

E.V.R.M

Engler Veterinary Respiratory Monitor



Rev. B 1/9/2020

INSTRUCTION MANUAL



Web: www.englerusa.com / Email: info@englerusa.com
www.dynaxusa.com / www.ez-stretcher.com
www.ez-breathe.com / www.25KSeries.com
for brochures, manuals and "how to"
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*Proudly made
in the U.S.A.*

Engler Engineering Corporation
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COMPANY PROFILE

Engler Engineering Corporation has been in business since 1964 and occupies an 8000 square foot facility in Hialeah, Florida (USA). Engler manufactures high speed and table top ultrasonic dental scalers, polishers and combination units. Other devices include electrosurgery equipment and ultrasonic instruments for the veterinary market as well as a microprocessor controlled anesthesia delivery system and a respiratory monitor for veterinary use.

Engler also manufactures dental equipment for the human market. Please visit our website www.englerusa.com for more detailed information or call us at the numbers shown below.

Engler Engineering Corp. acquired the exclusive manufacturing and marketing rights of Dynax products, including stretchers, gurneys, The Cat Grabber, comfort cots, warm water heater / circulator with pads, and other products. We also acquired the Alpha-Sonic, Ora-Sonic, and Pro-Sonic line of piezo scalers.

Engler manufactures all of the inserts and tips used in the Engler products as well as many others on the market today in the 18K and 25K frequency range.

Our repair department has the technical knowledge to repair and maintain a number of dental devices manufactured by other companies including Shorline.

Engler Engineering Corporation's foreign sales are handled through a large and growing network of dental and veterinary distributors. At the present time we are represented throughout the Middle East, Europe, Central and South America, Canada, Asia, New Zealand, Australia, and most other countries.

If you have any questions or comments, please contact:

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ENGLER ENGINEERING CORPORATION'S BRAND NAME VETERINARY PRODUCTS

- **ADS 2000**, microprocessor controlled anesthesia delivery system / ventilator,
- **Excelsior**, high speed dental air unit with vacuum / electrosurgery / ultrasonic scaler / high speed drill / low speed polisher / air - water syringe, and on demand compressor,
- **Scale - Aire**, high speed dental air unit with ultrasonic scaler / high speed drill / low speed polisher / air - water syringe and on demand compressor,
- **Scale - Aire Mini**, high speed dental air unit with ultrasonic scaler / high speed drill / low speed polisher / air - water syringe,
- **Drill - Aire Plus**, high speed dental air unit, high speed drill / low speed polisher / air - water syringe,
- **Drill - Aire**, high speed dental air unit, high speed drill / air - water syringe,
- **Son - Mate II**, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher,
- **Piezo - Mate**, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher
- **Tri - Mate**, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher / electrosurge,
- **Vet II**, 25K ultrasonic scaler / 35,000 RPM handpiece / low speed polisher,
- **Sonus II**, ultrasonic dental scaler,
- **Engler Piezo Ultrasonic Scaler**,
- **Electro - Son**, touch screen, mono / bi-polar electrosurgical unit,
- **Poli - X**, 35,000 RPM handpiece / low speed polisher,
- **Sentinel V.R.M.**, respiratory monitor,
- **Engler Veterinary Respiratory Monitor (EVRM)**
- More coming soon!

Engler Engineering Corporation (EEC) makes every effort to verify that all parts for this device including any optional accessories ordered with it are included in this shipment. It is imperative that you inspect the package and if you find any parts damaged or missing, you must notify us immediately. Claims for damaged or missing parts will only be accepted within five days of receipt.

EEC makes every effort to verify that our devices are built and tested to approved standards. Any modification to the device, hoses or power supply initiated by others nullifies all warranty statements. Engler Engineering Corporation will not be held liable in any way, for any damage, injury or death due to non-authorized service, improper installation, or improper use of this device. EEC's liability will not exceed the purchase price of this machine.

The information contained herein is intended only as a guide.

Individuals not properly trained should not use this equipment. It is intended for professional use only

INTRODUCTION

Thank you for choosing ***E.V.R.M.*** (Engler **V**eterinary **R**espiratory **M**onitor)

The ***E.V.R.M.*** is a microprocessor controlled respiration rate monitor designed specifically for veterinary applications.

WARNING: This unit is not intended for use with human patients.

The ***E.V.R.M.*** is a portable respiratory monitor with battery backup. This easy to use device utilizes a reliable solid-state pressure sensor to detect respiratory activity. The unit measures and displays the number of breaths per minute a patient takes and sounds an alarm if the time interval between breaths exceeds a preset parameter. Using the front buttons, the BPM, pressure sensitivity as well as the alarm volume can be easily adjusted.

The ***E.V.R.M.*** utilizes a unique precision pressure sensor that eliminates the problems associated with conventional thermistor type sensors. Thermistor sensors will lose sensitivity due to moisture in the animal's breath, thus reducing heat transfer to the sensor making the thermistor unusable in long procedures. The ***E.V.R.M.***'s unique pressure sensing technology overcomes this problem.

GETTING TO KNOW YOUR E.V.R.M.



Note: Images are for reference only. The design styles and colors may change without notice.

OPERATING INSTRUCTIONS

1. Attach the **E.V.R.M.** Gas Sampling Elbow to the endotracheal tube.
2. Connect the sampling hose to the sampling elbow and to the EVRM sampling input.
3. Plug in the power adapter and install a fresh 9 volt battery.
4. To turn the unit ON, move the power switch to the ON position. (the up position). Make sure the 9V dc power supply is plugged in.
5. A 9V battery can be installed as a backup.
6. A “ - ” will be displayed after power on. A “ - ” indicates that auto sensitivity has been activated and after 3 breaths the instantaneous respiratory rate is displayed. Respiratory rate is automatically adjusted on every breath.
7. The sensitivity is adjusts automatically after 3 breaths and the respiratory rate will be displayed automatically. The sensitivity will continue to adjust automatically as the peak respiratory pressure changes.
8. The device will emit a “beep” with each breath.
9. No further adjustment is needed to work in default mode. If further changes are needed, see menu below.
10. The select button toggles the menu in the following sequence:
 - A - Alarm
 - p - Pressure sensitivity and
 - b - Buzzer alarm volume, then back to respiratory rate (both digits display respiratory rate).
11. Pressing the menu up or down will modify the menu.
12. The first letter will indicate which menu you are in;

A = Alarm: Pressing up or down will change the number of breaths that the patient can miss before the alarm triggers. Example, default 3 will wait for the patient to miss 3 breaths and then trigger the alarm. Pressing the center select button once will silence the alarm.

p = Pressure sensitivity: 1 is less sensitive.

b = Buzzer volume and tone: 9 is the loudest and highest frequency.

Any time the patient takes a breath, the alarm is silenced.

Pressing the center select button once will silence the alarm.

Note: The EVRM should be connected to the power supply at all times, however, the unit can run on a 9V battery for up to 50 hours.

TECHNICAL DATA

Power supply requirements:

Power Adapter (supplied)

- Input: 100-240 VAC - 50 / 60hz - 0.2A
- Alternate: 9 VDC 500mA minimum current.

Battery: (not supplied)

- 9V battery.
- Rechargeable batteries may be used, however, this device does not charge the batteries.
- The unit may work up to 50 hours on a standard alkaline battery.

The battery can act as the main power source or as back up.

DIMENSIONS

Length: 5 1/4" (13.3 cm.)

Width: 3 1/16" (7.8 cm.)

Height: 2 9/64" (2.89 cm.)

Weight: 0.37 lbs.(0.17 kg.)

SHIPPING DIMENSIONS

11 5/16 X 8 3/4 X 4 3/8

SHIPPING WEIGHT

2 lbs

WARRANTY

Engler Engineering warrants the **E.V.R.M.** to be free from material and manufacturing defects for a period of one (1) year from the date of purchase.

MAINTENANCE

1. Gas Sampling Elbow and hose can be disconnected to be cleaned / sterilized.
2. Clean the outside of the case with a damp (water) cloth, alcohol pad or cloth lightly saturated with alcohol.
3. As the **E.V.R.M.** is not watertight, do not *immerse* in any liquid or wipe with excessive water or alcohol.

NOTE: DO NOT use any liquid except alcohol near the sensor (top of the unit).

TROUBLESHOOTING

1. No display
 - Unit not switched on
 - Power supply not plugged in / no power at the outlet
 - Battery discharged
2. No beep when patient takes a breath
 - Sensor hose not attached correctly
 - Sensor hose leaking
 - Sensitivity not adjusted correctly



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