

Velan strengthens its global presence



12" class 600 side-entry, trunnion mounted ball valves, with a double acting direct gas actuator. An example of Velan ABV control systems.

After more than 60 years in business, Velan is focusing on the challenges of adapting to an increasingly global marketplace. The innovative and entrepreneurial spirit that was evident in the company's leadership from day one continues today, with three generations of the Velan family actively involved in leadership roles. Valve World had the opportunity to speak with President and CEO Mr. Tom Velan about the company's proven portfolio of top-quality valves and actuators, its impressive FY 2013 results, and its growth plans.

By Sarah Bradley

Velan has a unique and rich history. It was started more than 60 years ago by A.K.Velan, an immigrant to Canada from Communist Czechoslovakia. The Montreal, Canada-based firm experienced record sales recently, capping off a decade of growth in which the company's gross revenues increased almost threefold. "For the first time in our history, we surpassed US\$500 million in sales," said Tom.

Prime products

Velan valves are installed in industrial applications worldwide – from submarines

to oil refineries, nickel mines, and nuclear power plants. They also contribute to scientific projects, and are installed in the world's largest machine, the CERN particle accelerator. During the past milestone year, Velan sold over 600,000 valves to customers in 64 countries across the globe. Over the years, the company has expanded its product range of multi-turn and quarter-turn valves, mainly through internal R&D. It has also made strategic acquisitions like its 2011 acquisition of the Italian company ABV Energy, which added an upstream product line to the product

portfolio. Velan ABV also manufactures pneumatic, hydraulic, and gas-hydraulic actuators. These products complement Velan's product range and open up new markets in offshore and subsea. The broad product spectrum that Velan offers includes valves that range in price from \$15 to \$800,000 and weigh anywhere from 0.3kg to over 34 tons.

Global growth: strengthening worldwide production infrastructure

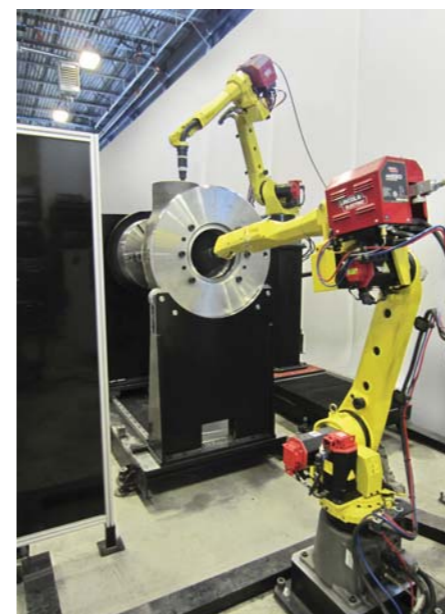
Velan is headquartered in Canada, anchoring an extensive network of plants



Joe Calabrese, Velan's Director of Sales for East Asia, with two large Velan 36" Class 900 pressure seal valves for a power plant in China.

and distributors around the world. Mr. Tom Velan noted that customers outside of North America have accounted for more than 60% of the company's sales for the past year, which reflects the need to increase the company's manufacturing presence overseas. Currently, almost half of Velan's valves are made in North America, with 42% being produced in its three plants in Montreal and one in Granby.

Investments are being made in large test fixtures, robotic welding, and CNC machines. In addition, many of its assembly cells have been modified in accordance with Lean principles to further improve productivity and throughput. "We also started up a plant in India at the end of 2012 and have expanded the scope of our production in Korea and China," revealed Tom.



Velan has invested in robotic seat seal and wedge guide welding machines to improve efficiency.

"Since I joined the company in 1973, it has been clear to me there are huge opportunities in international markets," Tom said. "I am convinced that without our overseas production plants, we would not have been able to maintain our production base in North America, which is still more than 50% of our global production." During the past two years, Velan has invested USD\$48 million in strengthening its global manufacturing infrastructure.

Having been in the Chinese market for over 40 years, Velan opened a plant in China in 2008 and recently added a second production line dedicated to manufacturing large cast pressure seal valves for energy producers in the Chinese market. The company also has a sales office in China dedicated to serving the nuclear market in the country. "This is obviously a highly competitive market but over the last few years China has been our largest overseas market," Tom explained. In the United States, Velan continues to nurture the strong business relationship with the U.S. Navy that stretches back to the 1950s. Velan recently completed one shipset of valves for the USS Gerald R. Ford, the first of a new generation of U.S. nuclear-powered aircraft super carriers. The company also received a shipset of valves for the John F. Kennedy, to be launched in 2020.

Securaseal valves for severe service

Jens feels just as positive about Velan's Securaseal valves, which he says are among the best metal-seated ball valves made for the toughest applications in the world. The Securaseal line has a wide range of seating designs for specific applications in a variety of industries that have media requirements, resulting in a cost-effective, broader range. Securaseal has made a major impact in the mining industry.

Severe service valves for the mining industry

The use of severe service ball valves in the mining industry has increased significantly over the past 15 to 20 years. The first such application is transport of ore from the extraction site, often located high in the mountains, to either a shipping port or to a processing plant. This involves mixing the ore with water to create a slurry that is carried through a high-pressure pipeline to its destination. These slurry pipelines can range from 6 to 36" in diameter and can be over 100 km (62 miles) long. In this application, valves are most commonly used to isolate the pumps that keep the slurry moving.

All in the family

Despite its continued growth, Velan still prides itself on the values instilled in the company's family-run culture. Though Velan went public in 1996, the Velan family controls 70 percent of the equity. Founder and Chairman A.K. Velan, at 96 years old, still goes in to the office daily; his sons Tom and Ivan run the company in the roles of President and CEO and Executive Vice-President, respectively. Recently, Velan also announced that founder A.K. Velan's grandson, Rob Velan, has rejoined the company as Vice-President, Distribution. He is responsible for Velan's North American distribution business.

Product profile: Velan's work in severe service application

Severe service ball valves are used when increased temperature and/or pressure combine with erosive and possibly corrosive media to exceed the capabilities of other valves.

Velan's complete line of metal-seated ball valves includes the Securaseal metal-seated ball valve line and the power-specific Power Ball valve.

Jens H. Mauritz, Velan's North American Sales Manager for Metal-Seated Ball Valves, says that before he took the job at Velan, he qualified the Power Ball and Securaseal lines. "When I accepted this position, I saw what a gem Velan had in the Power Ball," he explains. "End users are beginning to realize that these valves have incredible benefits including durability and much less need for mounting hardware. The design eliminates a lot of the failures that end users are now seeing from our competition." One of the reasons Jens says that valves like the Power Ball are set to take off in terms of sales is because the world of energy generation is rapidly changing. Especially in the United States and Canada, power plants are moving from the older, larger sub- and super-critical units—most of which are coal fired and increasingly affected by strict government regulations. Today, the industry is rapidly moving toward combined cycle power plants (CCPPs), and trends are suggesting that more and more of them will be rolled out each year. This is good news for suppliers of power valves.

In doing so, the valves are exposed to high pressures and a significant amount of solids. This requires super-hard coatings on the interior surfaces of the valve to resist the erosive forces of the high flow or high differential pressure slurry and heavy-duty drive trains to ensure that the valve does not seize despite the high level of solids inherent in this application.

Slurry pipelines operate at ambient temperatures and often handle corrosive

media. Valves in the slurry pipeline are typically automated with self-contained electrohydraulic actuators, ideal for this application's large output torque and likely installation in remote locations.

Once the ore is separated from the earth's crust it is transported from the extraction pit. In the case of precious and semi-precious metals (gold, nickel, etc.), the desired mineral must be separated from other elements and impurities that



Two 10" Class 150, super duplex, stainless steel Velan Securaseal valves.

make up the rock. Since older smelting processes are expensive and harmful to the environment, there is increased interest in using hydrometallurgy and, more specifically, pressure leaching to extract and refine these minerals. Craig Bekins, Velan's Director of Autoclave Projects and Torqseal Product Line, adds: "Our first Securaseal high-pressure acid leaching (HPAL) valve was installed in 1994: It is now a popular choice for HPAL applications. Fabricating valves made of exotic materials such as titanium, duplex stainless steel, and nickel-based alloys can be challenging at times. Velan's cost-effective and durable solutions to these tough processes have earned Velan an invitation to most major project quotations."

Delayed coker units (DCUs)

Jose del Buey, Velan's Vice President of Severe Service Applications, says that the current product diversity and global success did not come overnight. "Our first coker switch valve was installed in 1983. Initially, integrating the advanced engineering features and complex fabrication processes was a challenge. I spent hours meeting with our customers and listening to their requirements. Velan also has very strong partnerships with foundries around the world that we leveraged to produce competitively priced valves. After we delivered the valves, we then worked with the operations personnel to integrate our valves into their process and ensure the best possible performance."

He spent many more hours with the maintenance staff overcoming problems and developing product enhancements. "It's largely due to Velan's focus on high-quality design and engineering that we were able to make our coker valves the dominant solution for delayed coking applications."

Today, Velan's coker valves are installed in approximately 80-85% of the delayed coker projects worldwide.

The role of delayed cokers

DCUs take the residual oil feed to its thermal cracking temperature to generate gas and lighter components, and so

extract more products from the waste. Since this extraction maximizes the yield, DCUs are sustainable profit centers for the refineries. Velan's valves are used in strategic areas of the plant, diverting and isolating the flow between the two coker drums that are a main component of the DCU.

Velan also produces other valves that go into the coker process, such as high-pressure (class 1500-2000) metal-seated ball valves for water-cutting decoke systems, which are designed to seal against a highly erosive and corrosive media.

Velan ABV

In 2011, Velan acquired ABV S.p.A., an Italian company that mainly targets the oil and gas industries for off shore and subsea applications. It has expanded into power generation, geothermal processes, and liquefied natural gas (LNG).



Velan ABV S.p.A., Head Office and Plant 1 Lucca, Italy.

The company has also grown its product range to include pipeline ball valves, emergency shut-down valves, high-integrity pressure protection systems, subsea ball valves, control ball valves, diverter valves, modular double block and bleed valves, slab gate valves, choke valves, and nozzle check valves. It also designs and manufactures pneumatic, hydraulic, and gas-hydraulic actuators.

One of the end-user markets that Paolo Ranieri, Managing Director/Chief Executive of ABV Velan, feels has great potential is deep sea development.

"The deep sea is a newer market with very specialized products," he says. "In tackling this market, we are moving from the refinery and pipeline side to the production side by serving the floating production storage and offloading (FPSO) platforms," he says. FPSO platforms need top-quality, high-pressure valves that stand up to saltwater as well as the more corrosive fluids and gas involved.

PLC systems for tough applications

To meet customer requirements for integrated valve-actuator-PLC systems, Velan works with the top-tier EPCs to design, build, and commission control systems in hazardous zones around the world. Brian Simmons, Velan's Manager of Severe Service Applications, explains: "The customer gives us detailed specifications, then we figure out how

to make it happen, keeping it as safe and as simple as possible. Velan offers a combination of deep knowledge of valve design and manufacturing, hands-on automation experience, and experienced control system engineers. We build the system in our factory and test it with the valves. After delivery and installation, we commission the control system at site, providing training and documentation as required. The process works."

VELAN AT A GLANCE

History	Founded in 1950
Sales	Over USD\$500 million
People	Over 2,000 employees
Global network	17 production facilities 5 stocking distribution centers Hundreds of distributors' worldwide Service shops worldwide
Focus Product line	Entirely focused on industrial valves and steam traps A world-leading range of cast and forged steel gate, globe, check, ball, triple-offset butterfly, knife gate, highly engineered severe service valves, and steam traps offering superior performance across all major industrial applications.
Primary industries served	Fossil, nuclear, and cogeneration power Oil and gas Refining and petrochemicals Chemicals and pharmaceutical upstream, mid-stream (onshore, offshore, subsea) LNG and cryogenics Marine HVAC Mining Water and wastewater Pulp and paper
Quality	All major approvals ISO 9001 (since 1991) ASME N stamp for nuclear quality (since 1970) API 6D Total Process Improvement Program, including Lean Manufacturing and Six Sigma
Engineering	Leader in valve design with many first-to-market innovations Extensive engineering, R&D, cycle test facilities, and stress analysis Proven ability to satisfy special project requirements Field Engineering Services
Production capabilities	Leader in automated production CNC machines Multi-station transfer machines
Velan value	Strong management team, stable company Products proven to offer: - Low emissions - Easy maintenance - Long and reliable service - Low total cost of ownership - Quality that lasts