

## Maintaining Proper Counterbalance on X-Ray Equipment

### Enidine Energy Absorption Application

By: Sean France

#### Product Overview

A world-renowned manufacturer of x-ray equipment (SIC 3844 and 3861) needed a better counterbalance for its spinal x-ray processor. The machine stands vertically against a wall and adjusts to patient height. A portion of the device that holds x-ray film was moved manually, with assistance from a counterbalance system.

The problem lay with the counterbalance system, currently maintained by a cable, which was prone to breakage. In the event of the cable breaking, x-ray film would fall to the floor, destroying it. As a result x-rays would need to be repeated, an occasion both costly and inconvenient for the patient.

With current conditions, the manufacturer could not effectively sell the machine's capabilities, as the overall cost created by film waste was significant. Having learned of ITT Enidine Inc. through a distributor, the customer approached us for an immediate product solution.



ITT Enidine Inc. Adjustable, Double Acting (ADA Series) Rate Controls, like the ADA-765, are designed to let end users adjust the rate, in tension or compression modes, to suit specific requirements.

#### Product Solution

An optimal product solution needed to provide consistent operation over a 26-inch stroke, to provide proper counterbalance for reliable machine operation. With this in mind, ITT Enidine Inc. recommended the use of our ADA 765 rate control, attached to the film holder portion of the device. The customer tested a standard ADA model, but found an additional requirement – that the product should not impose resistance in normal operation. After a few modifications to the shock tube and internal hydraulic fluid, the ADA was installed into the machine.

#### Application Opportunity

This safety solution eliminated the possibility of film damage caused by machine counterbalance malfunction. The ITT Enidine Inc. rate control allowed the customer to bring this equipment to market with the confidence that they would help make a patient's x-ray experience a comfortable one. As a result of this success, the ADA 765 was specified into the customer's machine.

The customer was very satisfied with the ITT Enidine Inc. solution and fast response times. As a result, other shock and vibration challenges are being solved for the customer with ITT Enidine Inc. products. Further opportunities for this technology exist in counterbalanced systems or medical devices that are moving costly or delicate items, in order to prevent damage to materials or equipment.