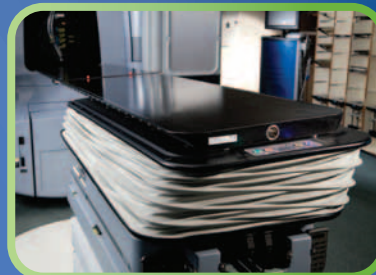
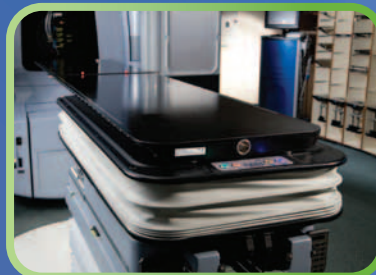
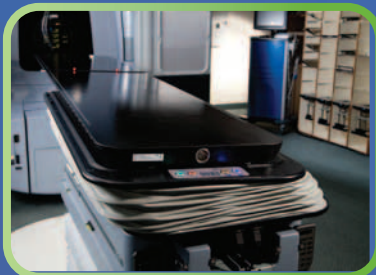




*Protura*TM

Robotic Patient Positioning



Fully enabling IGRT by providing sub-millimeter corrections with 6 degrees of freedom



CIVCO
MEDICAL SOLUTIONS

CIVCO's Protura™ Robotic Patient Positioning System is the ultimate in robotic patient motion management. Designed to integrate with your existing IGRT solutions and Linac to provide an affordable all-in-one motion management solution. Positioning the patient with 6 degree of freedom corrections from outside the treatment room, Protura is the ideal solution for streamlining throughput and enabling more accurate treatments.



Flexible

Protura was designed with the customer in mind. By integrating with your existing Linac and IGRT system, Protura offers what no other robotic positioning system does: **choice**.

- Adapts to your existing Linac pedestal
- Easily interfaces with IGRT systems
- Supports multiple coordinate systems if needed
- Compatible with CIVCO's Body Pro-Lok™ for SBRT and all two-pin compatible immobilization devices

Accurate

Knowing the demands of the clinic and importance of patient safety, precision and accuracy were fundamental to the design of Protura. A built-in redundant sensor system is used for auto-calibration and assures the robot precisely aligns the patient without needing an external camera system.

- Dynamic pivot point assures all rotations about isocenter
- Sub-millimeter precision from advanced robotic technology
- Internal auto-calibration

Efficient

Maximizing patient throughput is achieved by eliminating the need to re-enter the treatment room to align the patient. With its fast initialization, Protura is optimized to handle the rigors of a busy clinic while improving efficiency.

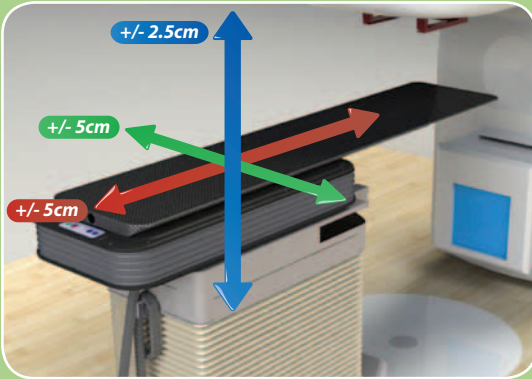
- Remote positioning
- Stores historical data for easy setup
- In-room touch screen
- No camera system required
- No downtime, no forklift
- Powered via a standard outlet, no battery to charge



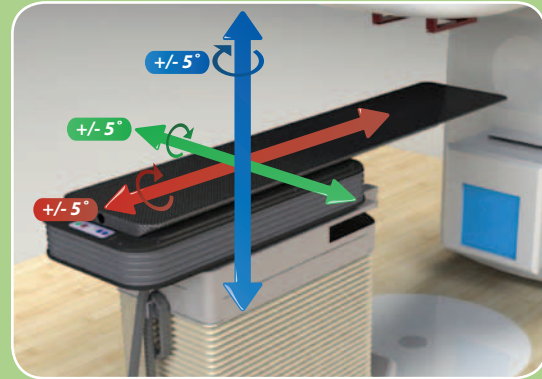
System Specifications

- **System height** - 15 cm (5.9 in)
- **System weight** - 84 kg (185 lbs)
- **Resolution** - 0.1 mm; 0.1°
- **Speed** - Slow, Medium, Fast (up to 16 mm/second)
- **Maximum patient load** - 200 kg (440 lbs)*

Translation Ranges



Rotation Ranges

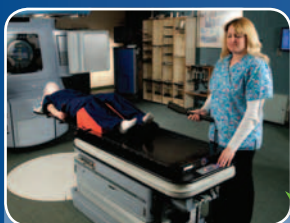


Key Features

- **Dynamic Isocenter** - performs all rotations about isocenter, unique for each patient
- **Full 6D True Robotic System** - correcting for all translations and rotations in a single motion
- **Internal Auto-Calibration** - built-in redundancy sensors, system automatically calibrates without need of external camera system
- **Streamline Workflow** - remotely move couch from outside room, or utilize the in room touch screen controls and daily patient info is remembered for fast setup
- **Universal Couchtop™** - Protura comes standard with a Universal Couchtop featuring DoseMatch™ Technology assuring consistency between planning and treatment and providing compatibility with CIVCO's extensive line of patient positioning products



Protura Workflow



Load patient onto Protura, setup for treatment and align patient to isocenter



Image patient and perform preferred IGRT method



Remotely position patient with 6 degrees of freedom



Perform treatment



Zero the Protura, lower pedestal and unload the patient

*Note: 375lbs (170kg) on Varian Exact Pedestal

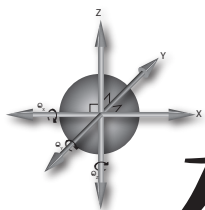
“The Protura table allows correction in pitch, roll, and yaw adding a new level of precision in treatment set up for high-precision SBRT and SRS. At least 50% of our patients will have a correction in one of these dimensions, and in our program having a full six degrees of alignment correction is essential for delivering these treatments safely and accurately.” – Tim Williams, MD, Medical Director, Lynn Cancer Institute, Boca Raton Regional Hospital

“Protura offers patients increased accuracy of positioning without adding extra time on the treatment table.” – Heather Bowen, MBA, (R)(T) (CT), Radiation Oncology Supervisor, CWCP

“I see two ways robotic corrections increase efficiency within our department. Without Protura, we have to reenter the treatment room to make corrections, which takes time. While we’re in the room, the patients interact with us, even when we tell them not to move, which results in additional movement and additional time fixing the problem. By making corrections remotely we eliminate both problems.” – John Bayouth, Ph.D., Director of Medical Physics, University of Iowa

“We expect the number of patients needing a new mask, and thus a completely new IMRT plan, when rotations are found will drop since this can now be corrected for with the Protura. When rotations are within the limits of the 6D couch, you can treat a brain tumor without any compromise.” – Kasper Pasma, Ph.D., Medical Physicist, Institute for Radiation Oncology Arnhem, Netherlands (ARTI)

“Comprehensive correction of high precision alignment for kV-CBCT imaging guided lung cancer SBRT requires adjustments in all six dimensions, including unconventional Pitch and Roll rotations.” – Shang, CY, TY Williams, and M Kasper. “Clinical Efficacy of Using KV-CBCT Imaging Guided 6D Robotic Couch in Lung SBRT.” Medical Physics. 38.6 (2011): 3473. Print.



*Protura*TM

Fully enabling IGRT by providing sub-millimeter corrections with 6 degrees of freedom

800.842.8688 | +1 712.737.8688 | WWW.CIVCO.COM

COPYRIGHT © 2010, CIVCO IS A REGISTERED TRADEMARK OF CIVCO MEDICAL SOLUTIONS. PROTURA, UNIVERSAL COUCH/TOR DOSEMATCH AND BODY PRO-LOK ARE TRADEMARKS OF CIVCO. ALL PRODUCTS MAY NOT BE LICENSED IN ACCORDANCE WITH CANADIAN LAW. 2010P0570 Rev. A

