Coil-Fed Fiber Laser System with Bending System

Company
A US manufacturer makes a product comprised of a family of metal parts which are laser cut, bent and then welded together. This company offers a complete product line of these in different sizes and with unique features.

Problem
This US manufacturer must operate three shifts to keep up with production demand which has caused high labor costs. Much of each part’s production time is spent in storage because they do not have a streamlined production process.

Process Before RDI Laser Blanking
1. Using a cut-to-length line, blanks are cut into batches of 100-150 units and moved to a storage area.
2. The blanks are then moved to the sheet fed laser, where they are individually cut and re-stacked using a robot. These re-stacked parts are moved to another storage area.
3. The re-stacked parts are moved to either the roll forming or press brake equipment depending on the part. Once bent, the parts are, for the third time, moved into storage.
4. After the parts are bent, they are manually sorted from different holding areas within the plant and then moved to the welding station.

This process has significant labor costs and work in process inventory.

Solution
This US manufacturer added the RDI Coil-Fed Fiber Laser Blanking System coupled with an automated bending system to their manufacturing process. This complete system combines the entire cutting and bending process into one production line, eliminating the need to store blanks and parts at separate intervals within the process. This system allowed the manufacturer to laser cut finished blanks directly from a coil of metal and then immediately and automatically bend each part using a single operator. Storage downtime was eliminated as well as work in process inventory. Using a coil-fed laser allows the manufacturer to cut a different part each time, apply a bar code label and stamp an identifying mark on one part out of each three within their assembly process.

Result
The manufacturer is now able to complete their entire production requirements in a single shift with a significant decrease in labor and work in process inventory. Consequently, the work in process storage is now opened up for additional manufacturing capacity.