



Bou-Matic® Pulse-O-Rater™

24-hour/7-days per Week Peace of Mind

Installed permanently on an existing pulsator, the Bou-Matic Pulse-O-Rater contains a microprocessor that analyzes pulsator performance pneumatically – continuously, 24 hours per day. It even monitors your pulsation control board performance around-the-clock. So, the most compelling reason to install a Pulse-O-Rater for monitoring the performance of your pulsator equipment is "24/7" peace of mind.

See the Light!

The patented technology of the Pulse-O-Rater makes monitoring your parlor as simple as RED or



GREEN. If the light is flashing RED, it's a signal for you to check your pulsator because the Pulse-O-Rater has detected a change. If the GREEN light is on, you can relax and take comfort that your pulsator is doing its job efficiently.

Affordable

No parlor should be without the protection offered by the Pulse-O-Rater. Many dairy producers can complete their parlor with Pulse-O-Raters for less than the price of one or two replacement cows. However, Pulse-O-Raters function independently, so one Pulse-O-Rater – or 100 Pulse-O-Raters – can be purchased as cash flow allows.

Efficient Features

- Simple 1-wire, 2-hose connection for fast, easy installation
- Pneumatic sensing for analysis of the pulsation problems
- Remote lamp-indicator accessory available to be installed for "eye level" warning for more immediate attention to any pulsator malfunction. The sooner you know, the sooner your pulsation system is repaired.
- Diagnostic capabilities – Along with indicating a malfunction, the Pulse-O-Rater also helps determine and identify the source of the malfunction by the number of times the RED light flashes.
- Durable construction – The Pulse-O-Rater is built to withstand harsh, humid dairy parlor environments

Ounce of Prevention

Any potential pulsator or pulsation control board malfunction can be costly. Why wait for your next scheduled system analysis? Let the Pulse-O-Rater alert you before a serious problem develops. And, you can add Pulse-O-Raters one at a time, or add as needed so all pulsators in your barn are protected.

Frequently Asked Questions What is a Pulse-O-Rater?

A Pulse-O-Rater is an electronic control with two vacuum sensors and a built-in microprocessor. It analyzes and compares the performance of the pulsation system today, with the pulsation performance noted at the time of calibration. A Pulse-O-Rater mounts permanently to the pulsation system and monitors the pulsation



continuously, 24 hours per day, 7 days per week.

How do you calibrate the Pulse-O-Rater?

After your service person confirms that each of your pulsators is working at peak performance and is set at the proper dynamic milking settings, simply push the "Calibrate" button. The Pulse-O-Rater takes a "snapshot" of the pulsator's performance. Settings such as ratio, pulses per minute, milliseconds in each phase, and vacuum level will be monitored.

How does the Pulse-O-Rater alert me if it detects a change in performance?

Simply watch the light, if it is GREEN, the pulsation is operating the same as the day you calibrated the Pulse-O-Rater. But, if it is flashing RED, the Pulse-O-Rater has detected a change. The flashing RED light is the signal to check your pulsation system immediately. Monitoring is as simple as RED or GREEN.

What does the Pulse-O-Rater monitor?

The Pulse-O-Rater evaluates all factors associated with pulsation performance and even indicates which factor is out of parameter by the number of times the RED light flashes.

- 1 flash = a change in pulses per minute
- 2 flashes = a change in pulsation ratio
- 3 flashes = a change in A phase duration
- 4 flashes = a change in B phase duration
- 5 flashes = a change in C phase duration
- 6 flashes = a change in D phase duration
- 7 flashes = a change in B phase vacuum level
- 8 flashes = a change in D phase vacuum level
- Solid red, no flashes = no detectable pulsation cycle

Why is pulsation important?

- Common problems such as leaks in the air tubes, pinched pulsator hoses or dirty pulsators cause poor pulsation. The Pulse-O-Rater is designed to detect many of these types of common pulsation problems.
- Proper pulsation is crucial to the performance of your milking equipment and for efficient milk-out.
- Proper pulsation limits the amount of congestion in the end of the teat. Congestion is caused by the accumulation of blood caused by milking vacuum at the teat end. Without a properly pulsating liner, the blood can become trapped in the teat end. Vacuum and the pulsating liner must work together to achieve gentle, complete and quick milk-out.
- Pulsation failure will slow down milking and increase the incidence of teat end problems.

Do I need to reset the Pulse-O-Rater to GREEN after I fix the problem?

No, the Pulse-O-Rater will automatically go back to the GREEN light eight seconds after the problem is fixed.

If I purchase Pulse-O-Raters for my parlor, does that mean I no longer need to have my pulsators checked?

NO! It is vital your service person continue their routine service regimen. The Pulse-O-Raters are intended as an aid for the timeframe between service visits.

Does the Pulse-O-Rater only check the pulsator electrically?

No, the Pulse-O-Rater is connected to the twin-air tubing that leads from the pulsator to the milking unit and it monitors the pulsation pneumatically using vacuum sensors. This allows the Pulse-O-Raters to monitor the pulsation control board's performance as well. Because Pulse-O-Raters are installed independently, check the

pulsation control board or vacuum level if all are flashing an alert.

What is the purpose of the Tolerance buttons?

Their purpose is twofold. First, not every parlor is created equal. A new pulsation system operates with less variation than older pulsation system. Coils, pistons, pulsator control boards, aging wires, and other components are subject to wear over time.

The Pulse-O-Rater offers the ability to customize the tolerance level acceptable to the parlor manager. A tolerance Level 1 setting is extremely tight and intended for new pulsation systems with attentive parlor managers. In contrast, tolerance Level 4 still meets the minimum industry pulsation standards, but is the most forgiving setting for older parlors with aging pulsation. Most parlors use setting Level 2 or Level 3.

The second purpose for the tolerance settings is to aid in troubleshooting the severity of a pulsator problem. For example: It's 6:00 p.m. and the manager is making last rounds through the parlor for the day – the manager notices a flashing RED light on a Pulse-O-Rater. Immediately, the tolerance level can be changed to a setting Level 4 to see if the problem is corrected. If the Pulse-O-Rater light flashes back to GREEN, the problem is minor and can wait until morning for repair. However, if it continues to flash RED, the problem is more severe and should be repaired immediately.

My pulsators are not visible to the milkers. How will they notice the Pulse-O-Rater's GREEN or RED light?

This is not a problem. An optional, remote, light-assembly accessory is available that will allow the light to be installed within easy sight of the milkers.

I have had problems in the past with electronics failing after a short time due to harsh conditions in my parlor. Will I have the same problem with the Pulse-O-Rater?

The Pulse-O-Rater utilizes a water-resistant box to protect the internal electronics. In addition, each internal electronic board is protected by a substantial coating. In essence, the box and coating "waterproof" all the electrical components.

If my pulsation control has the maximum number of pulsators installed...does this mean I cannot use Pulse-O-Raters in my parlor?

No, you can independently power the Pulse-O-Raters. Your Dealer can install an independent power supply and wire it directly to your Pulse-O-Raters. And Pulse-O-Raters can be used with a variety of brands of parlor equipment.

Pulse-O-Rater is patented under U.S. Patent No. 6,553,934



Working for you

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