

CASE STUDY

PRODUCT CATEGORY:

Pneumatics

INDUSTRY:

Toy Manufacturing, Consumer Goods

APPLICATION:

Pneumatically operated Ultrasonic Plastics Welding Station for the assembly of children's toys.

PROBLEM STATEMENT (PAIN):

Customer required a modular, expandable and flexible pneumatic system capable of handling the assembly of various product configurations. The design would need to control different size cylinders and grippers used on three separate automated assembly stations. The system requirements included:

- Compact design due to limited envelope dimensions of assembly stations.
- Modbus TCP serial communication protocol for use with PLC.
- Modular and expandable design.
- Rated for duty cycle of 16 hours/day and 6 days/week

FLOW PRODUCTS SOLUTION:

The Flow Products engineering team reviewed the application and selected the Parker Moduflex series of pneumatic manifold systems to meet the customer's requirements. The product selection provided the following features:



Parker Moduflex Valve Assembly

- Modbus TCP communication protocol.
- IP 65 rating.
- Two, 4 way directional control valves in one body providing a compact design with configurable push to connect tube fittings.
- Plastic manifold modules which are stackable and are assembled with one threaded connector. Assembled valve banks are DIN rail mountable.
- Field configurable tube push to connect straight or elbow port connectors which accommodate different tube sizes.
- Standard 4/2 valves using a ceramic sliding plate element as the only moving part of the valve resulting in an expected life of over 1 million cycles.

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RESULTS:

1. Moduflex product offered a flexible and expandable compact design.
2. IP 65 rating ensuring long product life and performance.
3. Reduced installation and assembly labor for manifolds with Modbus TCP serial communications.
4. Push connect port fittings for fast, simple connection of air system.

CUSTOMER SERVICE & TECHNICAL SUPPORT

Our dedication to market leading service levels is always evolving. We work to meet all your requirements and strive to provide additional services that enhance the purchasing experience. We offer the following:

- Same day quote turnaround on standard products
- Customer dedicated inventory
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- Custom labeling and packaging
- IFPS Certified fluid power specialists
- Complete fluid system design, assembly, and test capabilities
- System start-up and commissioning
- System troubleshooting and diagnostics
- Component and systems repair service
- Customized technical training programs

OUR HISTORY

For over sixty years, Flow Products has been a leading distributor and integrator of pneumatic, hydraulic and electro-mechanical products in the Chicago and mid-west region. Our product offerings range from fittings, valves, motors, pumps, actuators, sensors to a full array of custom manifolds and engineered systems – all designed to improve our customer's productivity.

Please visit us at FlowProd.com to review all the market leading services we provide, standard products available and custom designs.

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