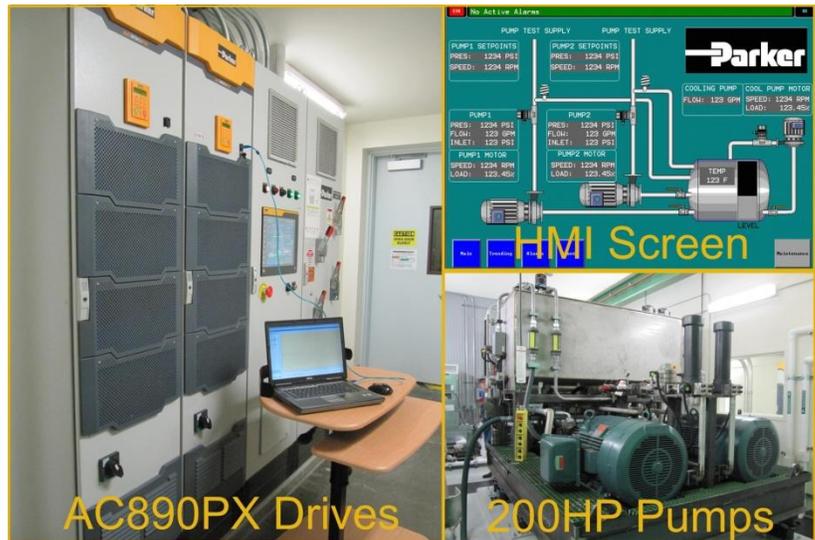


Application Profile



Energy Saving Variable Frequency Drive Provides Quiet, Energy Saving Operation on Hydraulic Power Unit

A large metal fabricator required a hydraulic power unit (HPU) that was flexible, with capability of 3500 to 5200 PSI. Typically a variable displacement pump would be used, with the AC motor running at fixed speed, but due to the intended location in the plant, the system had to be audibly quiet and produce minimal vibration. Long periods of idle time would waste energy, as a 200 HP motor would remain running. The customer needed an integrated system that included an operator interface touchscreen, variable speed pump control, and of course, the hydraulic components. Ease of operation and simplicity in programming were other requirements of the application. Together with Parker distributor Western Integrated Technologies, a complete application solution was devised.



Solution: A hydraulic power unit offers a unique opportunity to Parker: combining two key technologies, hydraulics and electronics, in a single system. With Parker distributor Western Integrated Technologies, a system was designed, including two 200 HP AC induction motors, AC890PX adjustable frequency drives, and hydraulic pumps and associated equipment, including another Parker drive for a 25 HP cooling pump, which also serves to maintain minimum system pressure during idle. Ethernet communications tie the drives and Parker TS8015 HMI together and interface with the customer's SCADA network.

The AC890PX offered several benefits owing to its modular design. Two drives were integrated with accessory cabinets containing the HMI and logic, forming a compact lineup to installed in the control room. The bottom wire entry option allowed for power and motor wiring to be brought in through the floor, resulting in a simple and clean installation. Seamless integration with the HMI and plant SCADA network was made possible by the variety of communications options offered. Enhanced safety was provided by the standard "Safe Torque Off" feature common to all AC890 and AC890PX drives.



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The AC890PX features an integrated industrial enclosure with standard AC line disconnect, fusing, and 3% AC line reactor for reduced harmonics. Installation time and expense are minimized, since all of these items are included, pre-wired, and contained within the enclosure. Downtime is minimized by virtue of a user serviceable modular design using plug-in power modules for quick and easy field repairs. These modules are lightweight, can be handled easily by one person, and can be expeditiously shipped anywhere in the world and changed out by anyone who can use an Allen wrench! The AC890PX also has the smallest footprint in the industry.

Success Factors

- Supplier relationship between Parker distributor and end user
- Availability of hydraulic and electronic components from Parker
- Integration of hydraulics and electronics by a source trusted by the user
- System design utilizes small, energy efficient pump to maintain minimum pressure in idle mode, allowing 200 HP motors to be shut down
- Competitive system price

Customer Value

- Received a complete system from a single source
- Less noise and vibration, better efficiency than current fixed speed central system
- Local support available from distributor
- Higher power factor, resulting in lower losses and energy consumption
- A team approach offered a system consisting of reliable components from Parker, and the hydraulic system manufacturing and fluid power expertise of the distributor.



The AC890PX offers a unique modular architecture including IGBT phase modules that are easily field replaceable for maximum uptime.



Parker Hannifin Corporation
SSD Drives Division
9225 Forsyth Park Dr.
Charlotte, NC 28273
Tel: (704) 588-3246
info.us.ssd@parker.com
www.parker.com/ssdusa

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