd.**  
 1 Elizabeth Macarthur Drive  
 Bella Vista NSW 2153 Australia.  
 (ResScan)

#### Distributed by:

ResMed Corp 9001 Spectrum Center Boulevard San Diego CA 92123 USA.  ResMed (UK) Ltd 96 Milton Park Abingdon Oxfordshire OX14 4RY UK.  
 See [www.resmed.com](http://www.resmed.com) for other ResMed locations worldwide.

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