

CONDENSED  
PRODUCT  
CATALOGUE

# VSI CONTROLS OVERVIEW

CONDENSED  
PRODUCT  
CATALOGUE



Solutions  
offering

**VSI** CONTROLS  
A PETROLVALVES COMPANY

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# About us

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“best-fit solutions  
for Customer’s  
processes”

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## A NEW GLOBAL PLAYER IN THE CONTROL VALVE BUSINESS

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VSI Controls™, a leading international control valve company and wholly-owned subsidiary of PetrolValves™, offers Customers an exciting alternative to procure **severe service rotary and reciprocating control valve systems** that provide a **best-fit solution** for their processes.

The design, geometry and shapes of the products, together with the use of noble materials, modern casting processes and advanced assembly and test technology, differentiate VSI Controls™ in applications such as: superheated steam, high differential pressures, volatile, corrosive, dirty and erosive fluids, as well as solutions to eliminate cavitation and aerodynamic noise issues.

VSI Controls™ - through the manufacturing and technical prowess of PetrolValves™ - provides the highest quality control valves systems and complements the product offering of PetrolValves™ manual & automated on-off valves and Mokveld™ axial control, check and choke valves.

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# our values

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## Vitality

we face every new challenge with a positive, confident and enthusiastic approach focusing our energy and our technical skills on **solving Customer problems**.

## Synergy

we are committed to a win-win strategy. Hence we are keen on working in conjunction with our Clients to provide the best fit solutions in the shortest possible timeframe.

**Your process improvement is our satisfaction!**

## Insight

each day we encounter and sort out a wide variety of process control issues in many industries and applications. Our **experiences** generate valuable insights which we share, communicate and discuss with our Customers, with the intent of improving and **creating innovative solutions!**

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## CUSTOMER FOCUSED AND ALIGNED

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VSI Controls™ pledges to provide: **timely inquiry response, on-time delivery**, contractual fulfillment, local support thru **resident engineering services**, thru a global footprint, and to supply its Customers high quality flow control solutions at **competitive prices**.

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# our vision

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Trained and experienced local sales experts interface with the Customer and coordinate with the factory team to insure all requirements are communicated and agreed. Skilled and insightful factory professionals collaborate and integrate the necessary innovation and manufacturing know-how to insure specification compliance, functionality, controllability, performance, reliability and on-time delivery of each system.

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# our mission

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VSI Controls™ is fully committed to its Customers the **highest level of service and satisfaction** while providing **customized best-fit solutions at competitive prices and delivered on time.**

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“product’s quality  
that surpasses  
manufacturing  
excellence!”

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# control valves features

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The control valve is the most important piece of equipment in modern process loops and control systems.

The operational conditions of fluid pressure, temperature and process dynamics require rigor in the analysis of intrinsic characteristics and in the selection of control valves to obtain efficient performance in a process control system.

We have assembled a range of products with the design, geometry and shapes that differentiate us in the specialty and severe service control valve market, in applications, such as: superheated steam, high differential pressures, volatile, corrosive, dirty and erosive fluids, as well as solutions to eliminate cavitation and aerodynamic noise issues.

These shape and design characteristics, together with the use of noble materials, modern casting processes and advanced assembly and test technology, has allowed us to achieve an extraordinary level of capability and quality that is recognized by our Customers all over the world.

The **control valve offering** includes Reciprocating Globe, Angle and Three-Way, Rotary Eccentric Plug, Double and Triple Offset Butterfly, Segmented V-Ball, Specialty Ball, Desuperheaters and Regulators. They come equipped with Double-acting spring return actuators and advanced digital positioners and provide the thrust, speed, accuracy and response to handle the most exacting applications.

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### GLS

The GLS Series is the work-horse of the reciprocating valve offering with a modern design that incorporates an advanced clamped-in seat ring and a double upper guide system. It is available in a wide range of configurations and suitable for a wide variety of applications in the continuous process industries.

Its double-acting spring-cylinder actuator ensures high actuation thrusts, pneumatic stiffness and excellent performance levels.

The GLS series is extremely versatile and can be supplied with several options to meet the specific needs of each application.



**SIZES** 1/2" through 36" (15 through 900 mm)

**RATING CLASS** 150, 300 and 600

#### BODY MATERIALS

Carbon Steel, Chrome-Moly, Stainless Steel, Duplex, Hastelloy, Monel, Alloy 20, Bronze, CZ 100, Titanium, Most other Alloys

#### END CONNECTIONS

Integral or separable flanges: ANSI 150-600, UNI - DIN 10 -100, SW or BW, NPT, Grayloc®

#### TRIM MATERIALS

Equal percentage, Linear, Quick Open, Quick change seat, Stainless Steel 316 or 420, Duplex, Most other Alloys

#### ACTUATOR

Double Acting cylinder with spring for failsafe action, Electric, Hydraulic options

#### FEATURES

Versatile configurations: single seat, cage, angle, 3-ways, steam-jacketed, cryogenic, micro flow, bellows seal, low noise and anticavitation, reduced trims. Double top-stem guiding designed out of stream and large stem diameter ensures shutoff and no galling or sticking, Simple to service and maintain

## RECIPROCATING CONTROL VALVES

### GXL

GENERAL SERVICE



**SIZES** 1/2" through 4" (15 through 100 mm)

**RATING CLASS** 150 and 300

**BODY MATERIALS** Carbon Steel, Chrome-Moly, Stainless Steel

**END CONNECTIONS** Integral flanges ANSI 150 - 300, UNI - DIN 10-40, SW or BW, NPT

**TRIM** Equal percentage, Linear, Quick Open, Quick-change seat, Stainless Steel 316 or 420

**ACTUATOR** Double Acting cylinder with spring for failsafe action

**FEATURES** Integrated system with valve, actuator and digital positioner, versatile, robust and simple, compact and lightweight, high flow Cv coefficients, low emission packing, micro flow design available, high performance and fast delivery, general service & utilities

### GLH

HIGH PERFORMANCE



**SIZES** 1" through 24" (25 through 600 mm)

**RATING CLASS** 900, 1500 and 2500

**BODY MATERIALS** Carbon Steel, Chrome-Moly, Stainless Steel, Duxex, Hastelloy, Monel, Alloy 20, Bronze, CZ 100, Titanium, Most other Alloys

**END CONNECTIONS** Integral or separable flanges ANSI 900 - 2500, UNI - DIN 150-400, SW or BW, NPT, Grayloc®

**TRIM** Equal percentage, Linear, Quick Open, Quick-change seat, Stainless Steel 316 or 420, Duplex Most other Alloys

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** Versatile configurations: single seat, cage, angle, 3-ways, steam jacketed, cryogenic, low noise anticavitation, reduced trims. Double top-stem guiding designed out of stream and large stem diameter ensures shutoff and no galling or sticking, simple to service and maintain

## RECIPROCATING CONTROL VALVES

### GLB

BAR STOCK



**SIZES** 1/2" through 6" (12 through 150 mm)

**RATING CLASS** 150 through 4500

**BODY MATERIALS** Any forged material

**END CONNECTIONS** Integral flanges ANSI 150 - 4500, UNI - DIN 10-640, SW or BW, NPT, Grayloc®

**TRIM** Equal percentage, Linear, Quick Open, Quick-change seat, Stainless Steel 316 or 420, Most other Alloys

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** Globe and Angle configuration, extremely wear resistant, can meet any custom face to face requirements

### GLE

EROSIVE APPLICATION



**SIZES** 1" through 18" (25 through 450 mm)

**RATING CLASS** 150 through 1500

**BODY MATERIALS** Carbon Steel, Chrome-Moly, Stainless Steel, Most other Alloy

**END CONNECTIONS** Integral flanges ANSI 150 - 1500, UNI - DIN 10-250

**TRIM** Equal percentage, Linear, Quick Open, Specific hardened metal for each application

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** Specially designed for severe, flashing and erosive service, slurry fluids

## RECIPROCATING CONTROL VALVES

### GLA

Y TYPE



**SIZES** 1 1/2" through 14"  
(40 through 350 mm)

**RATING CLASS** 150 through 600

**BODY MATERIALS** Carbon Steel  
Chrome-Moly  
Stainless Steel  
Most other Alloys

**END CONNECTIONS** Integral flanges, ANSI 150 - 600  
UNI -DIN 10-100, SW or BW, NPT

**TRIM** Equal percentage, Linear, Quick Open, Stainless Steel, Most other Alloys

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** "Y" type body, greater flow rate capacity per size, streamlined flow path, almost straight passage area creates less turbulence through the valve and piping

### GLC

CRYOGENIC



**SIZES** 1/2" through 6"  
(12 through 150 mm)

**RATING CLASS** 150 through 600

**BODY MATERIALS** Stainless Steel  
Alloys for cryogenic service

**END CONNECTIONS** Integral flanges, ANSI 150 - 1500  
UNI -DIN 10-250, SW or BW

**TRIM** Equal percentage, Linear, Quick Open, Stainless Steel, other cryogenic alloys

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** Top entry design, light weight body, leakage Class VI, suitable down to -218°C (-360°F)

## Alpha



**APPLICATIONS** Low and medium cavitation intensity

**SIZE RANGE** 1" to 16"

**PRESSURE RATING CLASS** 150 to 2500

## Attenuator plate Beta



**APPLICATIONS** Noise Reduction (until 15 dBA)

**SIZE RANGE** 1 1/2" to 36"

**PRESSURE RATING CLASS** 150 to 2500

## Delta



**APPLICATIONS** Cavitation and noise reduction

**SIZE RANGE** 1 1/2" to 36"

**PRESSURE RATING CLASS** 150 to 2500

## Beta



**APPLICATIONS** Noise Reduction

**SIZE RANGE** 1" to 24"

**PRESSURE RATING CLASS** 150 to 2500

## Gamma



**APPLICATIONS** Cavitation

**SIZE RANGE** 2" to 36"

**PRESSURE RATING CLASS** 150 to 2500

## Omicron



**APPLICATIONS** Cavitation in low flow applications

**SIZE RANGE** 1" to 2"

**PRESSURE RATING CLASS** 150 to 2500

## Omega



**APPLICATIONS** Cavitation in low flow applications

**SIZE RANGE** 1/2" to 2"

**PRESSURE RATING CLASS** 150 to 2500

## ROTARY CONTROL VALVES

### EXL

#### ECCENTRIC PLUG



**SIZES** 1" through 12"  
(25 through 300 mm)

**RATING CLASS** 150 through 600

**BODY MATERIALS** Carbon Steel, Chrome Moly, Stainless Steel, Duplex, Hastelloy, Monel, Alloy 20, Bronze, CZ 100, Titanium, Most other Alloys

**END CONNECTIONS** Integral flanges, ANSI 150 - 600  
UNI-DIN 10-100, Flangeless (wafer-style assembly)

**TRIM** 17-4PH (standard)  
316 with Alloy 6

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** High Cv capacity, non-crossover shaft, std. anti blow-out proof stem, class IV and VI shut-off, NACE noise attenuator available

### VXL

#### SEGMENTED BALL



**SIZES** 1" through 16"  
(25 through 400 mm)

**RATING CLASS** 150 through 600

**BODY MATERIALS** Carbon Steel, Chrome Moly, Stainless Steel, Most other Alloys

**END CONNECTIONS** Integral flanges, ANSI 150-600  
UNI-DIN 10-50, Flangeless (wafer-style assembly)

**TRIM** Stainless steel 316 L  
Hastelloy C  
Inconel

**ACTUATOR** Double Acting cylinder with spring for failsafe action  
Electric, Hydraulic options

**FEATURES** V-notch Ball, high rangeability bidirectional seat, non-crossover shaft, class IV and VI shut-off

## ROTARY CONTROL VALVES

### BXL

#### DOUBLE ECCENTRIC BUTTERFLY



**SIZES** 2" through 36" (50 through 900 mm)  
\*2" through 24" (50 through 600 mm)

**RATING CLASS** 150 through 600, \*900 and 1500

**BODY MATERIALS** Carbon Steel, Chrome Moly /  
Stainless Steel, Duplex  
Most other Alloys

**END CONNECTIONS** Integral flanges, UNI - DIN 10-250,  
Flangeless (water style assembly),  
LUG type

**TRIM** Carbon Steel /Stainless Steel  
Duplex, Most other Alloys

**ACTUATOR** Double Acting cylinder with  
spring for failsafe action, Electric,  
Hydraulic options

**FEATURES** Double offset configuration,  
leakage class VI, V and VI, bi-  
metallic seal ring for bidirectional  
flow, cryogenic design, drilled wing  
design for anti cavitation or noise  
reduction available

### AJ

#### TRIPLE OFFSET METAL SEATED



**SIZES** 4" through 36" (100 through 900 mm)

**RATING CLASS** 150 through 900

**BODY MATERIALS** Carbon Steel, Stainless Steel,  
Most other Alloys

**END CONNECTIONS** Integral flanges, Flangeless (wafer-  
style assembly), Lug type, Flange  
drilling-rating, ASME B16.5 Class  
150 to 900, EN 1092-1 PN10 to 160

**TRIM** Carbon Steel, Stainless Steel,  
Most other Alloys

**ACTUATOR** Pneumatic, Hydraulic, Electric

**FEATURES** Unique triple offset, quarter turn  
geometry for non-rubbing design,  
design meets API 609, ASME B16.34,  
EN 12516, EN 593, resilient metal  
sealing and torque seating for zero  
leakage tightness performance  
(tested to API 598), Stellite® gr. 21  
overlay on seat for extended valve  
service life on a wide range of  
applications, all-metal construction  
for inherently fire safe valve design,  
blow-out proof stem as per API 609  
requirements

## ROTARY CONTROL VALVES

### HXL HIGH PRESSURE



**SIZES** 2" through 48"  
(50 through 1200 mm)

**RATING CLASS** 150 through 2500

**BODY MATERIALS** Carbon Steel, Chrome Moly, Stainless Steel, Duplex, Most other Alloys

**END CONNECTIONS** Integral flanges, ANSI 150 - 2500  
UNI -DIN 10-400, BW

**TRIM** Stainless Steel, Duplex  
Most other Alloys

**ACTUATOR** Double Acting cylinder with spring for failsafe action, Pneumatic Scotch Yoke, Electric, Hydraulic options

**FEATURES** Side entry split body, trunnion design, high flow capacity, high rangeability, accurate control capability, class V and VI sealing capability, noise reduction on gas, anti cavitation on liquid, compatible with dirty fluids

## PNEUMATIC ACTUATORS

### RA - TL SCOTCH YOKE



**SIZES** 100, 200, 300

**ACTION TYPE** Single acting air to open  
Single acting air to close  
Double acting with spring to open  
Double acting with spring to close

**CYLINDER MATERIAL** Cast anodized, Alluminium Alloy, Steel option

**AIR SUPPLY** Up to 150 psi (10,3 bar)

**OPERATING TEMPERATURE** -40°F to 350°F  
(-40°C to 175°C)

**OPTIONS** Disengaging handwheel, limit stops, positioners, solenoids, limit switches, others

## PNEUMATIC ACTUATORS

### LA - XL

#### LINEAR SPRING PISTON



**SIZES** 15, 25, 50, 100, 200, 300, 400, 600

**ACTION TYPE** Single acting air to open  
Single acting air to close  
Double acting with spring to open  
Double acting with spring to close  
Double acting

**CYLINDER MATERIAL** Cast anodized aluminium alloy

**AIR SUPPLY** Up to 150 psi (10,3 bar)

**OPERATING TEMPERATURE** -40°F to 350°F  
(-40°C to 175°C)

**OPTIONS** Disengaging handwheel, limit stops, positioners, solenoids, limit switches, others

### RA - XL

#### ROTARY SPRING PISTON



**SIZES** 25, 50, 100, 200, 300

**ACTION TYPE** Single acting air to open  
Single acting air to close  
Double acting with spring to open  
Double acting with spring to close  
Double acting

**CYLINDER MATERIAL** Cast anodized aluminium alloy

**AIR SUPPLY** Up to 150 psi (10,3 bar)

**OPERATING TEMPERATURE** -40°F to 350°F  
(-40°C to 175°C)

**OPTIONS** Top mounted push only handwheel, side mounted or top mounted continuously connected handwheel, limit stops, positioners, solenoids, limit switches, others

## PNEUMATIC ACTUATORS

### LA-ES

HEAVY DUTY SPRING PISTON



**SIZES** 235, 335, 435 mm

**ACTION TYPE** Single acting air to open  
Single acting air to close  
Double acting with spring to close  
Double acting with spring to open  
Double acting

**CYLINDER MATERIAL** CS, SS

**AIR SUPPLY** Up to 150 psi (10,3 bar)

**OPERATING TEMPERATURE** -40 to 350° F  
(-40 to 175°C)

**OPTIONS** Disengaging handwheel, limit stops, positioners, solenoids, limit switches

**FEATURES** Others

### Chronos®

DIGITAL POSITIONER



**COMMUNICATION PROTOCOL** Hart® version 7

**POWER SUPPLY** Two-wire, Loop powered, 4-20 mA, Protected against reverse polarity

**INPUT SIGNAL** 4-20 mA (3.8 mA min.)

**SUPPLY PRESSURE** 30 to 120 psig (2.1 to 8.3 bar)

**OPERATING TEMPERATURE** -40°F to 185°F  
(-40°C to 85°C)

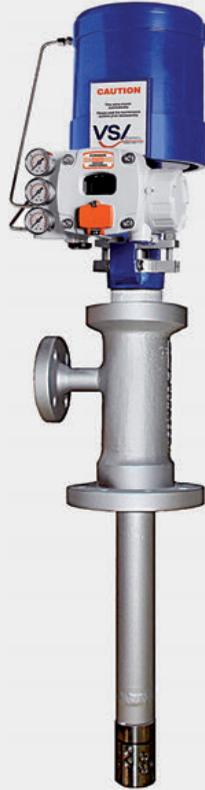
**CHARACTERIZATION** Linear, Equal percent or Customized (with characterizable curve of 21 point)

**FEATURES** Better accuracy and value than E/P positioner, auto calibration and auto tuning functions, locally programmable without opening the device, as well as using HART portable calibrator or computer, large backlit display, single-acting and double-acting capability, 2-stage relay provides fast PID response, RFI & EMI immune, accessories included, adaptive technology to achieve condition fast and easy set-up.

## DESUPERHEATERS

### DVP

VARIABLE AREA



**SIZES** 1" through 3" water side  
3" through 4" steam side

**RATING CLASS** 150 through 2500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel

**END CONNECTIONS** Flanged ANSI 150 through 2500

**TRIM** Stainless Steel  
Most other Alloys

**ACTUATORS** Double acting cylinder with spring for failsafe action

**FEATURES** High rangeability, good water atomization also at minimum flow variety of size of spray nozzle sizes, accurate control capability, minimum dimension thanks to built-in control system, available for cryogenic application, high differential pressure allowed, with multistage trim design

### DSP

SPRING ASSISTED PROBE



**SIZES** 1" through 3" water side  
2" through 8" steam side

**RATING CLASS** 150 through 2500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel

**END CONNECTIONS** Flanged ANSI 150 through 2500

**TRIM** Stainless Steel  
Most other Alloys

**FEATURES** Easy and versatile design, no practical limitations in flow rate and operating conditions, no upper limitations in pipe size, with multiple nozzle layout

## DESUPERHEATERS

### DSE

SPRING ASSISTED EXTERNAL MOUNTING



**SIZES** 1/2" through 2" water side  
2" through 40" steam side

**RATING CLASS** 150 through 2500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel

**END CONNECTIONS** Integral Flanges  
Flangeless (water- style assembly)  
BW

**TRIM** Stainless Steel  
Most other Alloys

**FEATURES** A variety of nozzle dimensions available, no practical limitations in flow rate and operating conditions, no upper limitations in pipe size, with multiple nozzle layout, internal protection linear available, water distribution piping designed with free expanding design

### DVT

VENTURY TYPE



**SIZES** 1/2" through 2" water side  
2" through 10" steam side

**RATING CLASS** 150 through 2500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel

**END CONNECTIONS** Integral Flanges  
Flangeless (water- style assembly)  
BW

**TRIM** Stainless Steel  
Most other Alloys

**FEATURES** Good atomization even with very low steam velocity, suitable for very low flow rates

## REGULATORS

### SAR

SELF ACTUATED - PRESSURE REDUCING



**SIZES** 1/2" through 2"

**RATING CLASS** 150 through 1500

**BODY MATERIALS**

Carbon Steel  
Chrome - Moly  
Stainless Steel  
Most other Alloys

**END CONNECTIONS**

Flanged ANSI 150 through 1500  
NPT, GAS/BS

**TRIM**

Stainless Steel  
Most other Alloys

**FEATURES**

Direct operated pressure reducing valve, high rangeability, several membrane materials available, cryogenic design

### SAB

SELF ACTUATED - BACKPRESSURE



**SIZES** 1" through 2"

**RATING CLASS** 150 through 600

**BODY MATERIALS**

Carbon Steel  
Chrome - Moly  
Stainless Steel  
Most other Alloys

**END CONNECTIONS**

Flanged ANSI 150 through 600

**TRIM**

Stainless Steel  
Most other Alloys

**FEATURES**

Direct operated pressure relief, backpressure valve, high rangeability, several membrane materials available, cryogenic design

## REGULATORS

### SAS

SELF ACTUATED SPRING PRESSURE



**SIZES** 1" through 20"

**RATING CLASS** 150 through 1500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel  
Most other Alloys

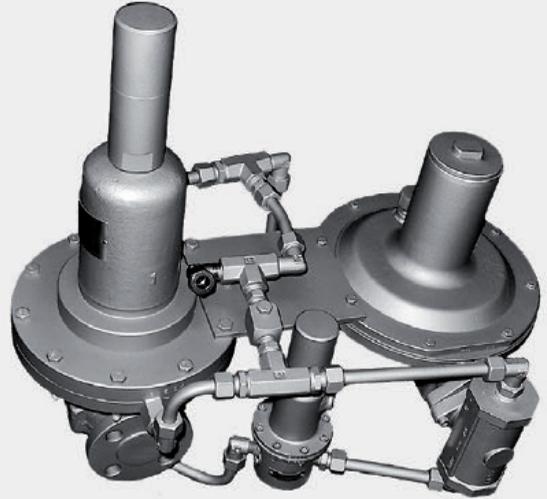
**END CONNECTIONS** Flanged ANSI 150 through 1500

**TRIM** Stainless Steel  
Most other Alloys

**FEATURES** Direct operated spring pressure regulator, high rangeability, several membrane materials available, low and high temperature design

### SAP

PILOT OPERATED



**SIZES** 1/2" through 10"

**RATING CLASS** 150 through 1500

**BODY MATERIALS** Carbon Steel  
Chrome - Moly  
Stainless Steel  
Most other Alloys

**END CONNECTIONS** Flanged ANSI 150 through 1500

**TRIM** Stainless Steel  
Most other Alloys

**FEATURES** Pilot operated regulators, low minimum regulating pressure, several membrane materials available, single or double seat design



VSI Controls S.r.l.  
with a sole shareholder  
subject to direction and coordination activity of  
PETROLVALVES S.p.A.

Registered Office  
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WorldWide presence through the Companies of the Group:  
**Italy - Uk - The Netherlands - Norway - Usa - Brazil - Singapore - Australia - Russia - Kazakhstan**

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