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Hydraulics Presses Offer Greater Job Control, Speed, Easier Setup & Small Footprint… All in One Press

Homac Mfg. Company "Electrifies" Productivity Rates Using Pacific Hydraulic Presses

Because of Homac Manufacturing Company's ability to meet their customer's needs with quality products and unique solutions to their electrical transmission needs, the orders continued to flow in at an ever-increasing rate. Even though Homac (Ormond Beach, FL) used mechanical presses since its inception, they decided to begin a changeover from mechanical presses to a hydraulic press solution that offered them greater job control, better operator safety, faster and easier die setup, and reduced floor space.

Homac makes electrical transmission connectors for OEMs, utilities and contractor industrial sales. Their product line includes over 28,000 part numbers. Connectors range from small ½" by ½" wire connectors to ones incorporating wire components and end connectors that are three feet long and several inches wide. Homac was founded by President Mark McGrane's father in 1963 and grew over the years through innovations and acquisitions. "We started in New Jersey and moved to Florida in 1973. Homac capitalized on the trend by utility companies to bury their cables for underground residential electrical distribution. We were able to invent electrical connectors that met our customers' needs in an innovative way by saving them labor costs. Connectors needed to be waterproof, leading us to develop proprietary designs that allow them to be waterproofed quickly and in less space than competitive products," said McGrane.

Our product designs were developed through personal contact with our customers. They told us what they use now and what their problems were. We were able to come up with completely new connector designs based on our customers' needs. The only limitation we had for connectors was the space it needed to fit in, usually a transformer cabinet or underground junction box," added McGrane. "Because my father is no longer around to help us with our designs and manufacturing, Homac now has manufacturing and product development engineers. Our design and production functions have been spread throughout the organization," McGrane remarked.

Homac's product development process involves all the various manufacturing groups to produce good ideas, and ones that can be turned into a manufacturable

product. They use concurrent engineering with a multi-disciplinary team led by product development engineers. However, manufacturing engineers and production personnel are involved from the concept stage to insure they're not conceptualizing, prototyping, testing, and getting something approved that can't be manufactured. "We've been successful with the innovative connectors we've brought to market so far with this process. It's probably more successful than a more tribal knowledge type of process that we had prior to it. It works, and manufacturing knows the jobs that are coming and has had input in them throughout the lifecycle. It also gives them a lot more ownership in these products when they hit the floor for first time production," said McGrane.

Today the company has three plants with a total of about 400 people. There are two facilities in Ormond Beach, FL, one being the headquarters and main manufacturing plant that has roughly 50,000 sq. ft., and another does electro-tin plating and CNC part machining. Their facility in Corcoran, California performs some manufacturing and warehouses products for west coast customers.

CNC + Hydraulic = Safer Operation, Controllability

Hydraulic Presses at Homac ManufacturingHaving CNC control on the Pacific c-frame presses is also important for Homac. They have it integrated in two of their presses, and it helps them with safety issues. "If an operator puts two slugs in the die by mistake and something breaks, it "grenades" out of the die. Somebody could really get hurt from the flying metal. The CNC controls interlock and can be programmed to avoid problems like this. (For instance, if the press senses too much pressure when closing, the CNC controls will automatically stop it.) Pacific helped us a lot with programming the presses so we could interlock the cycle controls with the dies and have built-in safety features," remarked Shook. He adds, "A hydraulic press is much more forgiving than a mechanical one if your part setup isn't right. If you have one little slip with a mechanical press it's a big deal. Somebody can get hurt seriously or you completely destroy the dies and even the press. But the hydraulic press is a lot more forgiving and easier to control, because there are parameters in the controls to keep you in a safe zone. We've had less experienced people able to setup and do a good job."

For faster press cycles, the Pacific presses have two pressing speeds. This gave Homac quick cycle times along with a completely controlled stroke. A mechanical press gives a specific stroke length with no variability, the top die is moving from the very top of the stroke all the way to the bottom. Shook added, "With a hydraulic press, you can actually program the stroke length and reduce the presses' cycle time. You can advance the stroke to a set height and the cycle will start from there, rather than having a fixed stroke. Hydraulic presses can also control their shut height," said Shook. "They are more repeatable, because there's a transducer that measures the press position. You just punch into the control where you want the ram to stop and that's where it stops. Also, controls can be interlocked so that an operator can't override your settings."

Another issue that was important to Homac was floor space. "Pacific presses will mount their hydraulic units on top of the press. It helps because floor space means a lot to us. We measure ourselves on how much productivity we get per square foot, and if there's a large hydraulic unit sitting on the floor, then that's manufacturing space I don't have. On top of the press I've got 20 ft or so of non-usable space," added Shook.

Hielscher said that Pacific Press Technologies was chosen over several other competitors, because of the relationship the company built with them, how their presses operate, and competitive pricing. "The company and their products all fell in line with what we were looking for in a supplier. Our first press purchase was for a standard

one except for an Allen Bradley control package. We felt these controls were very easy to setup. I don't think it's any big secret that the industry is losing their really talented setup people to retirement. So, control packages are important for ease of use and programming.

"We also found that pricing was an issue with other metal forming equipment manufacturers. One company came in with a lowball price, but once we started adding all the options that we wanted, their price was right back up there. We wouldn't be saving anything, and when I looked at their design deeper, they just didn't have a package I needed." Shook added, "I think these days, as our customers become more demanding, we need more from our equipment. Reliability must be greater, so it doesn't get in the way of us satisfying our customers. I think from our standpoint, the Pacific presses have met that reliability challenge and support us in helping our customers, which lets us grow our business."

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