



HVAC

AAON

STRENGTH MEETS STRENGTH: THE BLM GROUP USA AND AAON COLLABORATION

“We were at our wits end as far as service and support,” concurs Doug Wichman, Manufacturing Engineer for AAON. “That’s the main initial reason we contacted BLM GROUP.”

“Our consulting proved fruitful and resulted in the delivery of one of our ELECT80 bending machines in August of 2014,” notes Dave Cotton, regional sales manager at BLM GROUP USA. The ELECT family of All-Electric, multi-stack, CNC tube benders covers a range of tube diameters from 40 mm (1.5”) to 150 mm (6.0”). AAON chose the 80 mm diameter model, hence ELECT80. ELECT machines have multiple tool stack capability and can produce both fixed and variable radius bends. A maximum of up to eight tool sets can be mounted simultaneously within the stack height, and automatic loading is available.

ELECT machines are equipped with a CNC control optimized for tube bending. This is particularly important given the fact that tubing, as a raw material, often comes with a host of imperfections (dimensional tolerances, chemical composition, etc.) that cause it to react inconsistently when bending. This often results in creating bends that are out of tolerance, repeatability or quality specification. The ELECT has been engineered with the functionality to manage these variables as well as the variations that characterize different market sectors.

44

“BLM GROUP support and service completely lived up to our high expectations,” says Wichman. “If we have a problem all we have to do is pick up the phone and they respond immediately.” But as important as this support has been, the technology has proven to be equally vital.

AAON was seeking to expand its role in the small commercial HVAC market, largely in terms of units from one-half up to three tons. To serve this market more efficiently they wanted to move to single piece flow manufacturing.

Essentially, this means being able to produce efficiently in lots as small as one. This enables them to economically meet the diverse needs of this market, which frequently entails some degree of customization, and do it at a speed which couldn’t have been achieved in the past.

In the fourth quarter of 2016, AAON took an important step toward meeting this goal with the introduction of a new Water-Source Heat Pump and the purchase of their first BLM GROUP 4-RUNNER. The AAON Water-Source Heat Pump is a technologically advanced unit that employs a state-of-the-art automated sheet metal production system. Induction brazing on all copper connections enables this highly automated production line to electronically heat joints rather than using torch welding. This produces a higher quality, low leakage refrigerant circuit. The new AAON Water-Source Heat Pump is offered in two configurations, horizontal and vertical, and multiple efficiency levels to meet a wide array of application requirements.

“Flexibility is central to our relationship with BLM GROUP,” says Wichman. “The 4-RUNNER is a highly flexible machine, and that’s essential for the type of production we do, which is semi-custom at a high production rate of up to 180 units per day, especially with the new Water-Source Heat Pump unit.” The 4-RUNNER is “responsible for the entire copper package for the new unit. This consists of 8 to 12 pieces, all different, produced JIT.”



As valuable as this machine technology has proven to be for AAON, it wouldn’t be nearly as effective without its BLM GROUP VGP3D software.

The software boasts several features, including 3D simulation, collision avoidance, the ability to import part geometry from CAD programs to rapidly create a part program, and the ability to determine part feasibility and generate accurate cycle times. The first thing Doug Wichman mentions, though, is its ability to seamlessly integrate with the control software.

“BLM has been terrific in this respect,” says Wichman. “We’ve been able to integrate the BLM software seamlessly with our existing computer system, which is essential for the sort of flexible, responsive production we depend on.”

As close as the BLM-AAON collaboration has been to this point, it promises to be even more extensive in the future. This is illustrated by the fact that AAON now has four 4-RUNNERS with, as Wichman says, “a fifth 4-RUNNER to be delivered in a month - with another seven to come in the future.”



45



EXPERIENCE

46

AUTOMOTIVE

ACCRETE ELECTROMECH

IS THE "GIANT" REALLY WAKING UP?

Accrete has seen all the intermediate steps between the business of trading the tubes at the beginning to the present activity of supplying finished sub-assemblies to the automotive sector. Now as part of their drive to modernization, they have selected BLM GROUP as their partner for tube processing technology by purchasing the BC80 machine to manufacture metallic bushes.

Accrete Electromech rose on the ladder of success by staying true to their motto, "Customer First" and have made it their principle of conducting business. "Initially we were selling only tubes, then our Customers started asking us to supply cut-to-length pieces and then other processing on these pieces. This was the reason we added cutting machines, power presses and welding capabilities in our factory. Now we carry out seam welding, spot welding, TIG and MIG welding and other processes to supply finished assemblies that also have appropriate surface treatment. This is how we converted ourselves from a simple tube trader to a well-equipped company supplying ready to mount sub-assemblies for two and four-wheeler suspensions," explains Abhishek.

The different processes like cutting, machining, stamping, bending, fabrication etc. are carried out in different units.

"We continued to grow and now we supply to almost all major suspension manufacturers in India: such as Gabriel, Endurance Technologies, Magneti Marelli, ZF and Cosmo Magna. We take pride in being Tier 2 supplier to OEMs like Volkswagen, Hyundai, Honda, Tata motors, GM, Mahindra, Bajaj Auto, Hero MotoCorp" says Abhishek. These Automotive OEMs have strict quality requirements regarding the precision and surface finish of tubular components and the same needs to be delivered by Accrete.

Abhishek continues, "It is very difficult to maintain the required quality levels with such a high volume when you are working with different processes, different machines and different operators. An operator error or a worn-out/damaged tool can cause heavy rejections.

This was the reason why we chose the BC80 to manufacture metal bushes starting from full length tubes in an automatic,

"With BC80, we have been able to improve productivity and precision and at the same time save on manpower, lead time and space. Now BC80 carries out the work which was previously done using 6-7 different machines in different steps. For example, we used to produce 800 pieces of a given component in 12 hours using our traditional process; now with BC80 we manufacture those 800 pieces in one hour with guaranteed precision. I was not able to imagine this kind of speed and productivity"
admits Abhishek.

single point process." The BC80 can produce up to 2,200 bushes per hour in an automatic process that covers all of the steps like cutting, chamfering and on-line length measurement.

For Accrete, this is the first machine from BLM GROUP and in fact it is the first BC80 in India. "Our mission statement is, to supply products and services with best quality by using modern technology.

Therefore, when we are considering a new machine or process, we focus on quality. Of course, the cost is also an important factor in decision making process, but we do not just consider the initial investment, but we also calculate

the global costs savings resulting from process automation and lean logistics," states Abhishek. "When my uncle visited the factory in Levico to see the machine for the first time; he was quickly convinced that BC80 was the right machine for us when he saw the company, the manufacturing process, number of different machines being manufactured and overall level of technology."

Looking back at the first few months of the operation, Abhishek says "we had some learning obstacles to overcome with the machine, but we always

received excellent support from BLM GROUP's after sales service. Now that we are over the learning curve, we are ready to take on new challenges. On another positive note, we were recently awarded an export order which we probably would not have received without having the BC80 in our factory. We hope to get more orders such as this because it helps us to improve our internal processes and opens new opportunities.

We are also optimistic that the new GST tax reforms in India and the "Make in India" program launched by the Indian government will stimulate the growth of our business."

47