

The benefits of installing Fenner Dunlop Americas EyeQ can be enormous. Continuous belt monitoring, for example, gives operators much tighter control over finances by enabling them to recognize potential trouble spots and take affirmative action before costly, and in some cases, unnecessary damage occurs.

EyeQ rip detection panels can be fitted in the belt at the manufacturing stage, providing far more cost effective and versatile monitoring than other retro-fitted, aerial based loop systems. Unlike EyeQ, they offer only rip detection and are prone to failure through impact and flex damage and do not provide continuous belt condition monitoring.

EyeQ doesn't demand high levels of expertise to understand. It is easily interpreted by operatives working in conjunction with their other duties.

Rip detection is an area offering great scope for cost saving. When a conveyor rips, damage can quickly travel a long way. Replacement belt costs, together with downtime for fitting, the resultant spillage and losses in production, can be substantial. In fact, the cost of installing an EyeQ system is often far outweighed by lost production alone.

EyeQ is eminently flexible

The EyeQ system provides a high level of information on rip detection and continuous belt status on a video display unit and optionally on a paper chart, ideal for large conveyor systems where careful monitoring is essential.

Investing in an efficient belt conveying system demands a large capital outlay. The best possible way to protect this investment is to install the Fenner Dunlop belt monitoring system, EyeQ. Although the EyeQ won't actually stop faults occurring, it will ensure the least possible damage to your business. And that's a fact.



Fenner Dunlop

Fenner Dunlop Belting Group is a division of Fenner PLC. A worldwide organization, predominantly involved in the industrial manufacturing of polymer products.

Backed by the international resources of our parent company, our long experience and ability to harness Elastomer and Polymer technologies has earned us a healthy reputation for technological innovation and placed us at the forefront of conveyor belt technology. Enabling us to produce a full range of conveyor belting products that has won recognition among major companies in the most demanding applications worldwide for meeting our customers' criteria of durability and long life.

Fenner Dunlop Americas EyeQ is subject to worldwide Patent applications.

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EyeQ, the intelligent belt monitoring system

Steel cord conveyor belts form a key part of many mining, manufacturing and processing businesses worldwide. Their installation represents significant investment, and their maintenance or failure means expensive downtime. Frequent monitoring of long belts is often impractical where certain forms of damage can be very hard to detect by visual inspection alone.

EyeQ, from Fenner Dunlop Americas, is the most advanced combined rip detection and continuous belt monitoring system in the world. Called EyeQ because it utilizes a sophisticated computer system, it gives users instant access to information about the conveyor belt condition **and** works in concert with the conveyor's control system to sound an alarm or stop the belt should any significant damage occur.

It can, for instance, immediately stop the belt upon detection of a longitudinal rip. This is made possible by the **rip detection panels** integrated in the belt, which also act as a physical barrier containing any damage between panels.

In addition to its highly efficient **rip detection** capability, the EyeQ system can provide users with a constant flow of information on any cord damage that occurs and can pinpoint its exact location, allowing belt assessment to determine if any remedial work is necessary.

EyeQ can also determine the extent of any damage that occurs, assign it different categories of damage level and monitor its development. This means that users have the option of allowing minor damage to pass until it registers at a more serious level, or take immediate pre-emptive action to inspect and eliminate any further damage before it turns into a major downtime situation.

Encoder: Placed on a non-driven pulley, the Encoder determines belt position and speed

Magnetizer: Creates a magnetic field in both the rip detection panels and the belt steel cords

Rip Detection Panel: Incorporated within the belt body, its high elongation steel cords provide a mechanical rip stop, as well as activating the conveyor stop sequence in the event of a longitudinal rip.

Typical Belt Damage: When not located at an early stage can deteriorate into serious damage, with significant effect on belt life.

Damaged Cords: The cut-away shows the early stages of cord corrosion, from water intrusion following damage to the belt.

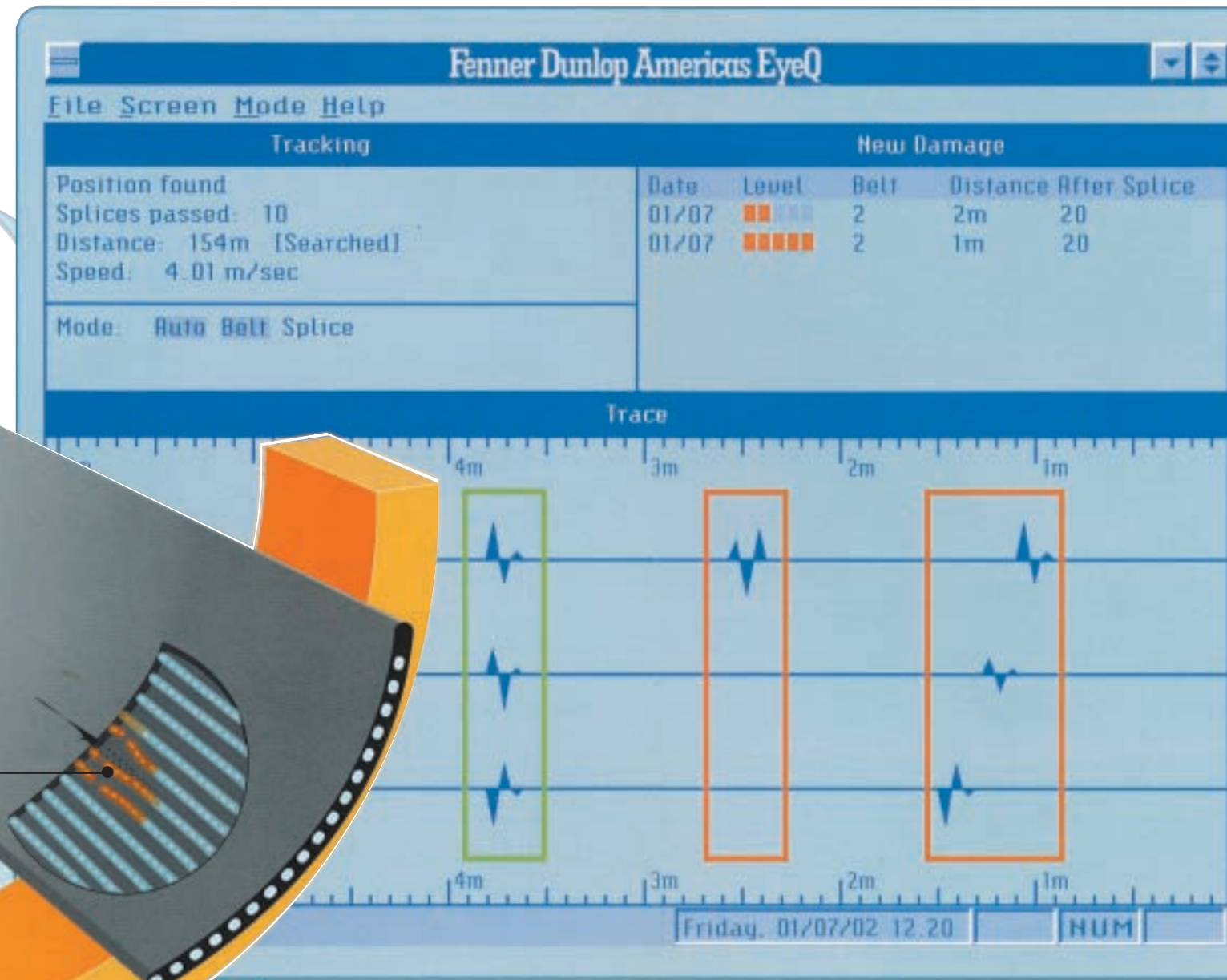
Sensor: Gathering a range of essential information on belt condition, position and ongoing damage status.

Continuous belt protection

EyeQ's unique belt monitoring capabilities utilize a sophisticated computer system, working in real time to provide continuous analysis of the conveyor belt's condition.

On installation, EyeQ runs a 'signature profile' of the complete belt length, used as the benchmark against which every future belt cycle is measured. Any changes to the 'signature profile' are then highlighted on the system's video display unit as new damage and assigned a rating of 1-5, depending on severity.

Using the pre-set damage level facility, the belt can be automatically stopped should damage exceed pre-determined limits.



Control system

The EyeQ belt monitoring system is controlled by a sophisticated **computer analysis system** providing fast, accurate information on the belt's condition from three main components placed at strategic locations.

The **Magnetizer** lightly magnetizes the belt and information from the longitudinal cords and rip detection panels is gathered by the **Sensor**. The **Sensor** analyzes every new incident and automatically assigns it a rating of 1-5 corresponding to its severity, together with a date and position reference, established by **Encoder**. And, if required, provides a printed copy of any section of the trace.

Fixed System Monitor Screen

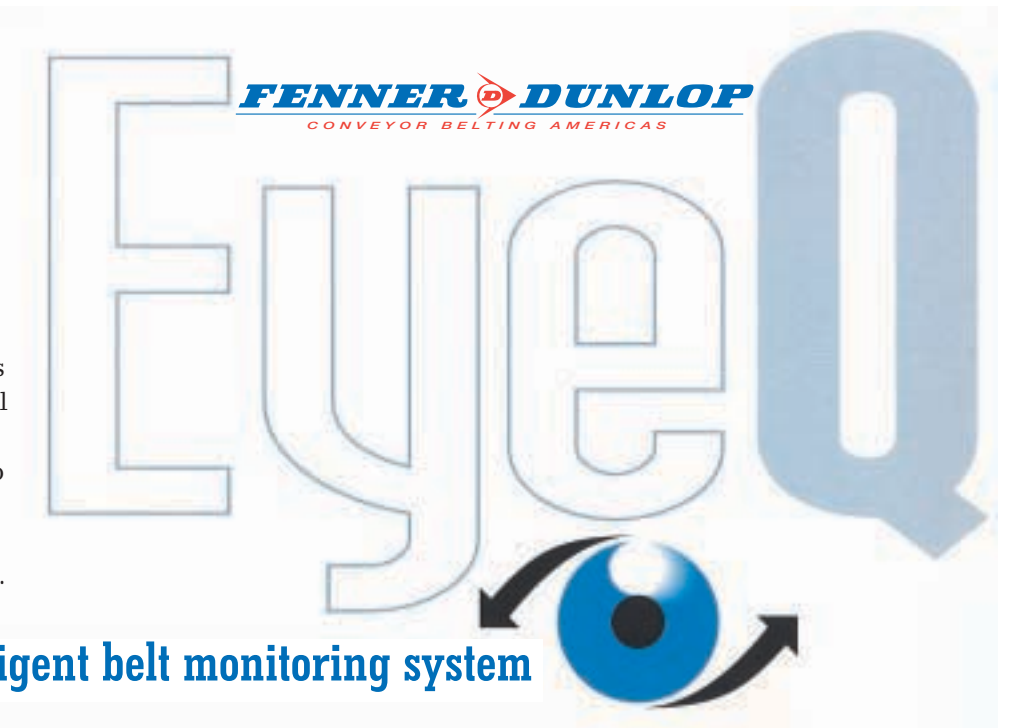
For ease of operation, the computer's monitor screen has three easily read sections. The bottom half of the screen is the largest section. It provides a **Visual Trace** of the belt's movement, in real time, and highlights any damage that has occurred.

The top half of the screen is devoted to **Tracking** and **New Damage**. The **Tracking** window shows the speed of the belt, in metres per second, and the distance any given point has traveled past the **Sensor**.

The **New Damage** window highlights any new damage that has occurred following the belt's signature profile. This window also provides information on the date damage occurred, its position, its severity and ongoing development on a five level scale.

EyeQ Rip Detection Panels

The insertion of rip detection panels, either on site or during manufacture at very little on-cost, provides extremely effective **rip detection**. The panels, which consist of closely pitched steel cords, run across the belt at an angle of 45 degrees and - besides acting as a physical barrier to contain damage between panels - are designed to effect a reaction at the slightest indication of a rip, triggering an alarm or conveyor stop sequence.



the intelligent belt monitoring system

