Utilizing Gas Bottles to Reduce Accumulator Costs

By Steve Hansen

When the customer required design assistance with their hydraulic system they turned to the Parker HTC, Bayshore Fluid Power in Mobile, Alabama. Bayshore's hydraulic system engineer, Tom Hamel, was able to provide insight into designing a more efficient & cost-effective system utilizing accumulators as a means of supplementing pump flow.

Hydraulics plays a critical role in the steel mill environment. By utilizing accumulators, system components and power consumption are kept to a minimum. At the mill, two large power units are involved in the operation of the (EAF) Electric Arc Furnace and the (LMF) Ladle Metal Furnace.

The hydraulic system for the Electric Arc Furnace requires two banks of 18 accumulators each to supplement the pump flow. In order to downsize the accumulators the design called for 15-gallon gas bottles to back up each accumulator on a one-to-one basis. By utilizing gas bottles the overall cost of the accumulator system was greatly reduced.

Parker's Hydraulic Accumulator Division were mounted on racks built by Bayshore Fluid Power. Each rack held 18 gas bottles. Each gas bottle is equipped with its own isolation shut-off ball valve. The accumulators are all plumbed into the same common line and each accumulator rack has a main ball valve.

The Ladle Metal Furnace required 8 accumulators with a rack of 8 bottles to support the gas requirements.

Delivery was critical and, as expected, Parker HAD performed. All of the gas bottles were shipped within 2 days and arrived in Mobile on schedule. Bayshore completed the racks and delivered the units on time.

On time, efficient, and cost effective - Products from HAD.