



Product

PM Series Permanent Magnet Brake

Application

Mobile X-Ray Cart

Highlights

- Modified PM permanent magnet brake
- Shear force: .5 lbs. and up
- Brake is scalable to deliver higher holding shear force
- Quiet operation for medical applications
- No friction wear

A global medical imaging systems manufacturer needed a reliable electric holding brake solution for use on its newest mobile X-ray cart. The machine has many vertical, horizontal and pivot movements including a collapsible tower, travel tube and scanning head that a technician adjusts around the patient during set up. Once the ideal positions for each section are established, the brakes are used to hold the cart and each component in place to ensure crisp, accurate imaging.

The customer had explored the use of mechanical holding solutions that were not very user-friendly. Ultimately, they contacted Inertia Dynamics (IDI) and shared specific measurements that had been taken to identify how much force was needed to hold the device at each of the movement locations. IDI engineers recommended the use of modified PM Series permanent magnet brakes with different braking forces to meet the machine's various holding requirements.

The easy-to-use permanent magnet brake is released on-demand by the operator/medical tech when positioning the X-ray scanner. Once in position, the operator simply releases the switch to re-engage the brake and hold the device stationary.

IDI was able to quickly supply brakes for customer testing and then meet the customer's tight delivery schedule requirements for this very time-sensitive project. IDI's permanent magnet brake technology is ideal for use in medical equipment applications due to the minimal backlash, high torque-to-size ratio, ease of installation and use, and generally low cost in production volumes.

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