

AUTOMATIC BREATHING UNIT

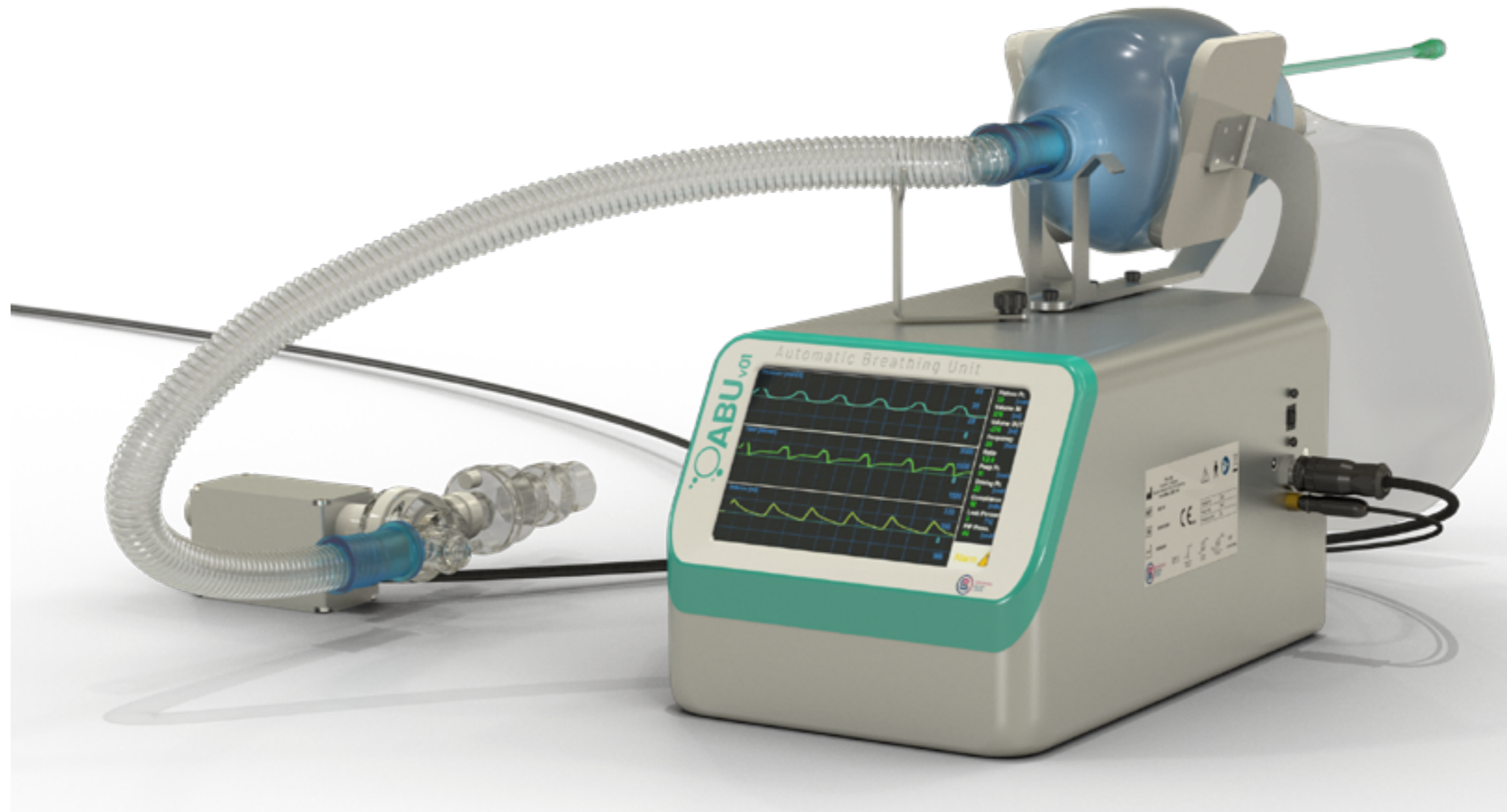
ABU v01



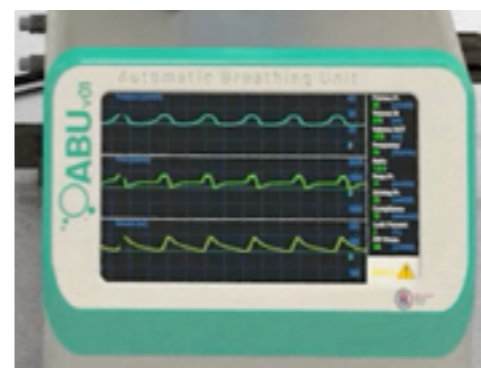
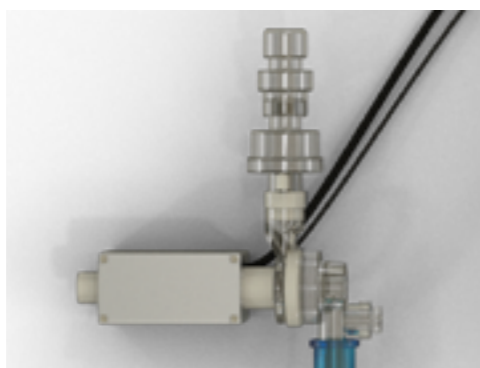
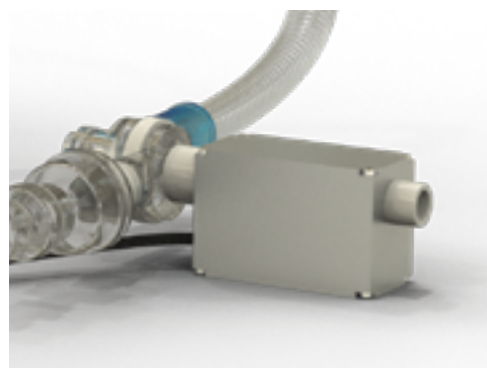
ABU Automatic Breathing Unit

is a CE-marked medical device that transforms the traditional AMBU device into a real Assist-Control Ventilator (ACV) and Pressure-Support Ventilator (PSV), for ICU, through the implementation of advanced flux and pressure sensors and a high-precision feedback system. ABU can be used for both invasive and non-invasive (NIV) ventilation. The device is able to automate the ventilation process by operating the traditional AMBU system. The ABU allows users to electronically monitor and control the following functions:

- PEEP pressure (i.e. minimum pressure at the end of exhalation)
- Maximum peak pressure
- Air flux
- Breath frequency
- Tidal volume
- Peak Inspiratory Pressure (PIP)
- Plateau Pressure
- Support Pressure (for assisted mode)
- Inspiratory and expiratory time ratio
- FiO₂ (21%, 45%, 99%). Other ranges can be obtained with oxygen blenders.
- Assisted ventilation
- Battery autonomy: 1,30 h.
- Touch screen 7" interface (touch gloves on)
- Connection to centralized alarm system
- Data transfer



HIGH PRECISION SENSORS BOX



THE ADVANTAGES During Covid-19 emergency, ABU functions as a highly flexible tool for the management of patients in different phases of treatment; those entering or leaving the ICU. This functionality increases hospital's temporary capacity.

ENTERING ICU: facilitates the critical first phase of ventilation to intubated patients waiting for a standard ventilator.

DISCHARGE FROM ICU: provides extubated patients with assisted breathing while they resume normal breathing (weaning post-ARDS).

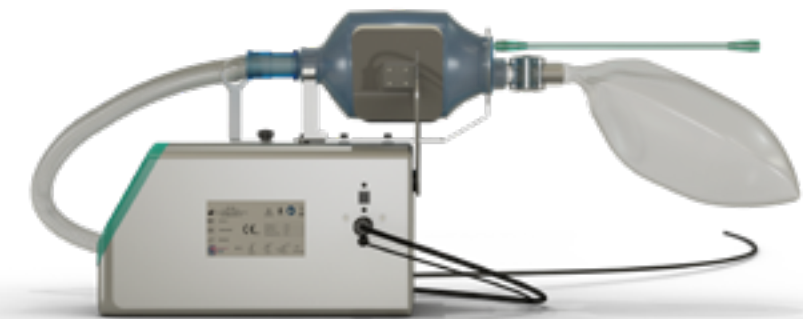
It is possible to use the device in trigger mode for weaning post ARDS, supporting the patient during recovery until normal breathing is achieved. The operational safety of the ABU is guaranteed by the high-precision sensor monitoring and the ability to alert the operator through a sound alarm system. In addition, a safety valve is activated if the system reaches the maximum pressure of 60 cm of H₂O.

CONFIGURABLE PARAMETERS		MIN VALUE	MAX VALUE
	BREATH FREQUENCY	8 resp. acts/min	35 resp. acts/min
	TIDAL VOLUME	50 ml	1.500 ml
	EXPIRATION/INSPIRATION TIME REPORT	1 : 1	1 : 4
	MAX CONTROLLABLE PRESSURE	0 cm H ₂ O	60 cm H ₂ O
PEEP PRESSURE	0 cm H ₂ O	20 cm H ₂ O	

1. Insertion of the AMBU balloon into the ABU system clamps
2. Connection of the ABU system to the patient
3. Possible connection to the enriched oxygen cylinder air tank
4. Setting of the operating parameters
5. Starting of the ABU device ventilation



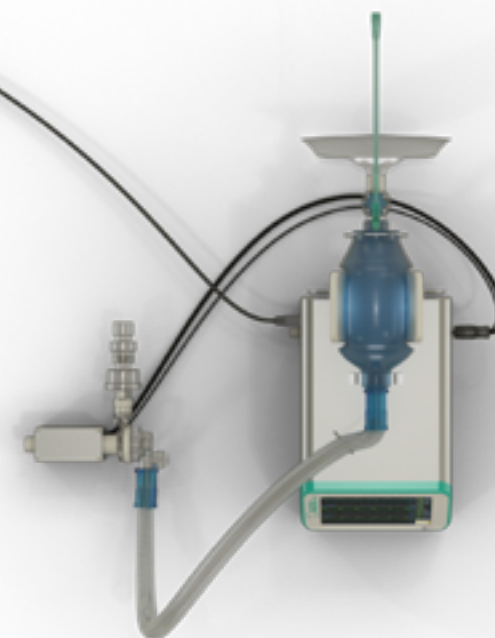
RIGHT SIDE



LEFT SIDE



TOP VIEW

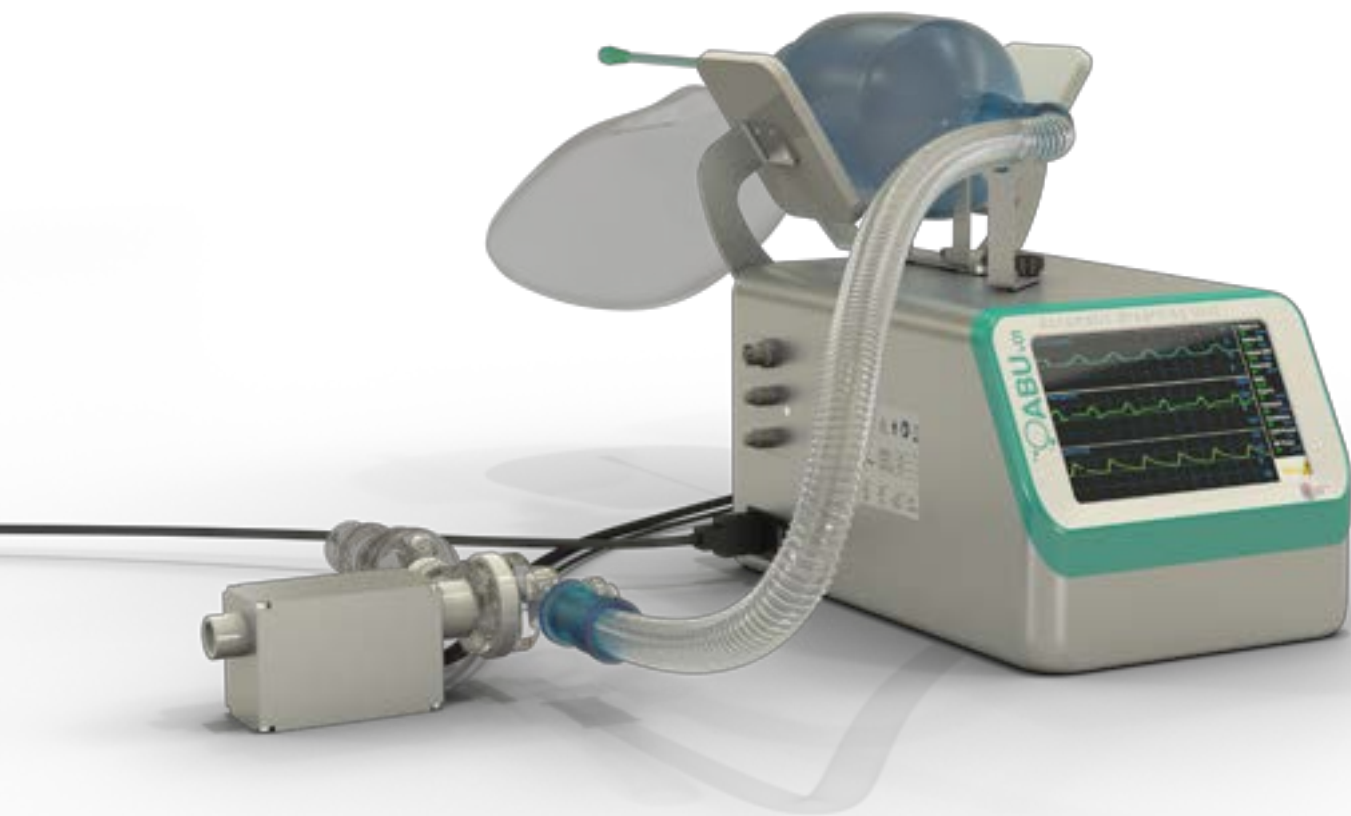


ABU can be supplied with respiratory gas blender/oxygen/air/n20.
Such O2 monitoring equipment shall conform with the following subclauses of
ISO 80601-2-55:2018:

- | | |
|------------------------|------------------|
| 1) 201.7.4.3; | 4) 201.12.1.102; |
| 2) 201.7.9.2.9.101 k); | 5) 201.12.1.103; |
| 3) 201.12.1.101; | 6) 208.6.1.2. |

RESPIRATORY GAS BLENDER / OXYGEN / AIR / N2O

Medical Air/Oxygen blenders combine compressed Medical Air and Oxygen to deliver blended pressurized gas at a precise oxygen concentration (FiO2) determined by the user. These blenders are suitable for respiratory applications including routine therapy, ventilator gas supply, high flow therapy and neonatal resuscitation. The blenders contain an alarm which warns if either gas source changes by more than 20 psi from the other.



ALL IMAGES IN THIS CATALOG ARE FOR ILLUSTRATIVE PURPOSES AND MAY BE SUBJECT TO VARIATIONS.

CE 0051



Diulescu Engineering

Dan Diulescu

Dipl.- Ing.

Deimlingstrasse 23
75175 Pforzheim
Germany

Tel.: +49 (7231) 927339
Mobil: +49 (171) 6948935
E-Mail: info@diulescu.com
Web: <http://www.diulescu.com>

Malsch
International S.R.L.

Str. Thomas Masaryk 9, ap. 3, Sectorul 2, 20983 Bucuresti, Romania
Tel. +40 (21) 2122004, Mobil +40 (745) 216650, Fax +40 (21) 2118159
E-Mail: info@malsch-int.com, Web: www.Malsch-int.com