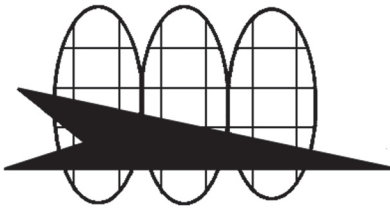




Manufactured in U.S.A.



PANDJIRIS,® INC.

#1 in Fixed Welding Automation

PIPP

**PARTNERS IN
POSITIONING &
PROFITS**

PRODUCT BULLETIN FOR LINCOLN PARTNERS

February 2008

PANDJIRIS/LINCOLN TEAMWORK SINGLE SOURCE AUTOMATION SOLUTION

As a result of the Pandjiris-Lincoln Electric Partnership and world-class expertise in manufacturing technology, Pandjiris was commissioned to develop a single source turnkey solution and build the most advanced fixed automation equipment for a new state-of-the-art railcar plant in the U.S.

The cars range in diameter from 96" to 120", with each section approximately 120" long. The shells required fitting, tacking, root pass, internal pass and external pass for both longitudinal and circumferential seams. Pandjiris provided multiple Series 1400 and 1600 Manipulators' systems integrated with Lincoln Power Wave AC/DC weld packages in both single wire and tandem configurations. Tactile seam trackers were utilized for joint tracking and operator catwalks were provided on the manipulator booms. The manipulators are used in conjunction with Pandjiris Turning Rolls to perform longitudinal welds at both 6:00 for ID and 12:00 for OD. The manipulators are also used in conjunction with turning rolls for circumferential welding. These manipulators were mounted on travel cars with rail track. Pandjiris also provided their exclusive Nudger Turning Rolls as the primary rolls for fitting and tacking the circumferential joints. The cars are moved from station to station on (30) sets of Turning Rolls with custom flanged wheel casters. The installation of manways and fittings are performed on Missouri Mules turning rolls. Pandjiris also provided a station which includes a special Positioner and Tailstock with fixturing and operator platform to manually finish weld undercarriage trucks.

All of the multiple fully automated welding head manipulators and positioning stations, along with custom railcar welding stations were built, tested, and installed in this new production line facility. All automated manipulator systems were integrated and the customer's operators and supervisors were trained by Pandjiris welding technicians both in the operation of the new Lincoln waveform control technology and the automated positioning systems.

Teaming together the Lincoln-Panjiris Partnership can offer the best value-added automation solutions and integrated positioning systems for any of your customers' needs and, best of all, create more consumable orders for the Lincoln Electric Company.



FULLY AUTOMATED WELDING AND POSITIONING EQUIPMENT

- (3) Pandjiris Series 1600 Manipulators on Travel Cars
- (3) Lincoln Tandem Power Wave Saw Welding Packages
- (1) Pandjiris Series 1400 Manipulator
- (1) Lincoln Single Wire Power Wave Saw Welding Package
- (2 sets) Pandjiris Missouri Mule MM-30/15T Turning Rolls
- (2 sets) Pandjiris Missouri Mule MM-60/30T Turning Rolls
- (2 sets) Pandjiris Nudger Rolls - Model MM 30/15
- (2 sets) Pandjiris Nudger Rolls - Model MM-60/30
- (1) Pandjiris Model 60-12 Welding Positioner with Custom Tailstock and Operator Platform
- (30 sets) Pandjiris PR-100/34 turning Roll Sets on Special Flanged Wheel Carriers
- Custom paint color per customer's specifications.

BENEFITS

- Increased Productivity
- Consistent Quality
- Cost Savings
- Latest Technology and Equipment

