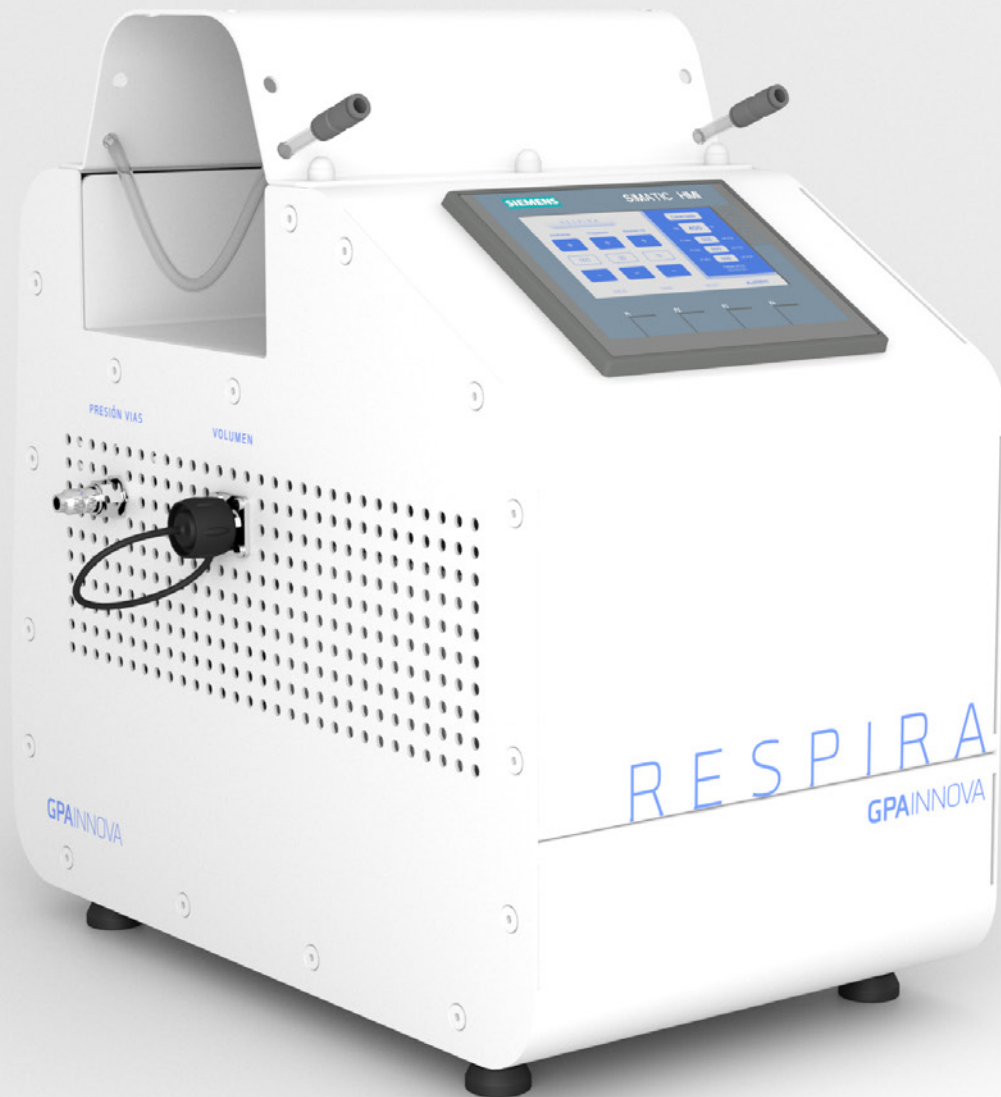


RESPIRA

Advanced



Invasive ventilation based
on automation and monitoring
of manual resuscitation bag

TECHNICAL FEATURES

Mechanical movement:

Vertical displacement with linear actuator with servo engine.

Adjustable stroke to different sizes of manual resuscitators, both disposable and reusable. Use both with atmospheric air, as well as with oxygen supply and reservoir.

Connectivity:

The device can be connected to existing WLAN in medical centers. The data are .xml HL7 format and can be delivered through Ethernet TCP/IP.

The device can be connected to own WI-FI with the Connectivity Module and Access Point.

Accessories:

Battery (SAI) with 45min autonomy

Auxiliary ventilator cart

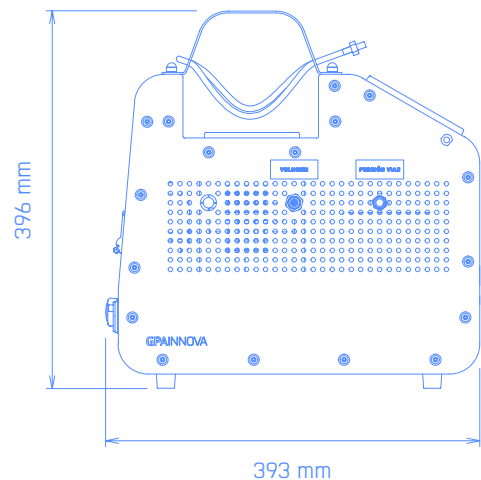
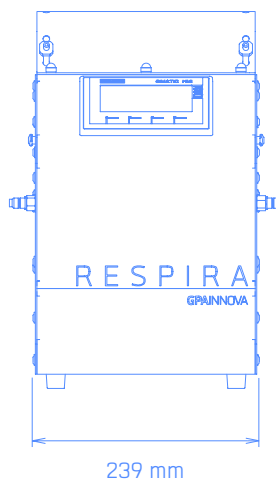
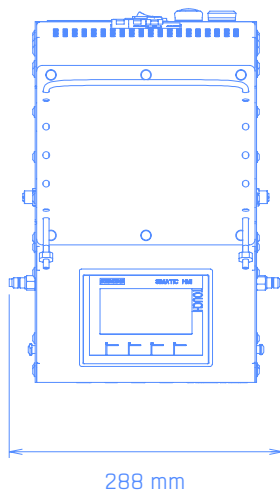
Connectivity Module

Access point (to monitoring up to 16 RESPIRA)

Accessories kit (without FiO_2 sensor)

Accessories complete kit (with FiO_2 sensor)

TECHNICAL DRAWING



TECHNICAL FEATURES

Ventilation parameters:

Tidal volume adjustment by compression of the AMBU, from 50 ml to 800 ml
Ventilation frequency 10 - 30 rpm
I:E Ratio adjustable from 1:1 to 1:3 with intervals of 0.5
Controllable pressure by PEEP valve
Trigger sensitivity (-1 cm, -2 cm, -3 cm H ₂ O) vs. PEEP

Parameters for ventilation monitoring:

Insufflation volume
Inspiration pressure (maximum and plateau)
Expiration pressure (minimum pressure)
Time counter
Real respiratory frequency

Visualization of graphs in real time:

Inspiration and expiration pressure
Insufflation flow
Insufflation volume
Data register

Security alarm system with visual and acoustic alerts:

Maximum Tidal Volume (0 to 800ml)
Minimum Tidal Volume (0 to 800ml)
Maximum inspiration pressure (0 to 60cmH ₂ O)
Minimum expiration pressure (0 to 60cmH ₂ O)
Upper and lower respiratory frequency
Apnea
Actuator error
Breathing circuit disconnection
Voltage drop

Electric connection:

AC 110 - 120V, 60Hz / AC 220 - 240V, 50Hz

Power:

500 VA

Device dimensions:

390 mm x 235 mm x 385 mm

Weight:

10 Kg

Sensors:

Internal pressure sensor
Reusable external flow sensor

TECHNICAL FEATURES

Control electronics:	SIEMENS PLC with a very simple and intuitive interface
Interface and user manual:	Available in English, Spanish, French, German, Russian and Portuguese
Display:	Interactive 4" touch color panel (HMI), with 4 physical buttons
	Connectable via Wi-Fi accessory (Connectivity Module) to external display (Access Point)
Patient type:	Adult > 20 Kg and Pediatric 5 to 20 Kg
Ventilation modes:	Control Volume
	Assist Volume
	Assist-Control Volume
Autoadjust:^{*(2)}	Self-adjustment setting set up tidal volume limits according to preset maximum inspiratory pressure. At the same time, it allows pressure adjustments based on tidal volume limits.

^{*(2)} This option is applicable to all ventilation modes

CONTROL VOLUME VENTILATION MODE

Ventilation mode with target tidal volume adjusting stroke of linear actuator. It is a non-assisted ventilation mode designed for sedated patient treatment. The physician sets up tidal volume, frequency and I:E Ratio.

This ventilation mode includes the possibility of autoadjustment of minimum and maximum tidal volume and PIP pressure.

VENTILATION PARAMETERS (Control Volume)

Insufflation:

Tidal volume adjustment by compression of the AMBU, from 50 ml to 800ml ^{*(1)}

Ventilation frequency:

Controlled: 10 - 30 rpm

I:E Ratio:

Adjustable from 1:1 to 1:3 with intervals of 0.5

Autoadjust: ^{*(2)}

Included

^{*(1)} Tidal volume applied based on ideal weight (6 to 8 ml/Kg) calculated for Men = $50 + 0.91(\text{height in cm} - 152.4)$. Based on this, RESPIRA supply a tidal volume of 800 ml, which is enough for subjects until 2,10 meter tall.

^{*(2)} This option is applicable to all ventilation modes

ASSIST VOLUME VENTILATION MODE

This ventilation mode is usable for weaning ventilation,. The patient trigger the frequency. The physician set up tidal volume, Trigger sensibility and apnea time.

This ventilation mode includes the possibility of autoadjustment of minimum and maximum tidal volume and PIP pressure.

VENTILATION PARAMETERS (Assist Volume)

Insufflation:

Tidal volume adjustment by compression of the AMBU, from 50 ml to 800ml ^{*(1)}

Minimum pressure:

Pressure limited by external PEEP valve

Maximum pressure:

Pressure support based on autoadjust mode

Trigger:

-1 cm H₂O vs. PEEP

-2 cm H₂O vs. PEEP

-3 cm H₂O vs. PEEP

Apnea:

Adjustable: Max. 30 seconds

Autoadjust:^{*(2)}

Included

^{*(1)} Tidal volume applied based on ideal weigh (6 to 8 ml/Kg) calculated for Men = $50 + 0.91(\text{height in cm} - 152.4)$. Based on this, RESPIRA supply a tidal volume of 800 ml, which is enough for subjects until 2,10 meter tall.

^{*(2)} This option is applicable to all ventilation modes

ASSIST-CONTROL VOLUME VENTILATION MODE

Weaning mode: the patient is the trigger of ventilation between frequencies.

This ventilation mode includes the possibility of autoadjustment of minimum and maximum tidal volume and PIP pressure.

VENTILATION PARAMETERS (Assist-Control Volume)

Insufflation:

Tidal volume adjustment by compression of the AMBU, from 50 ml to 800ml ^{*(1)}

Ventilation frequency:

Controlled: 10 - 30 rpm

Assisted: Up to 60 rpm

I:E Ratio:

Adjustable from 1:1 to 1:3 with intervals of 0.5

Minimum pressure:

Pressure limited by external PEEP valve

Maximum pressure:

Pressure support based on autoadjust mode

Trigger:

-1 cm H₂O vs. PEEP

-2 cm H₂O vs. PEEP

-3 cm H₂O vs. PEEP

Autoadjust: ^{*(2)}

Included

^{*(1)} Tidal volume applied based on ideal weigh (6 to 8 ml/Kg) calculated for Men = $50 + 0.91(\text{height in cm} - 152.4)$. Based on this, RESPIRA supply a tidal volume of 800 ml, which is enough for subjects until 2,10 meter tall.

^{*(2)} This option is applicable to all ventilation modes