A World Leading Valve Product Range

- low emissions
- easy maintenance
- long, reliable service
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 leveraged advanced engineering capabilities and innovation-driven focus to continuously expand our offering of industrial valves.

Today, Velan gate, globe, check, ball, butterfly, knife gate and engineered severe service valves are installed throughout the world, handling diverse applications in the pulp and paper, power, chemical, petrochemical, oil and gas, cryogenics, mining, and marine industries.

**Engineered Solutions**
Velan’s Engineering Department has vast experience and sophisticated software and testing tools that enable the company 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.

Velan holds all major industry certifications, including ASME Section III, ISO 9001:2000, PED and API 6D. Many prominent companies have established partnerships or global supply agreements with Velan.

**A Global Manufacturing Leader**
With 1,165,500 sq. ft. (108,300 m²) of production space in thirteen specialized manufacturing plants, including six in Canada and U.S.A., four in Europe and three in Asia, Velan is a truly global manufacturing leader.

Velan uses the latest automation technology, including over 175 CNC machines and many special purpose transfer machines, enhanced with proprietary production techniques. A wide variety of equipment provides us with the ability to efficiently handle highly customized orders, as well as large production runs.

Velan employs almost 1,500 people, 75% of which are located in North America. International production centers are complemented by a global sales and distribution network, offering personal customer service and quick access to stock worldwide. Because customer requirements for immediate deliveries have escalated in the last few years, Velan has opened three quick-ship warehouses in North America to supplement the inventories of our stocking distributors.

**Total Quality Commitment**
Velan has always remained totally committed to offering products and service that not only meet, but 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, when a leading Houston repair shop recently did an analysis on the reliability and repairability of commodity valves, Velan finished first. Whether we are manufacturing commodity valves or specialty valves, our objective is to deliver excellent long term value to our customers.

**VELAN AT A GLANCE:**

- **History**
  - Founded in 1950
- **Sales**
  - $280 million (all valves)
- **People**
  - 1,500 employees
- **Production Facilities**
  - 1,165,000 sq. ft. (108,300 m²)
    - 6 plants in North America
    - 4 plants in Europe
    - 3 plants in Asia
- **Focus**
  - Entirely focused on industrial valves (not part of a group)
- **Product Line**
  - gate, globe, check, ball and butterfly valves
  - steam traps
- **Quality**
  - All major approvals, including:
    - ASME N stamp for nuclear quality (since 1970)
- **Engineering Capabilities**
  - Extensive Engineering and R&D capabilities (100 people):
    - cycle test facilities
    - stress analysis capabilities
- **Production Capabilities**
  - Leader in automated production:
    - 175+ CNC machines
    - multi-station transfer machines
- **Approval and Acceptance**
  - Approved by all major companies in the markets served
- **Value**
  - Industry-leading performance and total cost of ownership
Serving the World’s Leading Industrial Companies

Performance Under Pressure
All over the world, Velan valves are used by the world’s 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 hydro-crackers, 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.

PRIMARY INDUSTRIES SERVED:
- Fossil, Nuclear & Cogeneration Power
- Oil & Gas
- Refining & Petrochemicals
- Chemicals & Pharmaceutical
- Pulp & Paper
- LNG & Cryogenics
- Marine
- Mining
- Water & Wastewater
- General Construction

Global Service with Local Presence
With well over 1,000,000 sq.ft. of production space spread across eight countries, Velan is a true global manufacturing leader. But our global presence goes far beyond our manufacturing facilities. Velan's wide range of valves are sold through an extensive network of leading distribution companies. Velan valves are available from over 200 distributors in 50 countries, guaranteeing that one of our Velan representatives is always nearby and ready to help. Our distributors are further supported by Velan’s three North American and two European distribution centers. Velan’s large inventories and premier sales network have helped us become a leader in supplying MRO contracts to many of the world’s largest industrial companies.
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, butterfly, engineered severe service valves and steam traps in sizes up to 72” (1800 mm) and for services 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 near endless selection of steel body materials, trims, options and accessories. From options like 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 customer 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
Take into account all the factors involved in owning a valve—including installation, service and maintenance—and the total cost of ownership of a valve can be several times the initial purchase price.

Velan valves are designed and manufactured with this in mind. Our valves will save you money, by lowering maintenance costs, increasing service life, lowering fugitive emissions and increasing the chance that a valve can be repaired rather than replaced. Take into account all the factors involved in owning a valve and you’ll find that Velan valves 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. Customers throughout the world have made Velan their preferred choice, based on our track record.

Apart from the industry-leading performance of our valves, Velan offers supplier-integrated engineering, value-added services and all the other advantages you would expect from dealing with a world-class organization. Any way you look at it, Velan offers exceptional value.

### PRODUCT LINE

| Pressure seal & bolted bonnet valves |
| API 600 cast steel valves |
| API 603 stainless steel valves |
| API 602 small forged valves |
| Y-pattern valves |
| Stainless steel knife gate valves |
| Wafer check valves |
| Bellows seal valves |
| Memoryseal ball valves |
| API 60 trunkion-mounted valves |
| Securaseal metal-seated ball valves |
| Power ball valves |
| Engineered severe service valves |
| General purpose ball valves |
| Torqseal triple-offset butterfly valves |
| Vellflex cryogenic butterfly valves |
| Nuclear valves |
| Cryogenic valves |
| Azareg control valves |
| Universal bimetallic steam traps |

### VALVE TYPE

- Angle
- Ball, metal-seated
- Ball, resilient-seated
- Butterfly
- Check, piston
- Check, swing
- Control
- Gate
- Globe (stop)
- Knife
- Needle
- Parallel slide
- Y-pattern, inclined
- Steam trap

| SIZE RANGE |
| 1/2” - 2’ |
| 2” - 4’ |
| > 4’ |
Total Quality Commitment

Quality is Our First Priority
How does Velan design and manufacture valves that offer superior performance, reliability and service life? The answer is Total Quality Commitment. Since its founding, Velan’s 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
Before production starts, Velan’s Engineering Department does FEA and qualification testing to verify the design. 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, which includes resident engineers at foundries, at-foundry statistical analysis programs and Magmasoft pour simulation software, has helped us achieve a shell-leakage rejection rate of 0.03% compared with the industry average of 2-4%.

Automated Production
Velan is a valve industry leader in automated production. With 175 CNC machines employing Tool Data Management as well as semi-automated testing and assembly plants Velan is able to produce valves with the tightest tolerances, and highest 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.
GATE, GLOBE AND CHECK VALVES

PRESSURE SEAL & 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 take up bolts
- graphite pressure seal gasket
- gate (flexible wedge and parallel slide), globe (angle, needle and stop), check (piston, swing and tilting disc) and power reformer zvalve types
- optional cast product offering
- optional center cavity overpressure protection
- available in carbon, stainless, alloy (including F91) and nickel alloy steels
- available with bellows seal
- available for catalytic reforming, NACE (sour gas) and nuclear services

Product Catalog: VEL-PS

www.velan.com/ps

CAST STEEL VALVES

API 600 cast steel gate, globe and check valves for a broad range of applications

Sizes: 2–60" (50–1500 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"
- gate, globe (needle and stop) and check (swing) valve types
- available in cast carbon, stainless, alloy and nickel alloy steels
- available with bellows seal
- available for cryogenic and NACE (sour gas) services

Product Catalog: VEL-CSV

www.velan.com/cs

STAINLESS STEEL VALVES

API 603 stainless steel gate, globe and swing check valves

Sizes: ¼ –24" (15–600 mm)
ASME Classes: 150–300, 800

- gate, globe (stop and needle) and check (swing) valve types
- available in cast stainless steels
- available for cryogenic and NACE (sour gas) services

Product Catalog: VEL-API 603

www.velan.com/ss

API 602 SMALL FORGED VALVES

Comprehensive range of small forged gate, globe, check, angle and bellows seal valves with unique design features

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) check valve types
- available in forged carbon, stainless, alloy (including F91) and nickel alloy steels
- available with bellows seal
- available for chlorine, continuous blowdown, cryogenic, HF acid, NACE (sour gas) and nuclear services

Product Catalog: VEL-SFV

www.velan.com/sf
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, stainless, alloy (including F91) and nickel alloy steels
- available with bellows seal
- available for nuclear and NACE (sour gas) services

Standard and bolted bonnet all stainless steel knife gate valves

Sizes: 2 – 36” (50 – 900 mm)
Pressure: up to 150 psig (10.3 bar)

- all stainless steel design
- 0-14ph packing standard
- Locking device on standard knife gate valve
- environmentally friendly bidirectional bolted bonnet and standard body styles
- resilient and metal seats
- optional v-port gates
- available in cast stainless steels
- available for NACE (sour gas) service

Retainerless wafer check valves for a broad range of applications

Sizes: 2 – 72” (50 – 3600 mm)
ASME Classes: 150 – 2500
API Classes: 2000 – 10000

- lightweight, retainerless design
- wafer, lug, flanged and hub end body styles
- available in carbon, stainless, alloy and nickel alloy steels
- available for cryogenic and NACE (sour gas) services

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

Sizes: ¼ – 12” (15 – 300 mm)
ASME Classes: 150 – 1500

- multi-ply SS, 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-BG
www.velan.com/bg

Product Catalog: VEL-KGV
www.velan.com/kg

Product Catalog: VEL-PROQ-CV
www.velan.com/wc

Product Catalog: VEL-BS
www.velan.com/bs
Resilient-seated ball valves with value added technical features for superior performance

Sizes: ⅜ –24” (8–600 mm)
ASME Classes: 150–600
WOG: 1000–2000

- Memoryseal in-tension flexible seat design
- E-20 low emission packing arrangement
- foolproof gasket technology
- fire tested (API 607, BS 6755 and API 6FA)
- end entry, one-piece, split body, top entry and unibody types
- available in carbon, stainless, alloy and nickel alloy steels
- available for block & bleed, chlorine, cryogenic, NACE (sour gas), nuclear, oxygen, throttling and vacuum services

Product Catalog: VEL-BV

www.velan.com/bv

API 6D & 6A trunnion-mounted 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

www.velan.com/6d

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

Sizes: ⅜ –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
- cast and forged bodies
- available in carbon, stainless, alloy and nickel alloy steels
- available for block & bleed, NACE (sour gas), nuclear and oxygen service

Product Catalog: VEL-MS

www.velan.com/ms

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

Sizes: ⅜ –4” (15–100 mm)
ASME Classes: 900–4500

- forged, one-piece body
- HVOF coated, inconel ball and downstream seat
- blow-out proof stem
- tested to zero-leakage
- standard stem/packing live-loading
- integral ISO mounting pad for easy automation

Product Catalog: VEL-PBV

www.velan.com/pb
Custom-engineered metal-seated ball valves for severe process applications, including:

- switch & isolation valves for delayed cokers
- batch digester capping valves
- flow-thru jacketed metal-seated ball valves for polymers and solvent transfer lines
- HPAL mining valves
- catalyst regeneration for FCCs

Resilient-seated ball valves for general use and commodity applications

Sizes: ¼ – 2” (8 – 50 mm)
WOG: 600 – 2000

- end entry, one-piece and three-piece body styles
- available in carbon and stainless steels and bronze

Triple-offset metal-seated butterfly valves

Sizes: 3 – 48” (80 – 1200 mm)
ASME Classes: 150 – 600
Temp: -50 to 1200°F (-46 to 649°C)

- zero-leakage to API 598 standard
- bi-directional shutoff
- fire tested to API 607 rev. 4
- available to DIN
- available in lug, wafer, ISO 5752 and ASME B16.10 body patterns
- available in carbon, stainless, alloy and nickel alloy steels
- available for cryogenic, NACE (sour gas) and nuclear service, vacuum service

High performance cryogenic metal-seated butterfly valves

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

- butt weld end or flanged types
- side-entry design offers easy in-line maintenance
- bi-directional shutoff
- zero-leakage to API 598
- metallic seal (Velflex technology)
- fire tested (API 607 rev. 4, API 6FA and BS 6755 - Part II)

Product Catalogs:

- Product Catalog: VEL-CBV
- Product Catalog: VEL-GPBV
- Product Catalog: VEL-BF
- Product Catalog: VEL-SAS-BF

www.velan.com/es
www.velan.com/gp
www.velan.com/bf
www.velan.com/cb
**NUCLEAR VALVES**

The most comprehensive range of nuclear valves available from any manufacturer, including gate, globe, check, ball and butterfly valves.

Sizes: ¼ –72” (8–3600 mm)
ASME Classes: 150–4500

- ASME N (ASME III, Class 1,2, 3) and NPT certificates of authorization (since 1970)
- QA Program fully compliant with NCA 4000, ASME NQA-1 and 10CFR 50
- Next generation MOVs designed and qualified to the highest standards as a result of NRC GL 89-10
- Gate, globe (angle, needle and stop), check (ball, piston and swing), ball (metal and resilient seated), butterfly (triple-offset), wafer check, bellows seal and main steam isolation valve types

Product Catalog: VEL-NCP

www.velan.com/nu

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**CRYOGENIC VALVES**

The most comprehensive range of cryogenic valves available from any manufacturer, including gate, globe, check, ball, butterfly and control valves.

Sizes: ¼ –48” (10–1200 mm)
ASME Classes: 150–2500
Temp: down to -425°F (-254°C)

- All major approvals, including: N.K. Class, Lloyd’s Register, Gaz de France, Air Liquide, CERN Geneva, CEA/CE NG
- Gate, globe (needle and stop), check (ball, piston, swing and wafer), ball (split body and top entry), butterfly (high performance and triple-offset) and control valves
- Wafer, lug, flanged and hub end body styles

Product Catalog: VEL-CRYO

www.velan.com/cr

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**CONTROL VALVES**

Severe service control valves for extreme temperature applications.

Sizes: ¼ –16” (8–400 mm)
ASME Classes: 150–2500
Temp: -457 to 1,094°F (-272 to 590°C)
Cv: 0.0001 to 3600

- Anti-cavitation, bellows seal, cage, cryogenic, globe and micro-flow control valve types
- Optional in-line, safety relief, spray and vacuum jackets available
- Available for cryogenic and supercryogenic services

Product Catalog: VEL-ADCV

www.velan.com/ad

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**UNIVERSAL BIMETALLIC STEAM TRAPS**

An extensive range of bimetallic steam traps for steam and air lines.

Sizes: ¼ –3" (8–80 mm)
Temp: up to 1,100°F (593°C)
Pressure: up to 2,600 psi (179 bar)
 Capacities: 160,000 lb/hr (72,727 kg/hr)

- Available in ‘Piping King’ arrangement
- Cage unit design for easy inline 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

www.velan.com/st
Engineered Solutions

Velan used Computational Fluid Dynamics to improve the flow characteristics of this 4” (100 mm) globe valve.

Engineering Capabilities

Velan has brought together a team of over 50 professional engineers, with extensive experience in critical applications, who form the core of our Engineering Design Group. 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 and superheaters, flow loops and cryogenic test stands, enable us to run comprehensive testing programs.

Velan has a longstanding history of partnering with major Architect/Engineers and end users to develop innovative solutions for their valving needs.

Field Engineering Services

Velan Field Engineering Services offers customers with in-line service and maintenance on all our valve products. Our team of engineers/technicians is on call 24 hours a day, and is equipped with the most sophisticated tools available on the market and over 50 years of valve servicing experience to nuclear and thermal power stations, fossil fuel plants, navy fleets, petro-chemicals and other industries. Furthermore, Velan has a network of over 70 authorized service shops all over the world, to help meet your maintenance and service requirements whatever your location.

Automation Capabilities

Velan and our distribution channel have many OEM actuators to meet the most demanding on/off and control applications in a pulp and paper mill. Velan interviews and audits our distributors before appointing them as authorized actuator mounting shops. Recently Velan has launched a formal program authorizing selected shops as quarter turn actuation houses. In addition, Velan carries out extensive qualification of actuators.

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

Our philosophy is to offer what the customer wants and make sure the complete package is of the highest quality.

AUTOMATION CAPABILITIES INCLUDE:

- Electric, Hydraulic and Pneumatic Actuation
- Preinstallation of switches, positioners, thrust and torque sensors, signal conditioners
- Integral control actuation and two wire control
- O.E.M. actuators through Velan stocking distribution or actuators of the customer’s choice
- Overides, limit stops and most accessories standard

Velan can supply turn-key automated packages with integral control actuation for two wire and closed loop systems (Profibus, Modbus, Fieldbus, etc.).
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<thead>
<tr>
<th>Industry</th>
<th>VELAN INC.</th>
<th>VELAN VALVE CORPORATION</th>
<th>DISTRIBUTED BY:</th>
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<tbody>
<tr>
<td>Fossil, Nuclear &amp; Cogeneration Power</td>
<td>94 Avenue C, Williston, VT 05495-9732</td>
<td>Tel: (514) 748-7743 Fax: (514) 748-8635</td>
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<tr>
<td>Oil &amp; Gas</td>
<td>7007 Côte de Liesse, Montreal, QC H4T 1G2 Canada</td>
<td>Tel: (514) 748-7743 Fax: (514) 748-8635</td>
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