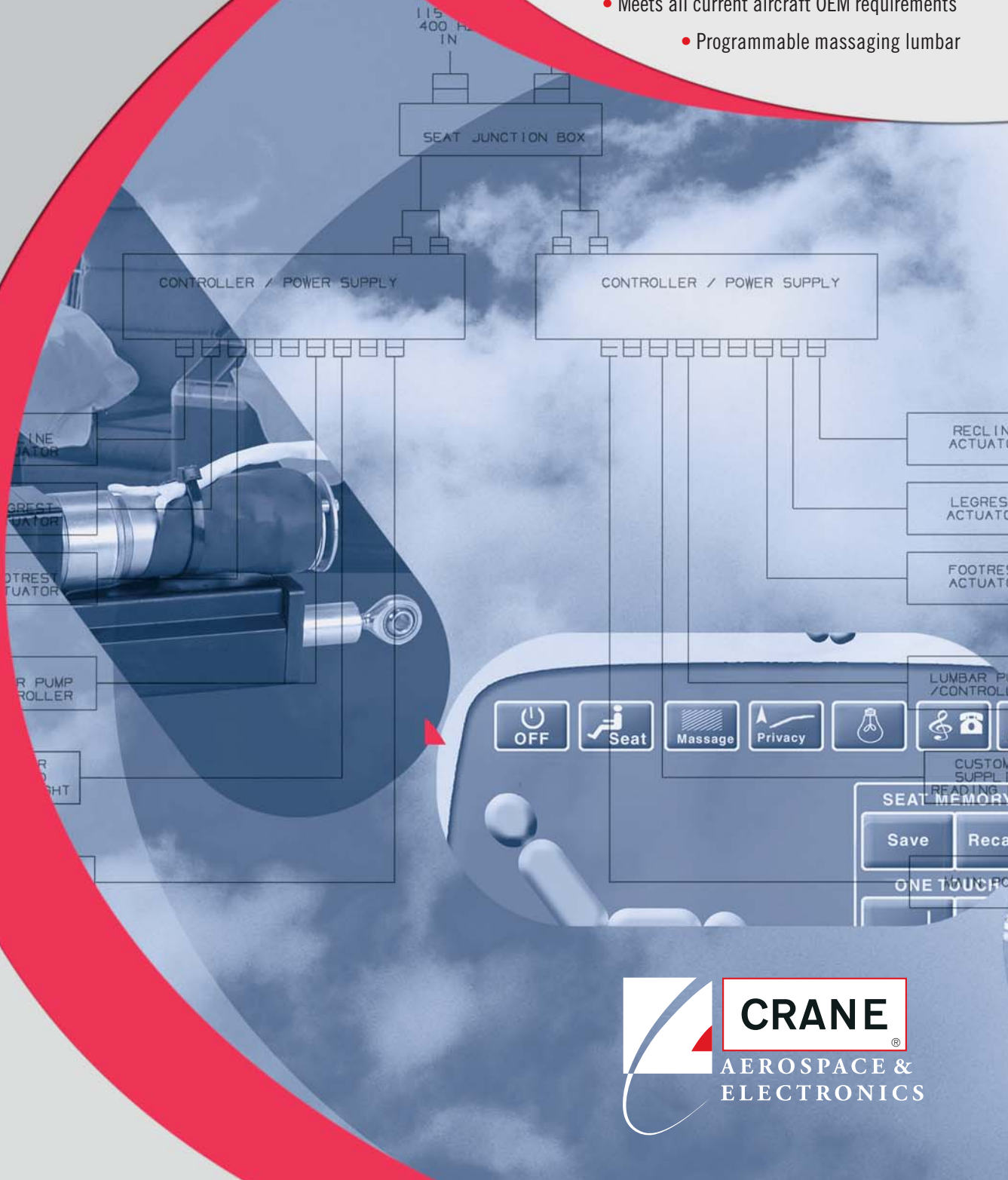
# Premium Seat
# Motion Control

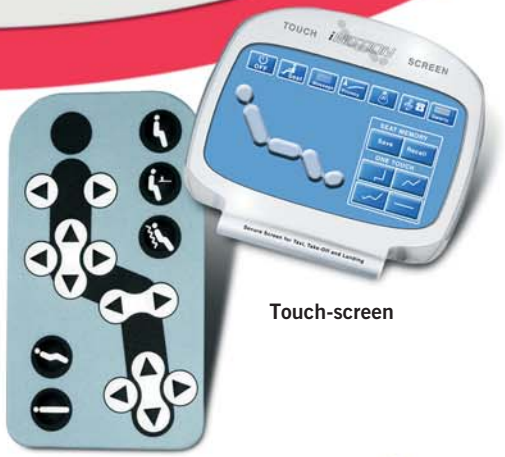
iMOTION™

- Simultaneous coordinated motion for up to six actuators per passenger place
- Patented **Safety Zone** collision avoidance
- Touch-screen or keypad passenger control
- Rotary or linear elecrtro-mechanical actuation with electronic position feedback
- Meets all current aircraft OEM requirements
- Programmable massaging lumbar




CRANE®
AEROSPACE & ELECTRONICS

# Premium Seat
# Motion Control




Touch-screen

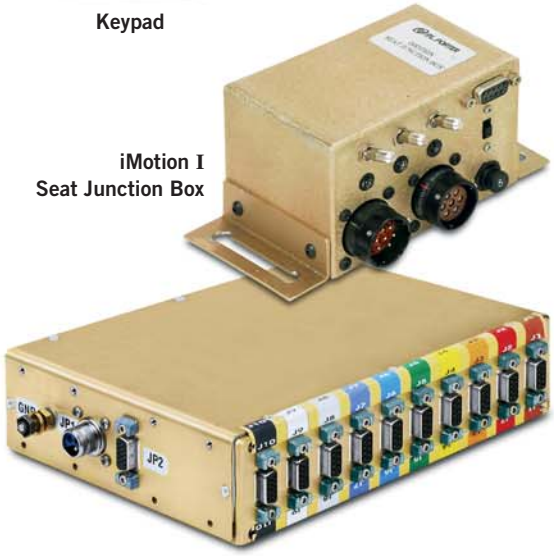
Keypad

## Passenger Control Units

### Touch-screen and Keypad

- Custom keypads and graphics
  — up to 32 buttons
- Remote sleep/land unit
- Interfaces with most IFE screens via RS485 communication
- Up to four user-defined preset positions
- Passenger memory command
- Light operation and dimming control

iMotion I
Seat Junction Box



iMotion I Modular Power Supply/Controller

## Electronics

### iMotion I Power Supply/Controller

- Individual power supply/main controller per pax
- Flexible mounting brackets for easy conversion
  — may be tandem or individually mounted
- Compact seat junction box with all user interface
  — status indicator LED's
  — individual pax power interrupt switches
  — download and communication ports
  — BITE diagnostics
  — seat assembly circuit breaker
- Remote option for calibration switch and power interrupt
- Calibration activated by switch or PCU keypad
- Auto-calibration with clearance to hardstops
- Point-to-point harness system for ease of replacement
- Daisy chain or series power integration with aircraft power
- 12 volt up to 3amps for DC accessories

iMotion II Power Supply/Controller

### iMotion II Power Supply/Controller

- Double or triple seat operation from single box
- Remote option for calibration
- Same features as iMotion I

## Through Shaft Actuators

- Compact or full size
- Unlimited stroke
- Up to 300 pounds (1.3 kilonewtons) nominal working load, 500 pounds (2.2 kilonewtons) peak load
- LPS electronic feedback
- Manual release override
- 28 volt DC

Through-Shaft Actuator with Abuse Clutch option

Compact Utility Actuator

## Extension Shaft Actuators

- Compact or full size
- Up to 5.3 inches (135mm) stroke
- Up to 600 pounds (2.7 kilonewtons) nominal working load, 900 pounds (4.0 kilonewtons) peak load
- LPS electronic feedback
- Gimbal attachment end for sideload tolerance
- Manual release override
- 28 volt DC

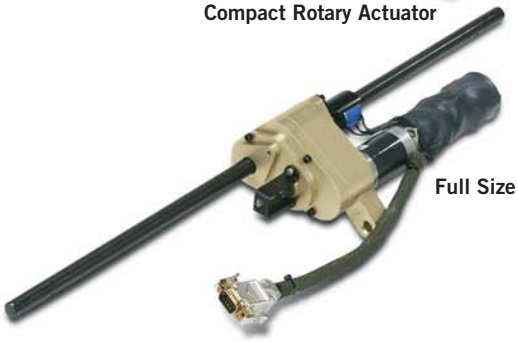
Compact Extension Shaft Actuator

Standard Extension Shaft Actuator

## Rotary Actuators

- Compact or full size
- Patented Superbrake option for 16G dynamic restraint
- Up to 500 in-lbs (57 N-m) operating torque
- Available with sound dampening isolation mount
- LPS electronic feedback
- Manual release override
- 28 volt DC

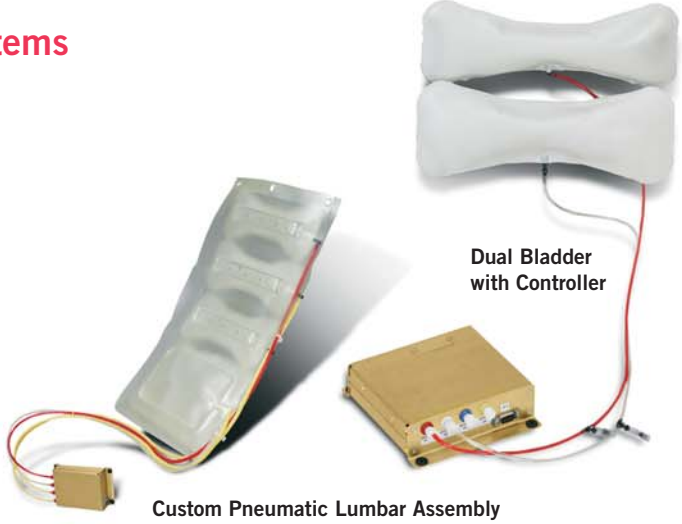
Compact Rotary Actuator



Full Size Rotary Actuator

## Pneumatic Lumbar and Body Support Systems

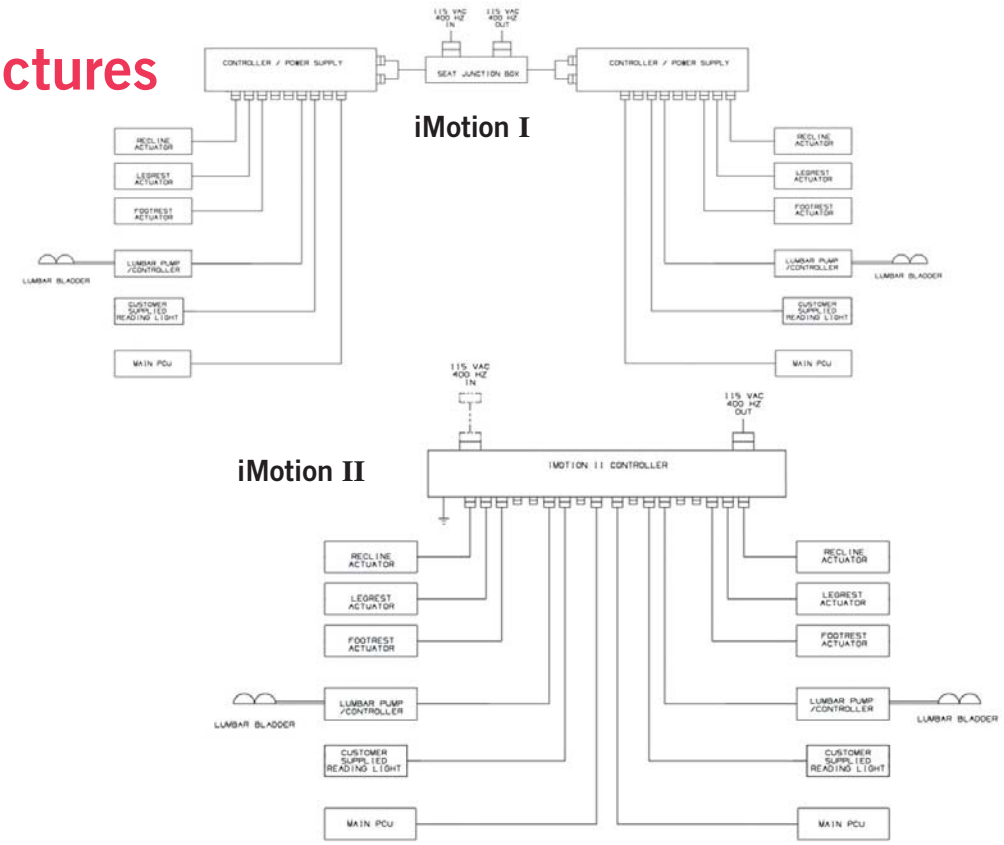
- Single, dual, or multi-chamber custom designs
- Color-coded pressure hoses for easy removal and reinstallation
- Custom shapes, headrest pillows, other body support
- Standard massage feature
- Programmable Smart system for added functionality
  - — user defined sequence of massage
  - — re-programmable in service
- Auto deflation option
- Active deflation option



Dual Bladder with Controller

Custom Pneumatic Lumbar Assembly with Programmable Electronic Lumbar Controller

# Two Architectures




## iMotion Regulatory Compliance

### Compliance

- RTCA DO-160, environmental conditions and test procedures for airborne equipment
- RTCA DO-178, software considerations in airborne systems and equipment certification
- 2520M1I001700, "**Seat Interface Specification for Electrical Integration**"
- 2520MIF001100, electrical actuation systems for seats and surrounding furnishing
- ABD0007, equipment general technical requirements
- ABD0100, equipment design general requirements for suppliers
- Boeing D283W604, passenger seat electronic equipment and cable installation requirements
- Boeing D6-16018, electrical bonding and grounding design requirements
- Boeing D6-36230, passenger seat design and installation criteria
- Boeing D6-36440, standard cabin system requirements document
- Boeing D6-36458, in-seat power requirements
- Boeing D6-44588, electrical requirements
- FAR/JAR 25-562 Amdt 25.64
- FAR/JAR 25-853 Amdt 25.83
- FAR/JAR 25-869 Amdt 25.72
- FAR 25 Amdt 25.87
- JAR 25 Change 14

## iMotion Diagnostics Built In Test

### Touch-screen and Keypad

- Retrieves last 10 power cycles
- Reports to laptop, MCU, or IFE video screen

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