A world-leading valve product range

Velan. Quality that lasts.
A world leader in valve design, engineering solutions, and manufacturing

Leading the way...

Velan is one of the world’s largest manufacturers of industrial steel valves, recognized as a leader in quality and innovation. Founded by A.K. Velan in 1950, our company leverages advanced engineering capabilities and innovation to continuously expand our offering of industrial valves.

Today, Velan gate, globe, check, ball, triple-offset, knife gate, and engineered severe service valves are installed throughout the world, handling diverse applications in cogeneration, fossil, nuclear power, oil and gas, refining and petrochemicals, chemicals and pharmaceutical, pulp and paper, LNG and cryogenics, marine, mining, water and wastewater, and HVAC industries.

Engineered solutions

Velan’s Engineering Group has vast experience, sophisticated software, and testing tools that enable us to find solutions to any customer challenge.

Whether it is for valves to handle liquid helium at -458°F (-272°C) in the world’s largest particle accelerator at CERN, Geneva; four-way switch coker ball valves to handle one of the refining industry’s toughest services; or valves for main steam isolation service in an operating nuclear power plant, Velan has been selected by most of the world’s leading engineering construction firms and industrial end users. A long-standing commitment to quality has kept Velan at the forefront of industry standards.

Total quality commitment

Velan is totally committed to offering products and service that exceed customer expectations. All Velan valves are designed and manufactured with an emphasis on low emissions, safety, simple maintenance, ease of operation, and above all, long, and reliable service life. In fact, several years ago when a leading North American repair shop did an analysis on the reliability and repairability of commodity valves, Velan finished first. Whether we are manufacturing commodity valves or specialty valves, we deliver excellent long-term value to our customers.

VELAN AT A GLANCE

History
• Founded in 1950

Sales
• Over $450 million

People
• Over 1,700 employees

Global network
• 13 production facilities
• 5 plants in North America
• 4 plants in Europe
• 4 plants in Asia
• 4 stocking and distribution centers
• Hundreds of distributors worldwide
• Service shops worldwide

Product line
A world-leading range of cast and forg steel gate, globe, check, ball, triple-offset butterfly, knife gate, severe service, and bellows seal valves and steam traps across all major industrial applications.

Quality
All major approvals
• ISO 9001 (since 1991)
• ASME N stamp for nuclear valves (since 1970)
• API 6D
• Total Process Improvement Program including Lean Manufacturing, 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 and 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

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**Serving the industrial world’s toughest applications**

**PRIMARY INDUSTRIES SERVED**
- Fossil, nuclear, and cogeneration power
- Oil and gas
- Refining and petrochemicals
- Chemicals and pharmaceutical
- LNG and cryogenics
- Marine
- Mining
- HVAC
- Water and wastewater
- Pulp and paper

**Performance under pressure**
All over the world, Velan valves are used by leading industrial companies to help keep their operating facilities running smoothly. In fact, Velan valves have a long history of proving themselves in many of the industrial world’s toughest applications.

Our valves have provided long, trouble-free service life in such tough applications as hydrocrackers, cokers, LNG terminals, nuclear aircraft carriers and submarines, digester capping, green liquor, iron pellets, boiler blowdown, fly ash, ethylene, jet fuel, slurries, and countless other applications where there is no substitute for experience and proven performance.

**Global service with strong local presence**
Velan is a true global manufacturing leader. What’s more, our global presence goes far beyond our manufacturing facilities. Velan’s wide range of valves are sold through an extensive network of distribution companies. Velan valves are available from hundreds of distributors worldwide, guaranteeing that one of our Velan representatives is always nearby and ready to help. Our distributors are further supported by our North American and European distribution centers. Velan’s large inventories and premier sales network have helped us become a leader in supplying maintenance, repair, and overhaul (MRO) contracts to many of the world’s largest industrial companies.

**Manufacturing**
- **North America**
  - Plant 1: Montreal, Canada
  - Plant 2 & 7: Montreal, Canada
  - Plant 4 & 8: Granby, Canada
  - Plant 3: Montreal, Canada
  - Plant 5: Williston, VT, U.S.A.
- **Europe**
  - Plant 1: Lyon, France
  - Plant 2: Leicester, England
  - Plant 3: Lisbon, Portugal
- **Asia**
  - Plant 1: Ansan City, South Korea
  - Plant 2: Ansan City, South Korea
  - Plant 3: Taichung, Taiwan
  - Plant 4: Suzhou, China

**Distribution centers**
- VelCAN
- VelEAST
- VelMC
- VelICAN
- VelMCAN
- VelEAST
- VelICAN
- VelMCAN

**– ASME N-stamp accredited manufacturer**
An extensive product line for all your industrial valve needs

A one-stop valve shop
Velan offers one of the most comprehensive valve product lines available from any manufacturer. From the most common application to the most severe, Velan has a solution. We produce gate, globe, check, ball, triple-offset, knife gate, and engineered severe service valves and steam traps in sizes up to 64” (1600 mm) and for services up to ASME Class 4500.

Our products incorporate many unique design features for low fugitive emissions, simple in-line maintenance, and long service life.

Built to order
Our valves are available with a large selection of steel body materials, trims, options and accessories. With options such as bypasses and equalizers to special trims for HF acid or NACE service, Velan can provide valves built to your needs — often directly from our sales network’s extensive stock.

All Velan valves are available with actuation packages according to your needs. This includes electric, hydraulic, and pneumatic actuation with a complete range of controls and sensors.

Customer support
Velan’s engineering team has a long history of working with customers to solve their valve application problems. Our team of application engineers offer professional advice and expertise enabling them to select the best valve for any environment.

Delivering value through performance

Low total cost of ownership
When you take into account all the factors involved in owning a valve — including installation, service, and maintenance — the total cost of ownership of a valve can be several times the initial purchase price.

Velan valves are designed and manufactured to save you money by lowering maintenance costs and fugitive emissions and increasing service life and the chance that a valve can be repaired rather than replaced. We offer value unparalleled in the industry.

The performance of our valves has been proven over and over again in thousands of qualification tests, independent studies, and, most importantly, in working field conditions.

Apart from field-tested and proven valves, we also offer supplier-integrated engineering, value-added services, and all the other advantages you would expect from a world-class organization.

Any way you look at it, Velan offers exceptional performance and value.
Total quality commitment

Quality is our first priority

How does Velan design and manufacture valves that offer superior performance, reliability, and service life? We are committed to total quality in all we do. Since our company was founded, our entire philosophy has been focused on quality. Our comprehensive Quality Assurance System is geared towards continuous improvement, process quality, and stringent compliance to worldwide standards (e.g., ASME section III, PED, TUV, ISO 9001:2000).

Design

Velan’s Engineering Group performs FEA and qualification testing to validate designs. Velan has introduced many innovative technologies to the market, many of them simplifying maintenance and increasing service life. Keen attention to design detail and actual field feedback help us constantly improve our products and maximize performance.

Strategic procurement

Velan runs a strategic procurement program to help ensure final product quality. Velan’s Casting Quality Program brings together resident engineers at foundries, at-foundry statistical analysis programs, and Magmasoft® pour simulation software, to help us achieve an extremely low shell-leakage rejection rate of less than 0.05%.

Automated production

Velan has long been a leader in automated production of world-class valves. Our network of CNC machines employing Tool Data Management software and rigorous semi-automated testing ensure our valves have the tightest tolerance and the greatest level of consistency and reliability.

Production testing

Every Velan valve is subjected to hydrostatic testing before leaving the factory to help ensure problems won’t arise in the field. Production tests are part of our strict QC Program, developed over many years as a leading supplier of nuclear valves.

Our aim is to offer products and services that not only meet but also clearly exceed the expectations of our customers.

Through training, teamwork, and performance, our employees strive to achieve continuous improvement of all processes.

Our goal is total quality and on-time delivery; our method is total commitment.

A.K. Velan
Founder & CEO

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Gate, globe, and check valves

**PRESSURE SEAL AND BOLTED BONNET VALVES**

Forged pressure seal and large bolted bonnet gate, globe, and check valves for high pressure and high temperature service

_Sizes:_ 2–24” (50–600 mm)

_ASME classes:_ 150–4500

- One-piece forged bodies for superior strength and quality
- Live-loaded bonnet as a standard feature
- Graphite pressure seal gasket
- Machined body guides and a robust torque arm assembly
- Gate (flexible wedge and parallel slide), globe (angle, needle and stop), and check (piston, swing, and tilting disc) valve types
- Optional cast product offering
- Available in carbon, stainless, alloy (including F91), and nickel alloy steels
- Available for catalytic reforming, NACE (sour gas) and nuclear services

**API 600* CAST STEEL VALVES**

_API 600* Cast steel gate, globe, and check valves for a broad range of applications_

_Sizes:_ 2–64” (50–1600 mm)

_ASME classes:_ 150–1500

- World's largest manufacturer of cast steel gate, globe, and check valves
- Bubble-tight shut-off of gate valves up to 12” (300 mm)
- Gate, globe (needle and stop), and check (swing and piston) valve types
- Available in cast carbon, stainless, alloy, and nickel alloy steels
- Standard low fugitive emission packing and also available with bellows seal for zero emission services
- Available for block and bleed, cryogenic, HF acid, NACE (sour gas) and nuclear services

**API 603* STAINLESS STEEL VALVES**

_API 603* Corrosion-resistant stainless steel gate, globe, and swing check valves_

_Sizes:_ ¼–24” (8–600 mm)

_ASME classes:_ 150–300, 800

- Gate, globe (stop and needle), and check (swing) valve types
- Available in cast stainless steel
- Available for cryogenic and NACE (sour gas) services

**API 602* SMALL FORGED VALVES**

_Comprehensive range of small forged gate, globe, check, angle, and bellows seal valves_

_Sizes:_ ¼–4” (8–100 mm)

_ASME classes:_ 150–4500

- Bolted and welded bonnet body styles
- Gate, globe (angle, needle, and stop), and check (ball, piston, and swing) valve types
- Available in forged carbon, stainless, alloy (including F91), and nickel alloy steels
- Standard low fugitive emission packing and also available with bellows seal for zero emission services
- Available for block and bleed, cryogenic, HF acid, NACE (sour gas), and nuclear services

**Product catalog:** VEL-PS

**Product catalog:** VEL-CSV

**Product catalog:** VEL-API 603

**Product catalog:** VEL-SF

*The API designation defines the product design basis even though not all the valves are covered in the referenced API specification. These valves are also used in non-API service.*
Forged, one-piece high pressure inclined y-pattern valves

Sizes: ½–4” (15–100 mm)
ASME classes: 1690–4500

- One-piece forging with integral body-bonnet design
- Fully guided, non-spinning, stellite disc
- Non-rotating stem
- In-line repairable
- Globe (needle and stop) and check (piston) valve types
- Available in forged carbon steel, stainless, alloy (including F91), and nickel alloy steels
- Available with bellows seal
- Available for nuclear and NACE (sour gas) services

Product catalogs:
VEL-BG
VEL-XBG

Standard and bolted bonnet, all stainless steel knife gate valves

Sizes: 2–36” (50–900 mm)
ASME flange: up to 150

- All stainless steel design
- 0-14ph packing standard
- Locking device on standard knife gate valve
- Environmentally friendly bi-directional bolted bonnet and standard body styles
- Resilient and metal seats
- Available in cast stainless steel

Product catalog: VEL-KGV

Retainerless dual-plate check valves for a broad range of applications

Sizes: 2–60” (50–1500 mm)
ASME classes: 150–2500
API 6A classes: 2000–5000

- Lightweight and compact-size
- Retainerless design for fugitive emissions control
- Wafer, lug, double flange, hub-end and butt-weld end body styles
- Available in carbon, stainless, low-alloy, titanium, nickel-alum-bronze, and nickel alloy steels
- Seating surfaces offered as integral, hardfaced or with elastomer
- Available for cryogenic and NACE (sour gas) services

Product catalog: VEL-PQCV

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Quarter-turn valves

Resilient-seated ball valves with value-added technical features for superior performance

Sizes: ¼ – 24” (8 – 600 mm)
ASME classes: 150 – 600
WOG: up to 2000

• Memoryseal™ in-tension flexible seat design
• E-20 low emission packing arrangement
• Fire tested API 607/ISO 10497
• End-entry, one-piece, split-body, top-entry, unibody, and three-piece body styles (three-piece design includes a flexible lip seat)
• Available in carbon, stainless, alloy, and nickel alloy steels
• Available for chlorine, cryogenic, NACE (sour gas), nuclear, oxygen, throttling, and vacuum services

Product catalog: VEL-BV

Severe service metal-seated ball valves for high temperature, abrasive, and corrosive applications

Sizes: ½ – 24” (15 – 600 mm)
ASME classes: 150 – 4500
Temp: up to 1500°F (816°C)

• Shut-off to FCI 70-2 class 6
• Advanced trim coating technology
• Low emission stem seal with live-loaded packing as a standard feature
• Cast and forged bodies
• Available in carbon, stainless, alloy, duplex, titanium, and nickel alloy steels
• Available for aggressive slurries, batch digester capping, block and bleed, NACE (sour gas), nuclear, and oxygen service

Product catalog: VEL-MS

Forged, one-piece metal-seated ball valves for high temperature and high pressure applications

Sizes: ½ – 4” (15 – 100 mm)
ASME classes: 900 – 4500

• Forged, one-piece body
• Different coating options to best suit the application
• Blowout proof stem
• Tested to zero-leakage
• Live-loading stem/packing standard
• Integral ISO mounting pad for easy automation
• Available in A105, F22, F91, 316 and 316H

Product catalog: VEL-PBV

API 6D and 6A trunnion-mounted and floating ball valves for pipelines and offshore oil platforms

Sizes: 1 – 64” (25 – 1600 mm)
Pressure Classes:
6D: ASME 150 – 2500
6A: API 2000 – 15000

• Bolted body, top-entry, and welded body types
• Resilient or metal-seats
• Fire tested (API 607 rev. 4, BS 6755 – Part II and API 6FA)
• Available in carbon, stainless, alloy, and nickel alloy steels
• Available for cryogenic, NACE (sour gas), subsea, and underground services

Product Catalog: VEL-BV6D

Forged, one-piece metal-seated ball valves for high temperature and high pressure applications

Sizes: 1 – 64” (25 – 1600 mm)
Pressure Classes:
6D: ASME 150 – 2500
6A: API 2000 – 15000

• Bolted body, top-entry, and welded body types
• Resilient or metal-seats
• Fire tested (API 607 rev. 4, BS 6755 – Part II and API 6FA)
• Available in carbon, stainless, alloy, and nickel alloy steels
• Available for cryogenic, NACE (sour gas), subsea, and underground services

Product Catalog: VEL-BV6D

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• End-entry, one-piece, and three-piece body styles
• Available in carbon and stainless steel

World leader in coker ball valves and high temperature slurry applications

Sizes: 6–36” (150–900 mm)
ASME classes: 150–900

Resilient-seated ball valves for general use and commodity applications

Sizes: ¼–2” (8–50 mm)
WOG: 600–2000

Bi-directional, zero-leakage, triple-offset, metal-seated valves

Sizes: 3–80” (80–2000 mm)
ASME classes: 150–900
Temp: -425 to 1200°F (-254 to 650°C)

High performance cryogenic metal-seated butterfly valves

Sizes: 6–48” (150–1200 mm)
ASME classes: 150–300
Temp: down to -420°F (-252°C)

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Special applications

**BELLOWS SEAL VALVES**

The original hermetically sealed bellows seal valves for absolute zero-leakage service

**Sizes:** ½–12” (15–300 mm)  
**ASME classes:** 150–1500

- Multi-ply stainless steel, inconel and hastelloy bellows for long service life
- Gate, globe (angle, needle, and stop), and control valves
- Available in carbon, stainless, alloy, and nickel alloy steels
- Available for lethal, NACE (sour gas), nuclear, and vacuum service

**Product catalog:** VEL-BS

**CRYOGENIC CONTROL VALVES**

Severe service control valves for extreme temperature applications

**Sizes:** ¼–16” (8–400 mm)  
**ASME classes:** 150–2500  
**Temp:** down to -457°F (-272°C)  
**Cv:** 0.01 to 1800

- Resilient stainless steel design
- Linear or equal percentage flow characteristics
- Top-entry for easy maintenance
- Anti-cavitation, and low dB design for critical applications

**Product catalog:** SAS-CCON

**STEAM TRAPS**

An extensive range of traps for steam and air lines

**Sizes:** ¼–3” (8–80 mm)  
**Temp:** up to 1,100°F (593°C)  
**Pressure:** up to 4000 psi (276 bar)  
**Capacities:** 160,000 lb/hr (72,575 kg/hr)

- Available in Piping King arrangements
- Cage unit design for easy in-line repair
- Float bimetallic, hermetically sealed, piston-operated, space-heating, and thermodynamic types
- Optional blowdown valve, temperature controller, thermometer, and vacuum breaker available

**Product catalog:** VEL-ST
Stress calculations are done using 3D Finite Element Analysis (FEA) software, like ANSYS and Pro/Engineer, with 3D models developed in Pro-Engineer.

Engineering expertise

Over the years, Velan has brought together a strong team of professional engineers with extensive experience in critical applications. Using advanced software applications including Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), and 3D Solid-Modeling, Velan's engineers design superior quality valves that meet the most demanding performance requirements. Our R&D facilities, equipped with steam boilers, superheaters, flow loops, and cryogenic test stands, enable us to run comprehensive testing programs.

Velan also has a long-standing history of partnering with major architects/engineers and end users to develop innovative solutions for their valving needs.

ENGINEERING SERVICES

- Stress analysis and finite element analysis
- System upgrades
- Flow analysis
- Weak link analysis
- Root cause failure analysis
- Commissioning
- Troubleshooting
- Application engineering
- Certified genuine spare parts
- Valve repair, refurbishment, and upgrading
- Custom testing and test data analysis (NDT, X-Ray, UT, etc.)

After Market

Velan After Market offers a complete range of Velan OEM After Market services, including Velan Field Engineering Services, Velan OEM Spare Part and tool support, and Velan maintenance training courses.

Velan Field Engineering Services offers customers in-line service, maintenance, and product support on all our valve products. Our team of engineers and technicians are equipped with Velan OEM tools, lapping equipment and Velan OEM parts. With over 60 years of valve-servicing experience to nuclear and thermal power stations, refining and petrochemical plants, navy fleets, and many other industries, Velan offers true OEM service. Furthermore, Velan has a network of authorized service shops across the globe, ensuring we can meet your maintenance and service requirements whatever your location. We also have a complete library of Velan Maintenance Manuals.

Velan OEM Spare Part and tool support offers support on all Velan products. You are ensured of Velan OEM parts built to the same configuration as originally supplied. We can advise on recommended spare parts and on new projects we can advise Spare Part Interchangeability Reports (SPIRs).

Velan also offers Maintenance Training courses on our entire product line to ensure customers and service shops are aware of the latest and proper maintenance techniques on Velan products.

A wide range of actuation options

Velan and our distribution channels offer OEM actuators that meet the most demanding on/off and control applications.

Velan offers a wide range of products to address each customer application, from multi-turn electric actuators on rising-stem valves to scotch-yoke or double-opposed piston actuators on rotary valves.

Whatever your industrial valve needs, we can meet them with the highest quality products.

AUTOMATION CAPABILITIES

- Electric, hydraulic, and pneumatic actuation
- Pre-installation of switches, positioners, thrust and torque sensors, signal conditioners
- Integral control actuation and two-wire control
- OEM actuators through Velan stocking distribution or other actuators of your choice
- Overides, limit stops, and most standard accessories

Velan supplies turn-key automated packages with integral control actuation for two wire and closed loop systems (Profibus, Modbus, Fieldbus, etc.).
Velan’s extensive product range includes gate, globe, check, ball, triple-offset, and engineered severe service valves as well as steam traps — all of which are installed world-wide to handle diverse applications in the following industries:

- Fossil, nuclear, and cogeneration power
- Oil and gas
- Refining and petrochemicals
- Chemicals and pharmaceutical
- LNG and cryogenics
- Marine
- Mining
- HVAC
- Water and wastewater
- Pulp and paper

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