



STAMP OF APPROVAL

ISMR SAYS:
 "AIDA Europe (AIDA Srl) in Brescia, Italy specialises in the manufacture of tandem lines and transfer presses for the automotive industry"

Stamping specialist, AIDA Europe (part of the AIDA Group), held its Open House at its headquarters and production facility in Brescia, Italy, on 20-21 April 2016. ISMR flew over to take part in the Open House, tour the European factory and learn more about its servo technology, a key focus of the event.

Several presentations at the Open House highlighted the benefits of servo press technology, successful forming of high strength steels and precision forming technology with AIDA's ULX press. AIDA also ran a demonstration on its servo press model DSF-M2-6300-425-150 with transfer, during the event, to demonstrate the power and capability of its servo press technology.

ISMR recently visited AIDA Srl's Open House in Brescia, Italy, and met its President, Peter Maddix

As AIDA approaches its 100th anniversary next year, market globalisation and growing environmental and energy concerns are creating new demands for manufacturers, and the presses they buy. AIDA offers a broad selection of small- to large-capacity servo and mechanical presses and related equipment. In 2002, it completed development of the world's first direct-drive servo press and now manufactures all of the principal components for its presses in-house, including servo motors.

AIDA in focus

AIDA worldwide boasts approximately 2 million square feet of manufacturing space (in eight facilities), 1,800 associates and a press manufacturing capacity exceeding 2,000 presses per year making it, in units produced, one of the largest press manufacturers in the world.

With a product portfolio of servo and mechanical stamping presses ranging from 35 to 4,000 tons (1 - 1,500 SPM), AIDA currently has 80,000 presses installed worldwide. It manufactures a complete line of metalforming presses including gap frame; straightside; progressive; transfer; tandem; near fine blanking; high-speed and cold forging. It also offers complete and total turnkey solutions with feeders and automation.

At the end of March 2015, the AIDA Group set a new record of ¥76.8 billion in consolidated net sales (a 10.5% year-on-year increase). These sales were driven by expanding servo press business in the Americas and a strong demand for replacement machines in Japan. Owing partly to higher revenues and an improved cost ratio, operating income rose to a record-breaking ¥7.8 billion (a 24.4% year-on-year increase). Net income rose to a new high as well at ¥6.2 billion (a 21% year-on-year increase).



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In 2004, AIDA acquired Manzoni and Rovetta and established AIDA Europe (AIDA Srl). In addition to a team of skilled mechanic and electronic service engineers, AIDA provides service such as planned and preventative maintenance; equipment upgrades for enhancing productivity (such as roll and transfer feeds, quick die change, tool monitoring etc.) and complete plant re-location all over the world. In-house expertise and evaluation for all safety and regulatory standards; the refurbishment of all press models and complete support/spare part delivery for all AIDA, Manzoni and Rovetta presses are also provided to AIDA Europe customers. Engineers are based in Italy, France, Germany, UK, Czech Republic and Russia to service customers over Europe.

AIDA Europe (Srl) in Brescia, Italy (formally Rovetta) specialises in the manufacturing of tandem lines and transfer presses for the automotive industry. It is the AIDA Group's European headquarters for engineering, sales, service and support.

An eye on servo technology

"At this Open House, we are trying to raise awareness of the versatility of a servo press over a conventional mechanical press," Peter Maddix, AIDA Europe President, told ISMR. "One of the reasons we have chosen this time for our Open Day is to forge relationships with people who aren't necessarily ready to invest tomorrow but are undecided on press technology – these relationships take time to develop."

"Advances in material technology through environmental enforcement (e.g. CO₂/emission reductions) are forcing manufacturers to go down the lighter material route which means tougher material as well as materials with different characteristics, such as aluminium, which lend themselves ideally to servo technology. It is challenging to compete with servo press users as manufacturers are able to produce very quickly. OEMs are also tightening their belts and putting pressure on their supply chains. So, this has become almost an enforced change for conventional press manufacturers. However, the hidden benefits of servo technology include better tool and press

the hidden benefits of servo technology include better tool and press longevity

longevity – once a manufacturer purchases a servo, he does not go back...."

Servo presses are powered by servo motors that enable the precise control of the press slide motion, including the forming speed. AIDA has leveraged its servo technologies — such as its development of servo motors that can output high torque, even at low speeds, and of servo-controlled die cushions with their freely

programmable pressure settings — to enable not only the high-precision forming of new materials but also the forming of the highly contoured aluminium vehicle bodies required by its customers.

Servo presses also contribute to higher productivity. Because the press motion is freely programmable, the motion required to perform forming applications can be kept to the necessary minimum, thereby improving productivity by approximately 30% in comparison to a conventional blanking press. In addition, synchronisation controls can be used to improve the parts conveyance motion between a press and a transfer system, enabling high-efficiency production that keeps wasted time to a minimum.



Peter Maddix, President, AIDA Europe

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"We need to broaden our customer base and its awareness. My sales team is focused now on finding new customers who are perhaps wavering on whether to invest in servo or mechanical technology and our job is to guide them and work with them in partnership to ensure that they make the right investment decisions. There is still a market for mechanical presses of all types but our purpose is to promote servo technology to potential new customers as well as cement existing partnerships. We have invested heavily in metalforming experts over the past 2/3 years so that we can work in partnership with customers, rather than just sell some capital equipment. It benefits us all in the long term," continued Maddix.

Our customers are focused on uptime. After-sales is also key, as is reliability

"We need to be able to troubleshoot and repair, rectify and give advice remotely. So 24 hour access to our machines is imperative as customers need to run 24/7, seven days per week. Our customers are focused on uptime. After-sales is also key, as is reliability. Many of our presses have been around for 40 plus years. We are now using air-cooled servo motors, as well as water-cooled ones. Our latest press features a choice of air- or water-cooled servo motors."

Using a water cooling system for AIDA's low-speed, high-torque servo motors has increased the motor output to 750kW — a 150% improvement — for an even more powerful metalforming press that can withstand high forming loads. Presses are used not only to form body panels or structural members, but also used to produce a wide range of automotive components including engine and drivetrain components, steering components, transmission and suspension components.

AIDA servo presses are equipped with high-capacity banks (for energy storage), which enable customers to use lower-capacity power feeds to the presses. The servo presses achieve a high level of energy conservation by regenerating electricity while decelerating and then returning this electricity to the capacitor banks for later use. Servo die cushions also utilise regenerated electricity: approximately 70% of the working energy used by an AIDA servo die cushion is regenerated and returned to the press power supply, greatly contributing to energy conservation.

Using a water cooling system for AIDA's low-speed, high-torque servo motors has increased the motor output to 750kW — a 150% improvement

Customers and business climate

"We are very proud to supply blue chip companies in the automotive industry such as Jaguar Land Rover. JLR has purchased five high-speed servo tandem lines from us over the last four years. The first time that JLR has manufactured vehicles outside the UK is in

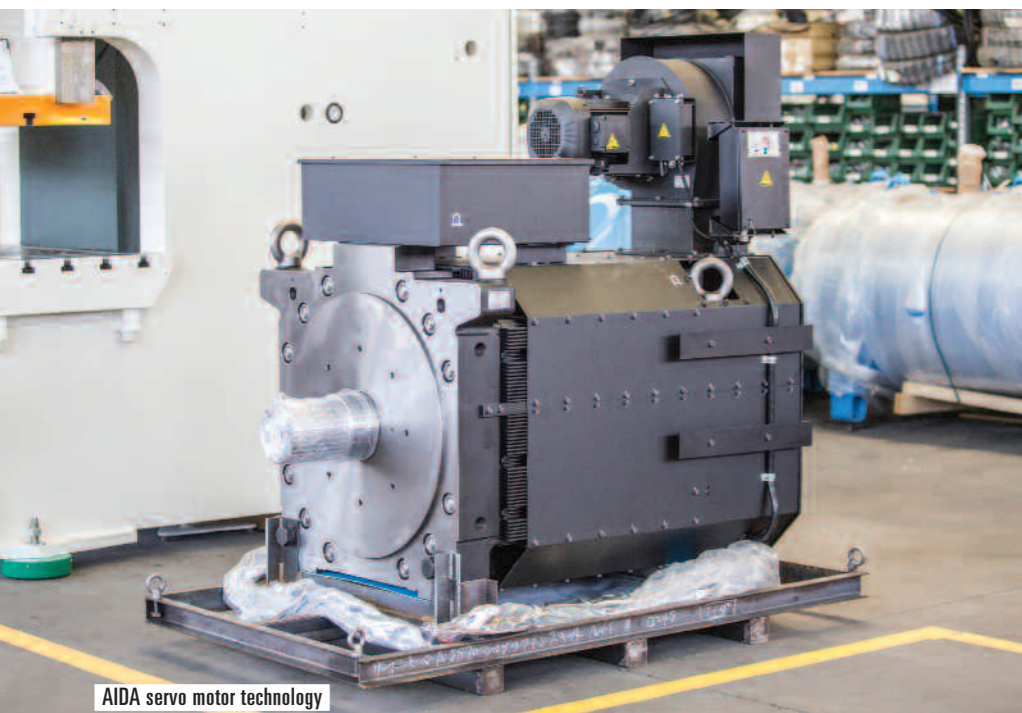
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China (the Horizon project in a joint venture with Chinese carmaker, Chery Automobile) and it has been producing parts on our high-speed servo tandem line in China for 18 months. It has just placed an order for the second line. Each line is worth tens of million euros so JLR's total investment is worth over 180 million euros," Maddix explained.

"We have also just manufactured here a mechanical tandem line for Tesla in California (San Francisco Bay area). Its new Model X electric SUV retails at US\$ 70,000 and it is using an AIDA G1 mechanical tandem line, produced here in Brescia, to make many of the panels on that car. We are firm believers in R&D and constantly plough money back into R&D annually — as much as 2% of our turnover. For example, one of the greatest challenges a customer will face is installing their equipment so we try to keep press heights down. We are very conscious of technology advancements, emissions, greener working etc. and this advanced technical focus will be reflected in our EuroBLECH presence this year at Hannover."

He confirmed that good news is coming out of mainland Europe and the UK. Mainland Europe car production for the first quarter of this calendar year increased by 10%. Car production in France has increased by 7% and Italy has seen a very high increase in production over the last calendar quarter. UK manufacturing has also steadily been picking up — in February, almost 180,000 cars were produced in the UK (a 10% increase over the previous year) and Maddix is predicting 1.8 million coming out of the UK this calendar year.

"As far as Europe is concerned, we remain optimistic as we see a cascade of investment that is cyclical over three years. If, for example, major OEMs such as JLR and VW, are making key financial investments in high-tech capital equipment, the knock-on effect takes a couple of years before the Tier 1/Tier 2 suppliers start to gain more business. It is very cyclical. So, a lot of our sales over the past fiscal year were a different mix to previous fiscal years. We sold, in volume, more machines over the last fiscal year than the previous few — bread and butter machines (600-1000 ton transfer and progressive machines). We now see a resurging of investment that wasn't there in previous years. This gives us optimism. What has particularly pleased me over the past twelve months is the increase in investment in UK manufacturing capital equipment, particularly in the Midlands."



AIDA servo motor technology



Pendulum motion is used when running progressive press applications to achieve a high production output of 60 pieces per minute



The A. E. Oscroft team in front of the AIDA press at Brescia

Aims and objectives

For the fiscal year ending 31 March 2015, AIDA Europe made 105 million euros in new press sales (not including its service business). Turnover for that fiscal year exceeded 110 million euros.

"As a target, we would aim to achieve the same figures this year in turnover for service and new press sales as last year. But we are

One particular aim is to have more standard product in the mid-tonnage range

really focusing now on growing our customer base. We now employ nearly 400 people and are represented in many countries. As well as being President of AIDA Europe, I am also responsible for Morocco and Brazil," Maddix told ISMR.

"We have made some key capital investments of our own over the last 2.5 years — a twin-column floor borer, with a 25m x axis, now enables us to machine the largest of our crowns with a faster turnaround than previously. We have always been able to accommodate even our largest press on it but can now put them through a little quicker and have the capacity to lift 200 tonnes — not many facilities in Europe can do that."

He is also anxious to take a leaf out of his parent company's book and offer more AIDA peripheral products e.g. press ancillaries, transfer equipment etc. designed and built by AIDA at Brescia. This is part of his short term business strategy (achievable within the next five years).

"We are always fine tuning press models and increasing ranges. One particular aim is to have more standard product in the mid-tonnage range. We have successfully standardised our 400-800 ton range as a standard product (virtually off the shelf now) which has the benefit of a much shorter lead time. Over the past couple of years, we have seen a reticence in customers to invest in capital equipment until they are certain that they have won their business, which means they want a much shorter lead time. This reflects a nervousness in the state of the global economy. We have had to significantly reduce lead times in line with this — it is one of our greatest challenges today," he explained.

PRESSING FOR ACTION

UK manufacturer, A. E. Oscroft & Sons Ltd, recently invested heavily in an AIDA 630-tonne servo press.

"The press will improve our capability to produce deeper drawn pressings due to the control of the force applied throughout the stroke of the press. Productivity improvements will be made on current parts being produced on a conventional press as the full height of the machine stroke isn't always required," Jonathan Griffiths (technical sales) told ISMR during AIDA's Open House in Brescia.

"Secondary operations can be potentially eliminated by squeezing forms into the bottom of the tool dies, reducing springback in the materials used. Tool life is also improved as the servo press helps to reduce the shock and vibration which is normally generated. We also purchased a self-clean coil feed with the press to enable production of ferrous and non-ferrous materials."

The family-run business, with 107 employees, has been a supplier to the automotive industry for over 60 years. Its new AIDA press was commissioned in April 2016 as part of a planned series of investments to increase the growth of the company. The manufacturer also has several smaller AIDA presses on-site.

"Our proudest achievement has been the success of our new fabrication and welding facility. We have historically purchased all our press fabrications and gears from third parties in Italy and mainland Europe. We now accommodate 90% of that internally and are closing in on 300 tonnes/month of internal fabrication (from zero two years ago). There has been over 15 million euros of capital investment in AIDA Europe over the past five years, which includes this building at Brescia. We started massive investment in the plant in 2012. We have seen an extension to the assembly halls and this new office building (built four years ago). The investment was made at the right time."

Our proudest achievement has been the success of our new fabrication and welding

All AIDA's fabrications are thermally stress-relieved, which is particularly important for the European market. Gears are an integral part of AIDA's business so it set up a gear welding facility beyond its pre-existing gear cutting shop (using the submerged arc welding process) completing its ability to manufacture gears in-house.

"Europe is critical to the achievement of the objectives of the basic policies set out in the AIDA Group's mid-term management plan. We, therefore, will remain steadfast in our efforts to cut production costs and increase efficiency, as we strive to expand the foundations of our business in a way that generates stable profits for years," concluded Peter Maddix. ■