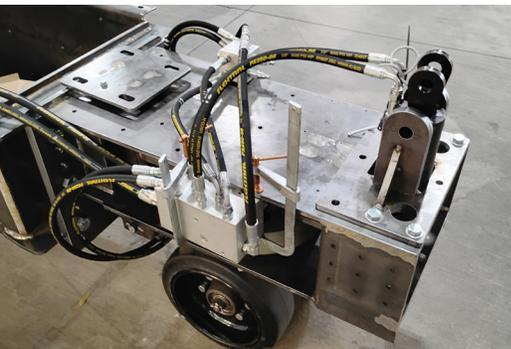


AT A GLANCE

DEMI, a fabrication shop in Aberdeen, SD, partnered with us to build a cart that could move pipe up to 1,000 feet inside a 48 inch water line. They needed a compact and reliable motion-control system for this tight environment. We supplied the complete steering, propulsion, hydraulic, and electronic package along with custom components that helped them build the cart quickly and confidently.



THE CHALLENGES

DEMI needed a reliable way to move pipe through a confined 48 inch water line, and their initial forklift-based approach was not cost-effective or capable of meeting the performance requirements.

- **Confined-Space Operation:** The system needed to operate safely inside a 48 inch water line while transporting pipe sections up to 1,000 feet.
- **Cost-Effective Power Approach:** Alternative electric drive options were evaluated to reduce expense after the full electric propel concept proved too costly.
- **Fully Integrated Controls Requirement:** A complete steering and propulsion system had to be developed from scratch to support reliable performance in a tight, enclosed environment.
- **Accelerated Build Timeline:** DEMI required rapid concepting and component support to keep fabrication on schedule for their customer.

THE SOLUTIONS

We developed a complete motion-control system that combined steering, propulsion, hydraulics, and electronics into one integrated package tailored to DEMI's confined-space application.

- **Precision Steering Control:** A worm drive slew ring with encoder feedback provided accurate steering inside the confined water line.
- **Integrated Operator Control:** Two joysticks managed steering, propulsion, and auxiliary functions to simplify operation.
- **Complete System Integration:** All hydraulic and electronic components were supplied to ensure full compatibility and reliable performance.
- **Fabrication Support:** Mechanical mockups and custom wheel and tire designs helped DEMI accelerate their build process.

THE BENEFITS



Streamlined Integration
One fully compatible system simplified installation.



Improved Reliability
Engineered fixes reduced cavitation issues.



Greater Precision
Encoder steering and joystick control improved accuracy.



Better Diagnostics
Real time monitoring supported quick troubleshooting.



Faster Fabrication
Mockups and custom components reduced build time.



Stronger Partner Support
DEMI relied on a single source for all controls and hydraulics.