



*Passion is the essential of our work*

**VALPRES**



May, 2020

***Rotary Control Valves***

# CERTIFICATIONS

## Management Systems Certifications

- ISO 9001 - ISO 14001
- OHSAS 18001
- ISO 50001



## Product / Management Systems Certifications

- API 6D #1428
- API 6A #1741



## Product Certifications

### Firesafe

- Type 68/78 (side entry)
- Type 69/79 (top entry)
- Type 67 (welded body)



### SIL 3

- Type 68/78 (side entry)
- Type 69/79 (top entry)
- Type 67 (welded body)



## Producer Certifications

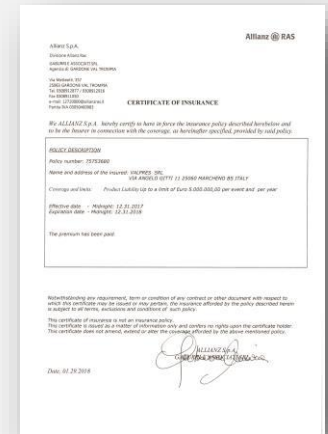
### Fugitive emission tests certificates

- TA-Luft
- VDI 2440
- ISO 15848-1 (-40°C/+200°C)



## Insurance Certifications

- Up to 7.000.000€ per event per year



# END USERS APPROVALS & OTHER CERTIFICATIONS

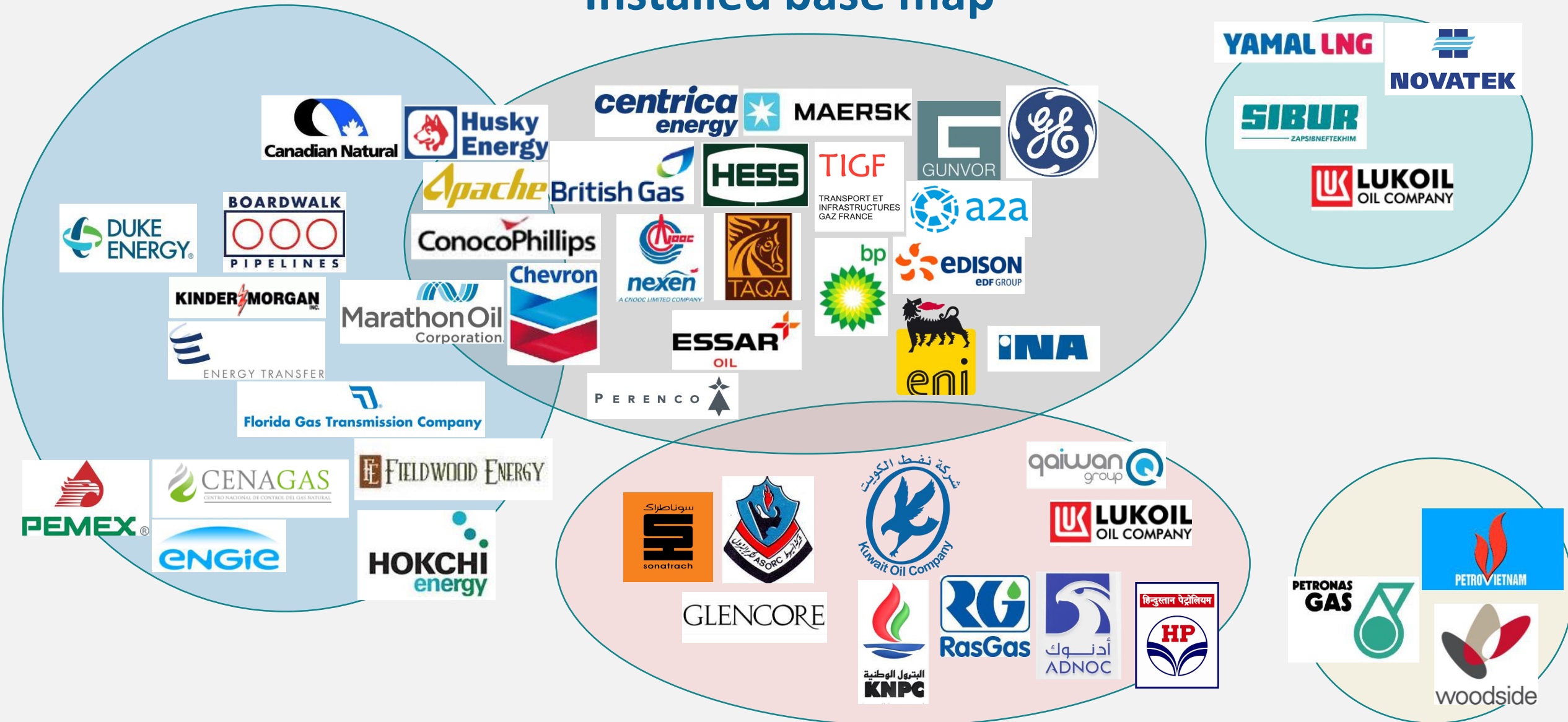
...and more expected soon, since a number of qualification processes are currently ongoing (SWCC, EGPC, ENOC, among others).

Valpres also holds:

- PED Module H Certification
- CRN number for all Canadian Provinces
- EAC Certifications TR-CU 10, 12 and 32



# Installed base map



# Valpres Control Valves Product Portfolio



Pressure Regulators



Control Valves

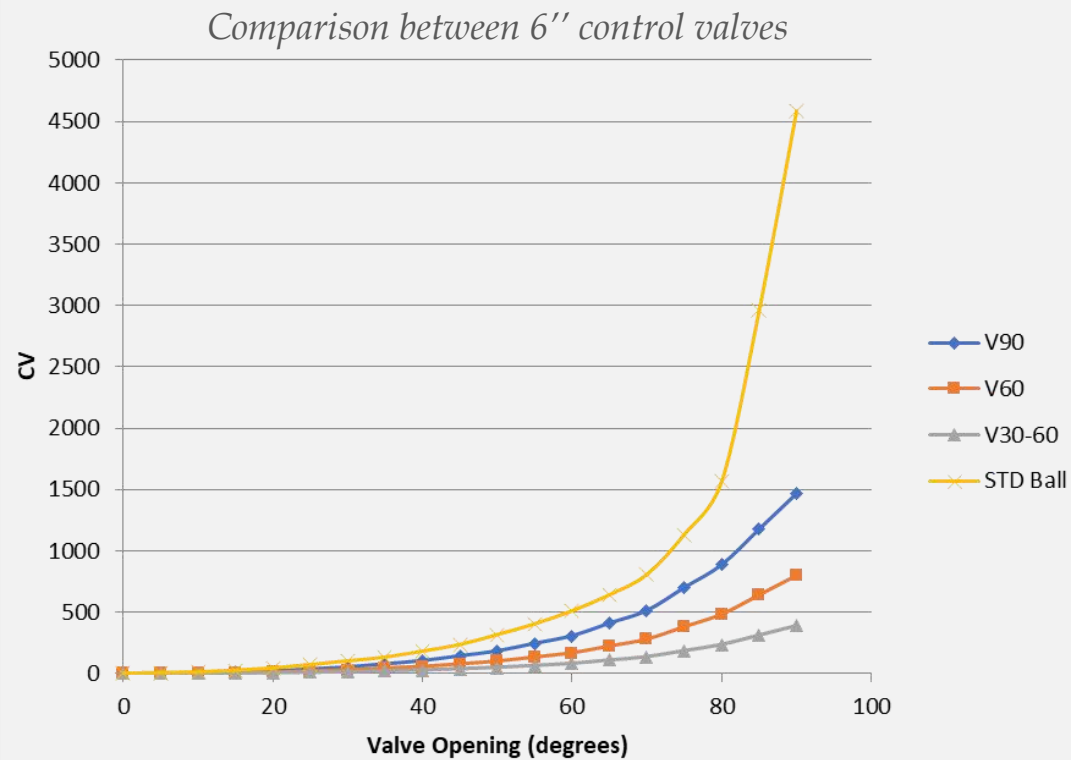


VBall

# HIGH PRESSURE DROP LARGE RANGEABILITY


# V-BALL CONTROL VALVES

LOW PRESSURE DESIGN PN16-40 / ANSI150#-300#



# PRODUCTION RANGE

## SPLIT BODY FLOATING BALL

Inoxval	
Radiamont	
Wafer	
Wafer Split	
Split Body	
Split Body, API 608 (on request only)	

*Split body  
forged  
floating  
ball*



*Split body  
cast  
Floating ball*



**Operating temperatures:**  
**-40° C - +200° C (-40° F - +392° F) Standard Range**  
**-196° C - +350° C (-321° F - +675° F) Special Range**

**Construction standards:**  
**ASME-ANSI B16.34, ISO 17292, API 608**

Size *	150	300	600	900	1500	2500
Rating **						
½"	○	○	○	○	○	○
¾"	○	○	○	○	○	○
1"	○	○	○	○	○	○
1 ½"	○	○	○	○	○	○
2"	○	○	○	○	○	
3"	○	○	○			
4"	○	○	○			
6"	○	○				
8"	○	○				
10"	○					
12"	○					

\* Valves 2" and above are available in both full and reduced bore

\*\* Industrial valves PN16-40

**Main Characteristics:**

**Forged or cast components / Bolted body design / Soft seated /or  
metal seated / Flanged ends**

**Available materials:**

**Carbon Steels, Stainless Steels, Duplex, Nickel Alloys**

# VALPRES VP1 Trim

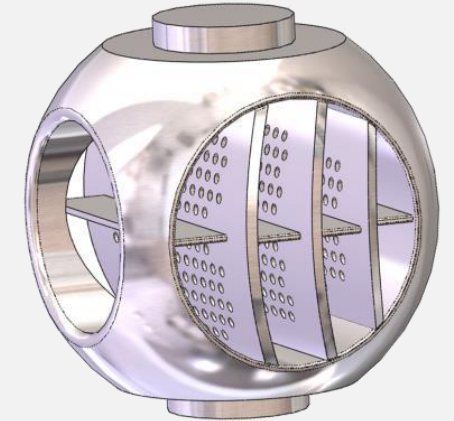
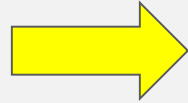
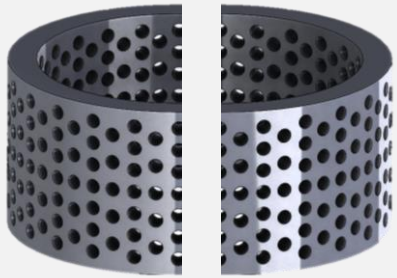
*LOW NOISE*



Control Valves

*ANTI-CAVITATION*

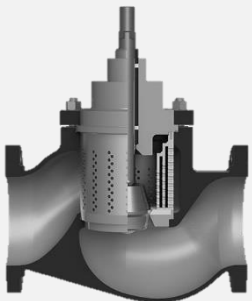
# VALPRES VP1 TRIM



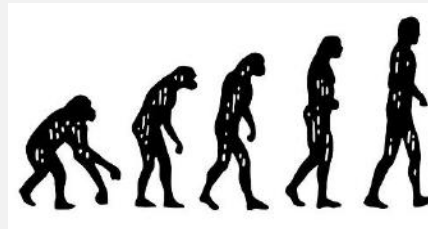
**FIXED RESISTOR**

*Evolution from Linear Motion into Rotary Motion*

**HIGH RANGEABILITY  
TRIM (VARIABLE  
GEOMETRY)**



*Courtesy of Flowserve*



# VALPRES VP1 TRIM

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)  
 (19) World Intellectual Property Organization  
 International Bureau  
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MG, MR, NE, NG, SN, TD, TG).

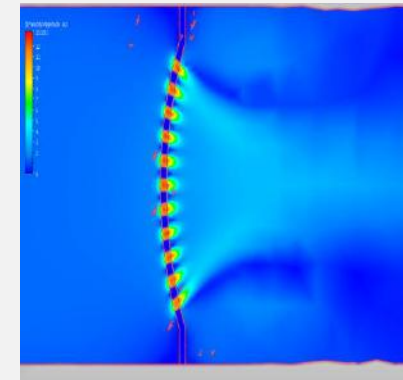
(54) Title: SHUTTER FOR A ROTARY ADJUSTMENT

Fig.1

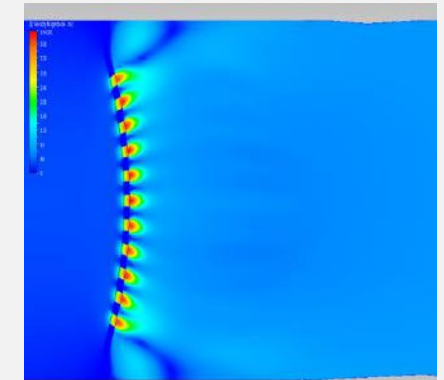
(57) Abstract: A shutter for a rotary valve, comprising: a main body (2), having a substantially spheroidal conformation or suitable for rotating about an axis and equipped with a through cavity (3); at least one plate (4), provided with a plurality of through holes (5) and arranged inside the through cavity (3). The plate (4) has a curved conformation.

**PATENTED TECHNOLOGY**

Designs for **Liquid** and **compressible fluid** are both covered by international patent



VP1-L

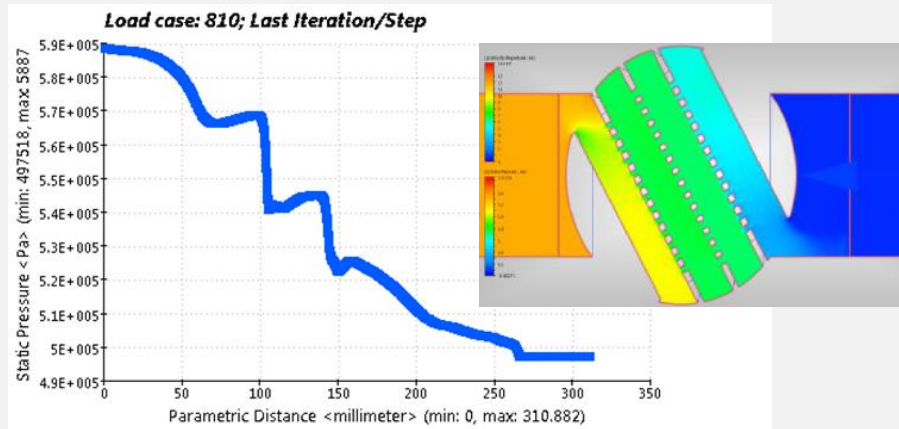


VP1-G

Curved plates with different functions...

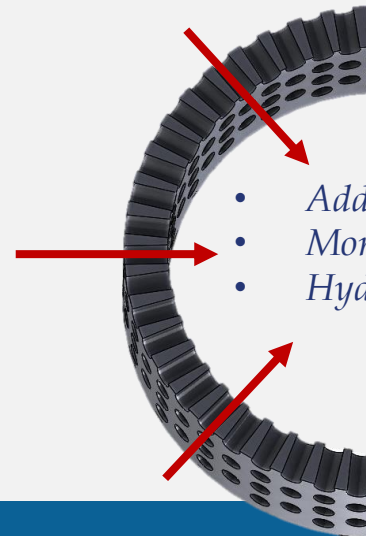
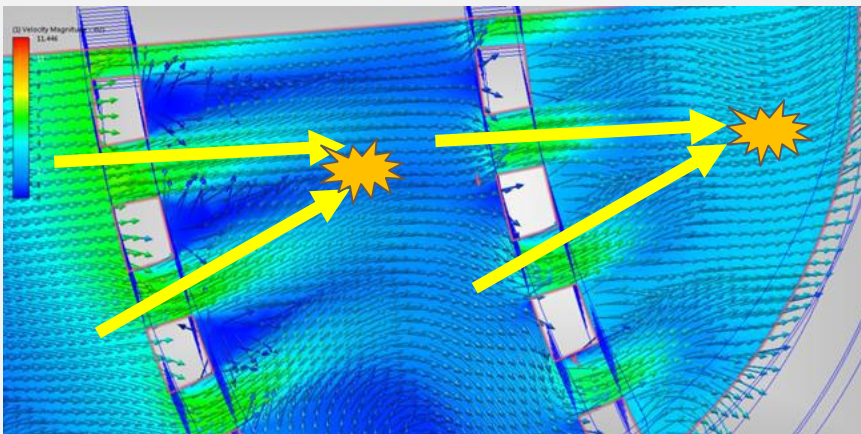
# TRIM VP1-L: Cavitation

**Trim for incompressible fluids (Liquid service)**



## PRINCIPLES:

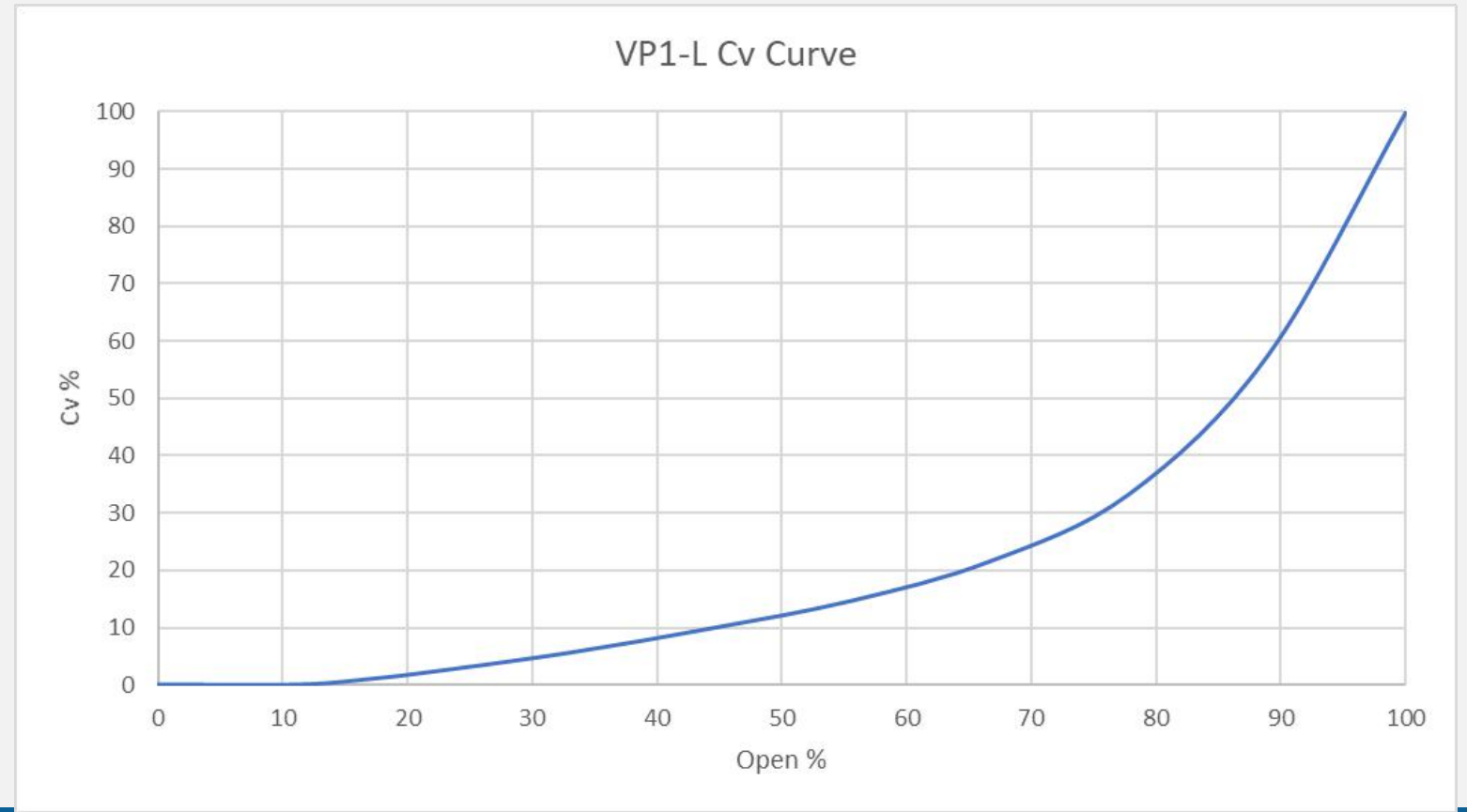
- Flow separation
- Converging jets to dissipate KE
- Erosion prevention
- FL up to 0,96
- Capacity over 90'000
- Rangeability up to 250:1



- Additional Energy Dissipation far from metal boundaries
- More cavitation control than traditional trim
- Hydrodynamic noise reduction

# TRIM VP1-L: Cavitation

**Trim for incompressible fluids (Liquid service)**

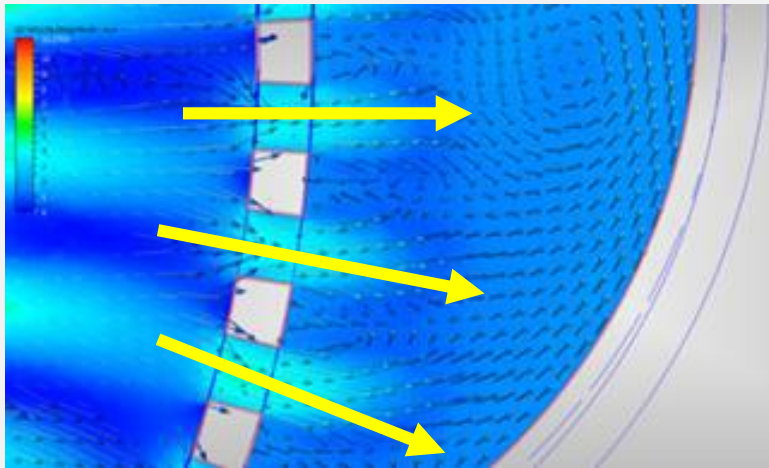
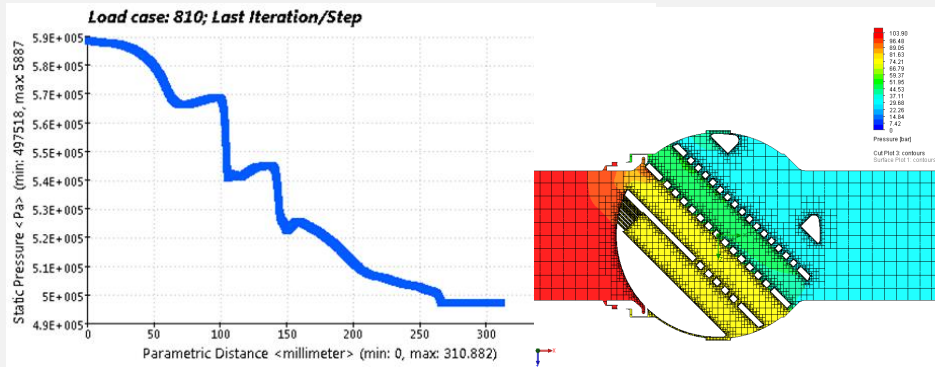


# TRIM VP1-G: NOISE

Trim for compressible fluids (gas & steam service)

## PRINCIPLES:

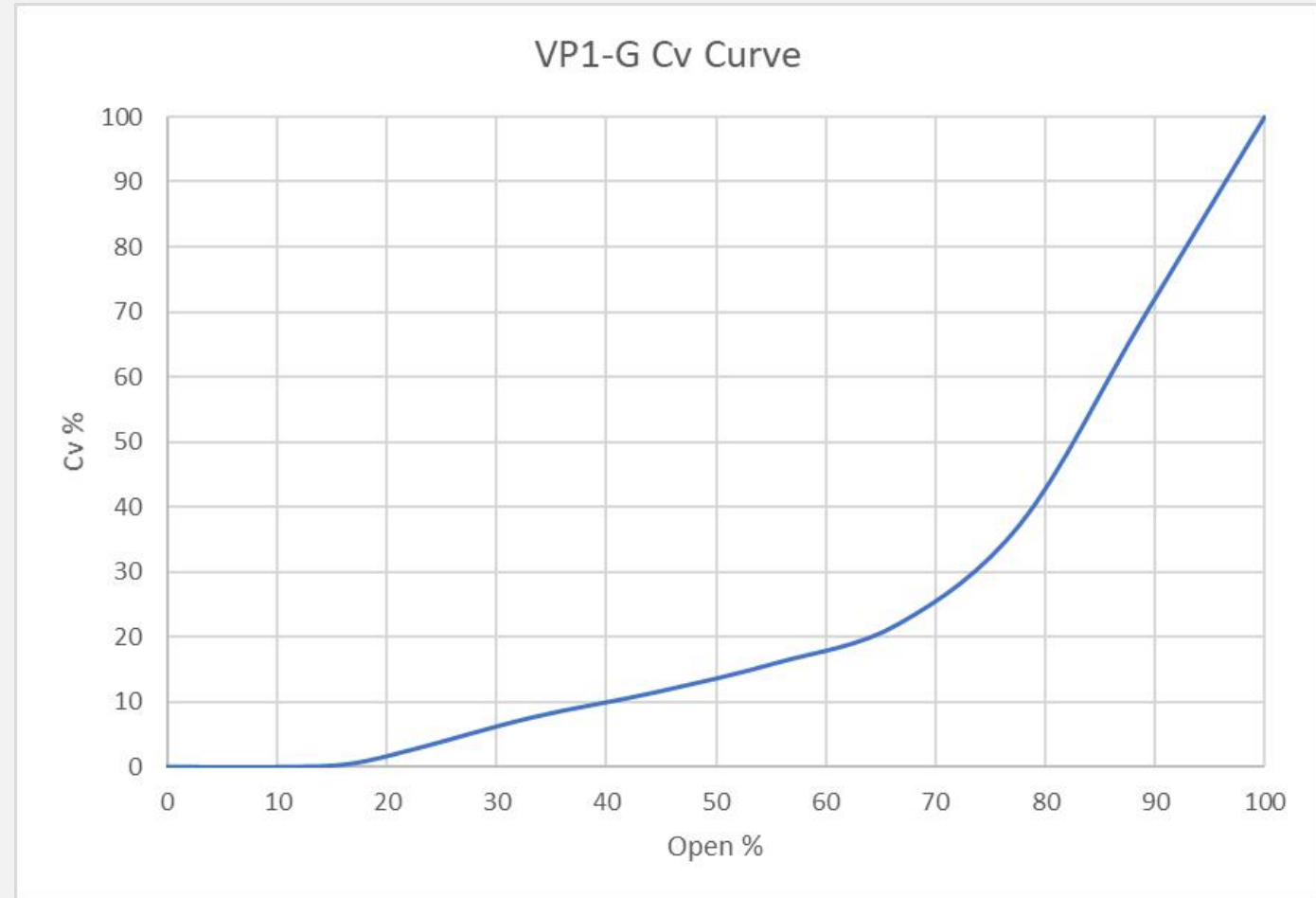
- Pressure Drop Staging
- Flow separation
- Diverting jets to avoid interaction.
- Erosion prevention
- $X_t$  up to 0,86
- Capacity over 100'000
- Rangeability up to 200:1



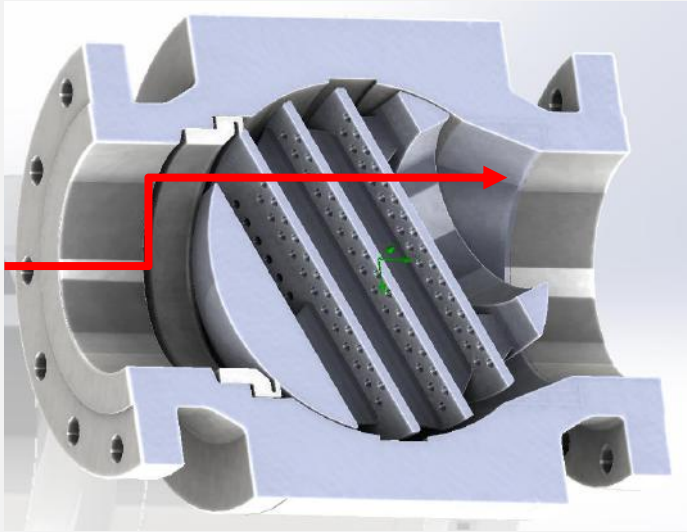
*Flow separation provides additional Noise Attenuation because it avoids interaction between two adjacent flow jets*

# TRIM VP1-G: NOISE

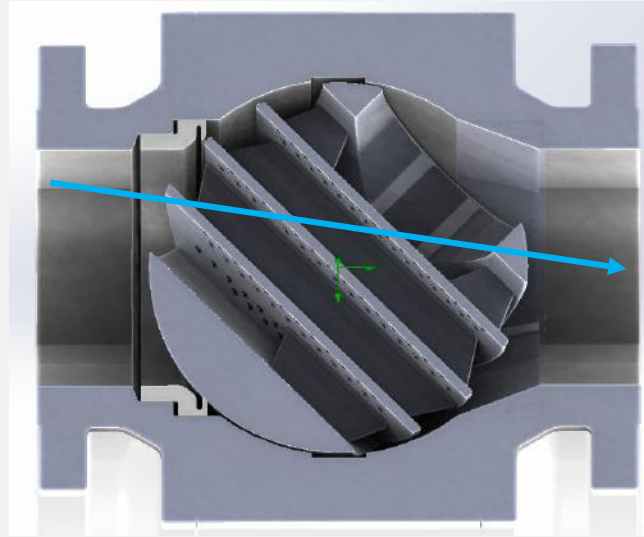
Trim for compressible fluids (gas & steam service)



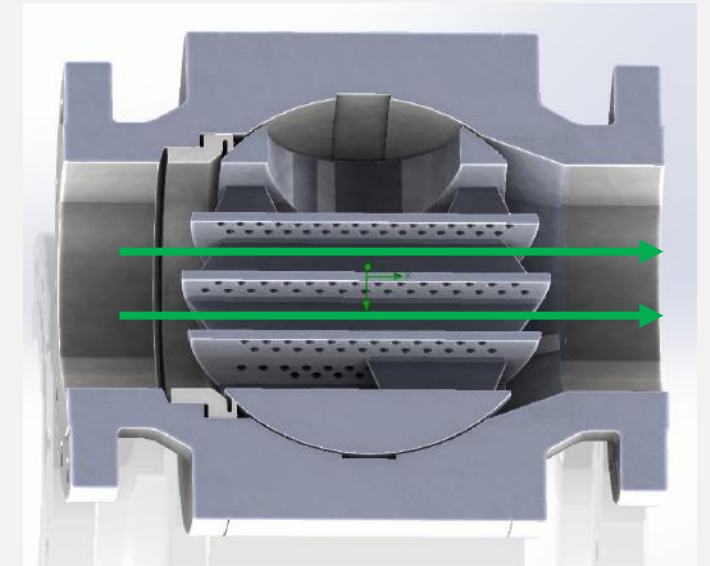
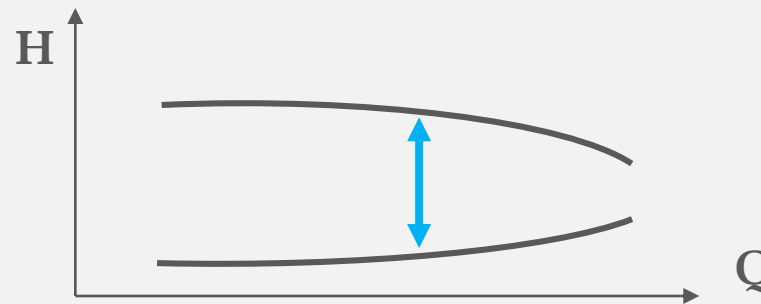
# TRIM VP1: SELF - CLEANING



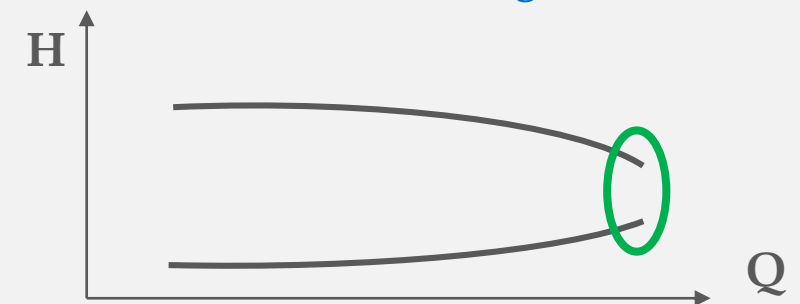
Minimum flow  
High Diff. Pressure  
Low Recovery



Normal flow  
Moderate Diff. Pressure  
High Noise Reduction



Maximum flow  
Negligible Diff. Pressure  
**Self Cleaning!**



# PRODUCTION RANGE

## SPLIT BODY TRUNNION MOUNTED



Size/ Rating	150	300	600	900	1500	2500
1" 1/2	*	*	*	*	*	*
2"	*	*	*	*	*	*
3"	*	*	*	*	*	*
4"	*	*	*	*	*	*
6"	*	*	*	*	*	*
8"	*	*	*	*	*	*
10"	*	*	*	*	*	*
12"	*	*	*	*	*	*
14"	*	*	*	*	*	
16"	*	*	*	*	*	
18"	*	*	*	*	*	
20"	*	*	*	*	*	
24"	*	*	*	*	*	
30"	*	*	*	*	*	
36"	*	*	*	*	*	
42"	*	*	*	*	*	
48"	*	*	*	*	*	

Size/ Rating	API 2000	API 3000	API 5000	API 10000
1.13/16"	*	*	*	*
2.1/16"	*	*	*	*
2.9/16"	*	*	*	*
3.1/16"			*	*
3.1/8"	*	*		
4.1/16"	*	*	*	*
5.1/8"	*	*	*	*
7.1/16"	*	*	*	*

### Operating temperatures:

**-40° C - +200° C (-40° F - +392° F) Standard Range**

**-196° C - +450° C (-321° F - +842° F) Special Range**

### Construction standards:

**API 6D Design, ASME-ANSI B16.34 / NACE MR0175-last edition /**

**Firesafe to API 6FA/API 607/ISO 10497 – Testing to ISA 75, IEC 60534, ANSI FCI 70-2**

**Available designs: bolted body, welded body, top entry**

### Main Characteristics:

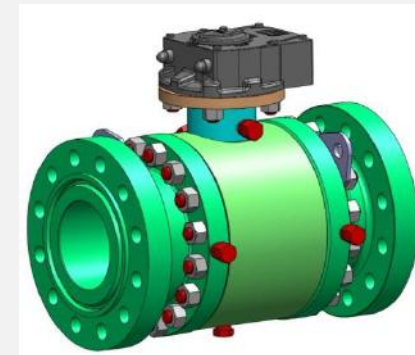
**Forged or cast components / Bolted body design / Soft seated /or metal seated /**

**Soft seated tight shut off, Metal seated ANSI class IV or V**

**Flanged ends / Self Relieving and Double Piston effect seats / Double block and bleed**

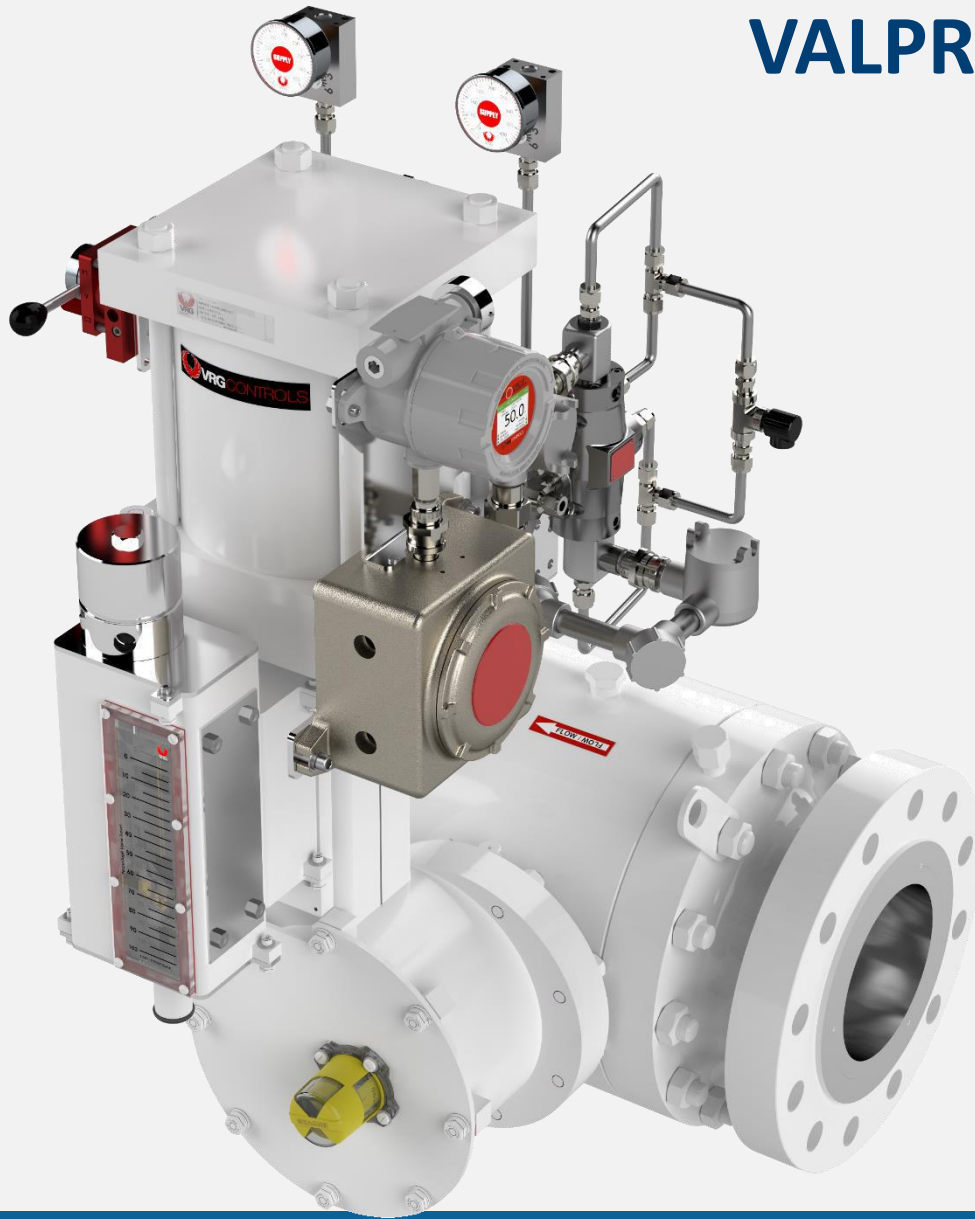
**Available materials: Carbon Steels, Stainless Steels, Duplex, Nickel Alloys**

*\* Valves 2" and above are available in both full and reduced bore*



# HIGH PRESSURE DROP HIGH CYCLING

# VALPRES VP2 Trim



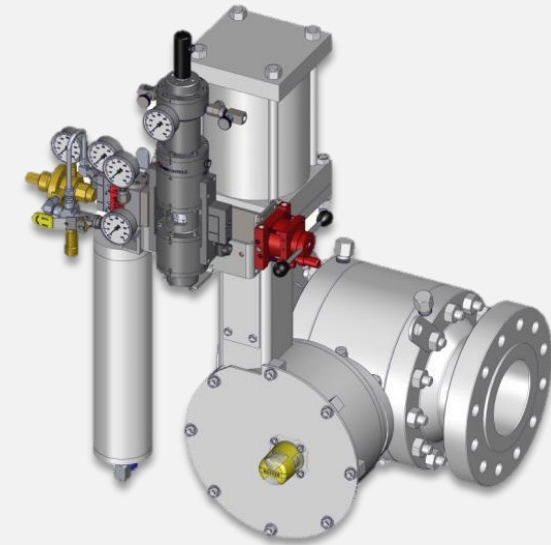
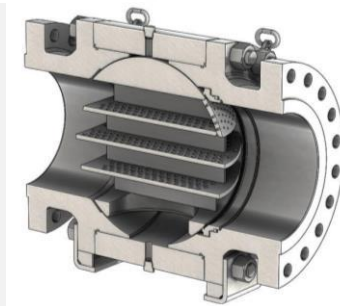
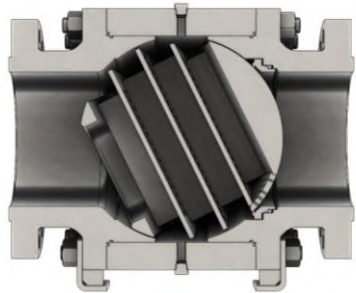
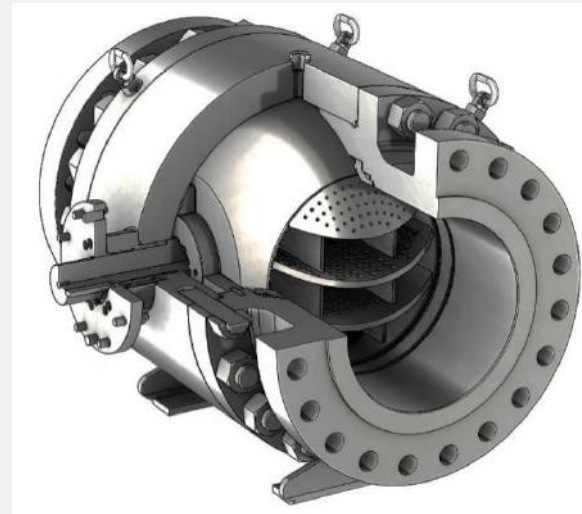
**Sizes 2.0 in to 42 in Bore**

**High Performance Control Trims**

**Below Ground Design Available**

# VP2-G TRIM

## NATURAL GAS PRESSURE REGULATOR



***High Rangeability: up to 400:1***  
***High Noise reduction: up to -25dBA***  
***Pipe-Line pressurization W/O by-pass***  
***Positioner or Pilot operated valve***  
***Zero-bleed pressure pilot***

# BUILT TO LAST

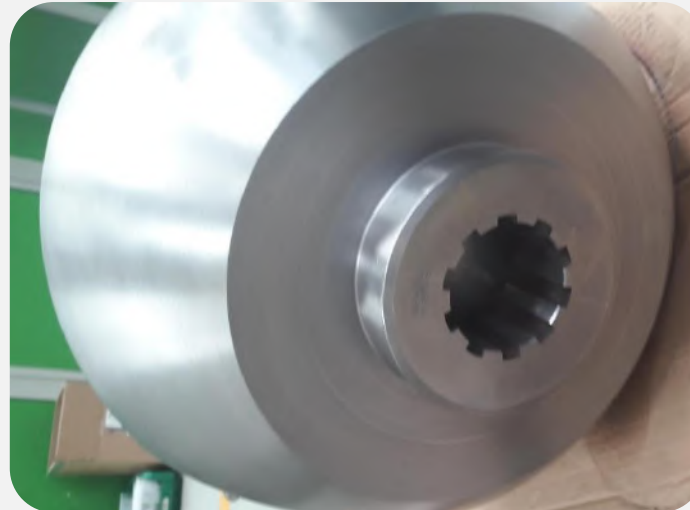
## NATURAL GAS PRESSURE REGULATOR

### VALPRES VP2-G

*High Rangeability Diverter Plate*



*Spline for Zero Gap*

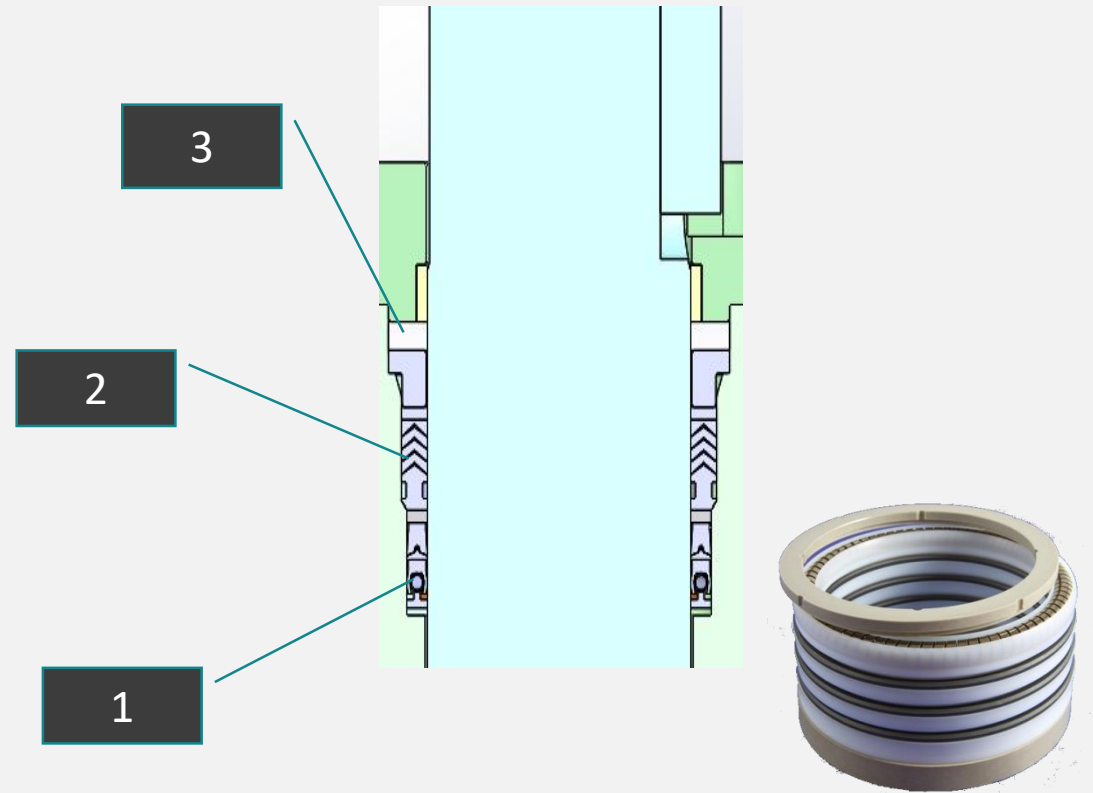


*Available from stock*



# VALPRES: LOW EMISSION STEM PACKING

- Pressure energized seal
  - No tightening required
- Triple barrier
  - Lip seal (1)
  - PTFE V-pack (2)
  - Graphite gasket (3)



Live-Load graphite packing available for HIGH TEMPERATURE SERVICE

# CONTROL VALVES BALL / SEAT OPTIONS

## COATINGS

### HVOF

High Velocity Oxygen Fuel

From 150 to 400 µm

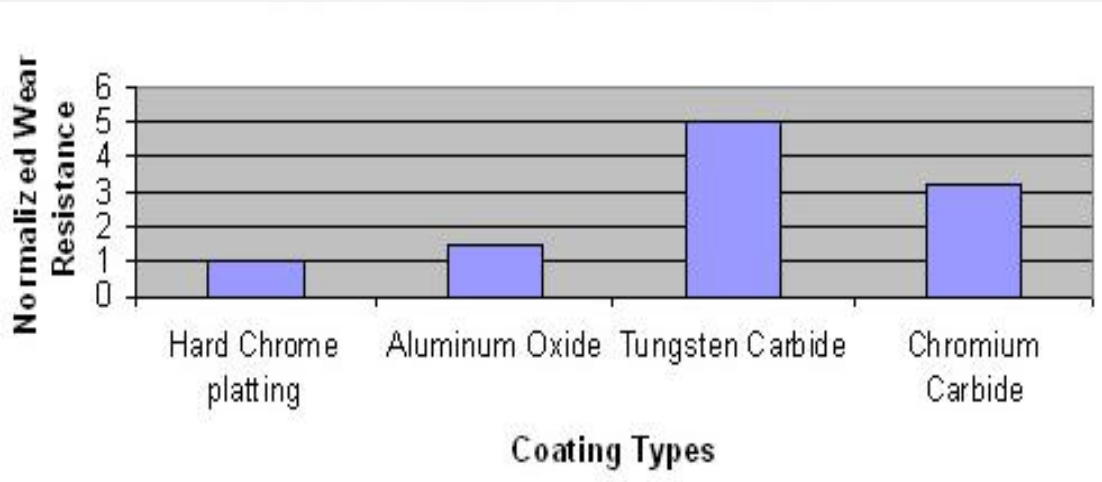
Hardness up to 1200HV



Tungsten Carbide up to 250°C (480°F)

Chromium Carbide for High Temperature

*Hard Coatings all over the ball surface!*

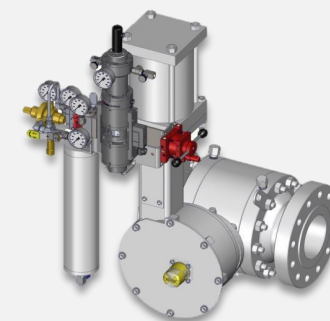
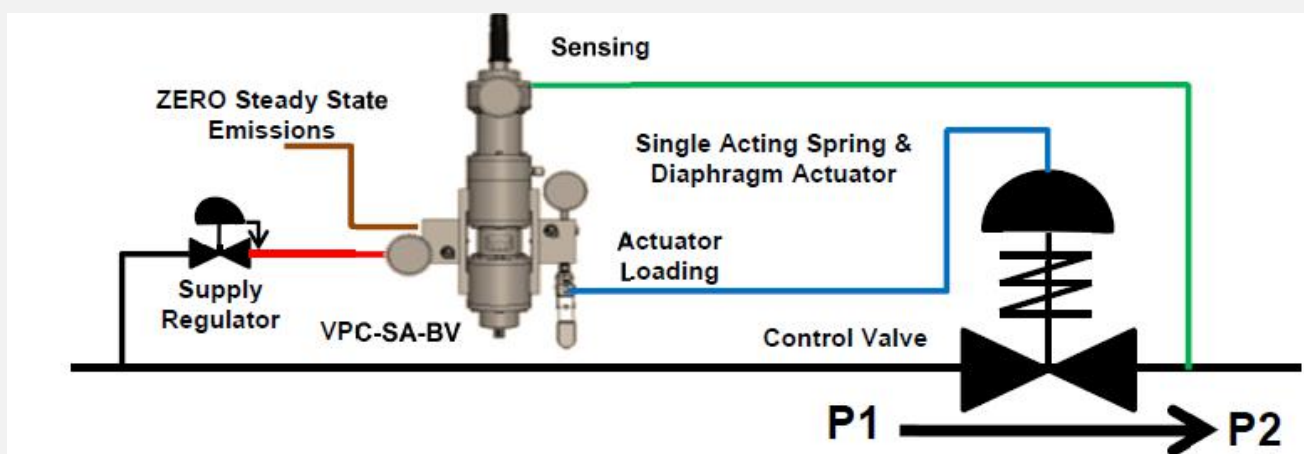
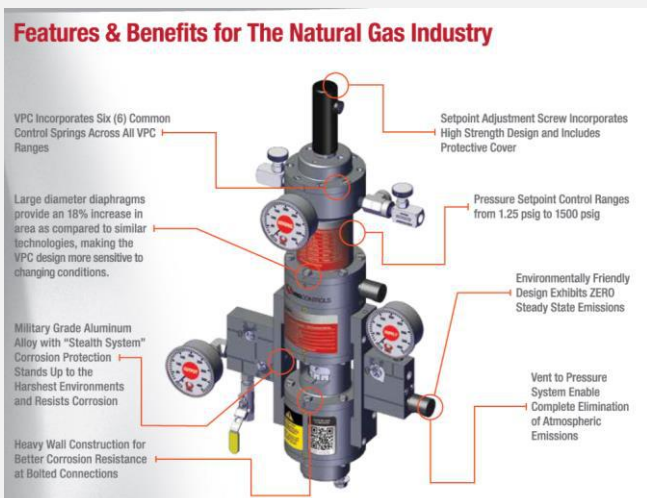


# VPC PILOT PRESSURE UNIT

**Plug & Play Flexibility with Zero Emissions. A Revolution in Valve Pressure Controllers for the Natural Gas Industry.**

The VPC provides a modular, plug & play pressure control system for use in conjunction with pneumatically actuated control valves for natural gas pipelines. The VPC features a simplified 5-in-1 configuration system that provides compatibility with double acting and single acting (spring return) control valves in a single platform.

The VPC Controller is designed to provide self-contained pressure control when incorporated with pneumatic control valves in natural gas pipeline installations. The system utilizes pressurized natural gas from the pipeline to operate and can address a number of common pipeline pressure control applications.



# VPC PILOT PRESSURE UNIT



## NVD No Vent Device

Double Acting VPC Valve Pilot Controllers and VGP Valve Gas Positioners continue to discharge gas when the control valve is at full open or full closed positions. The NVD No Vent Device shuts off VPC & VGP discharge when control valves are at full open and full closed positions.

- Eliminate discharge gas at full open and full closed valve positions
- Automatic Activation and Reset
- Greater sensitivity than competitor's products
- Manifold design easily installed
- No adjustment necessary



Stainless Steel Construction

*Steady State EMISSION FREE*



## Remote CONTROL



## ESC ELECTRONIC SETPOINT CONTROL

VRG VPC Valve Pilot Controllers and RP Regulator Pilots may be configured for remote setpoint control via electronic signal with the addition of an ESC Electronic Setpoint Control system. Pressure control setpoint may be raised/lowered remotely by an RTU or Gas Control.



- Secure Interface Module with Manual Adjustment Override
- Rated for installation in natural gas applications (Explosion Proof, Class 1, Div.1)
- Digital Pulse or Analog Command Signal control input options
- Failsafe configuration options to lock last or max/min on loss of signal
- Compatible with VRG VPC's and RP's
- Compatible with Becker VRP's/FEP's and Mooney Series 20 Pilots



## VPC-SA-BV-REG Remote Set Regulator

The VPC-SA-BV-REG or "VPC-REG" is a zero steady state emissions, precision remote set regulator. The "VPC-REG" provides a pneumatic output to drive pneumatic positioners or single acting control valve actuators via a proportional pneumatic output. The "VPC-REG" is available in a variety of input signals and output pressure ranges.

- Designed for High Cycle Duty, Repeatability, and Accuracy
- High Performance Replacement for Bristol 9110 / Fairchild or other Remote Setpoint Regulators
- ZERO Emissions at Steady State
- Rated for Installations in Natural Gas applications (Explosion Proof Class 1, Div. 1)
- Analog or Digital Input Signal Options
- Compatible with VGP Valve Gas Positioners, Other Manufacturers' Pneumatic Positioners, VRG RHPA-SR / LD / RD / LHPA-SR Actuators, Other Manufacturers' Positioners

# VALPRES SIZING TOOL

- Valve sizing
- Trim selection
- Noise prediction
- Velocity calculation
- Cavitation verification
- Power dissipation
- Energy/Emission Audit

Sizing book

Sizing sheet

VALPRES

VALPSIZE rev. 4.0 F4

Settings

D-Tools

Quit

Export

Project: Pressure Reduction

RFQ n.:

ITEM

Item number: 1

Tag number: PCV-1010

Date: 16-May-2020

Remark: High Sulfur

PIPELINE

Inlet Size: 8 inch

Outer dia: 219,1 mm

Schedule: Sch 80

Thickness: 12,7 mm

Outlet: 16 inch

406,4 mm

Sch 80

21,412 mm

FLUID

Fluid name: METHANE

Phase: Gas

K (Cp/Cv): 1,31

ID: F039

Molecular weight: 16,043 g/mol

INPUT

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Flow rate m <sup>3</sup> /hr	150,0000	200,0000				
Inlet temp °F	60,00	60,00				
Inlet press psig	850,00	480,00				
Outlet press psig	450,00	460,00				
Pressure drop psi	400,00	20,00				
Compressibility	0,9	0,95				
Molecular weight g/mol	16,043	16,043				
K (Cp/Cv)	1,31	1,31				

VALPRES

VALPSIZE rev. 4.0 F4

Settings

D-Tools

Quit

Export

Trim type: VP1-G (agg)

Trim size: 8 inch

Max installed Cv: 3.504,6

SIZING

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Travel +	27,3	74,0				
Travel %	30,3	82,2				
Valve outlet velocity Mach	0,163	0,142				
Pipe downstr. velocity Mach	0,032	0,044				
DP terminal bar	48,771	19,653				
Cv inherent	194,7	997,1				
Cv installed	185,1	1100,0				
Kv inherent	142,4	882,5				
Kv installed	142,8	951,5				
Noise dBA	85	77				
Dissipated power kW	3,027,19	286,84				

ENERGY

Electricity price: 0,1 USD/kWh

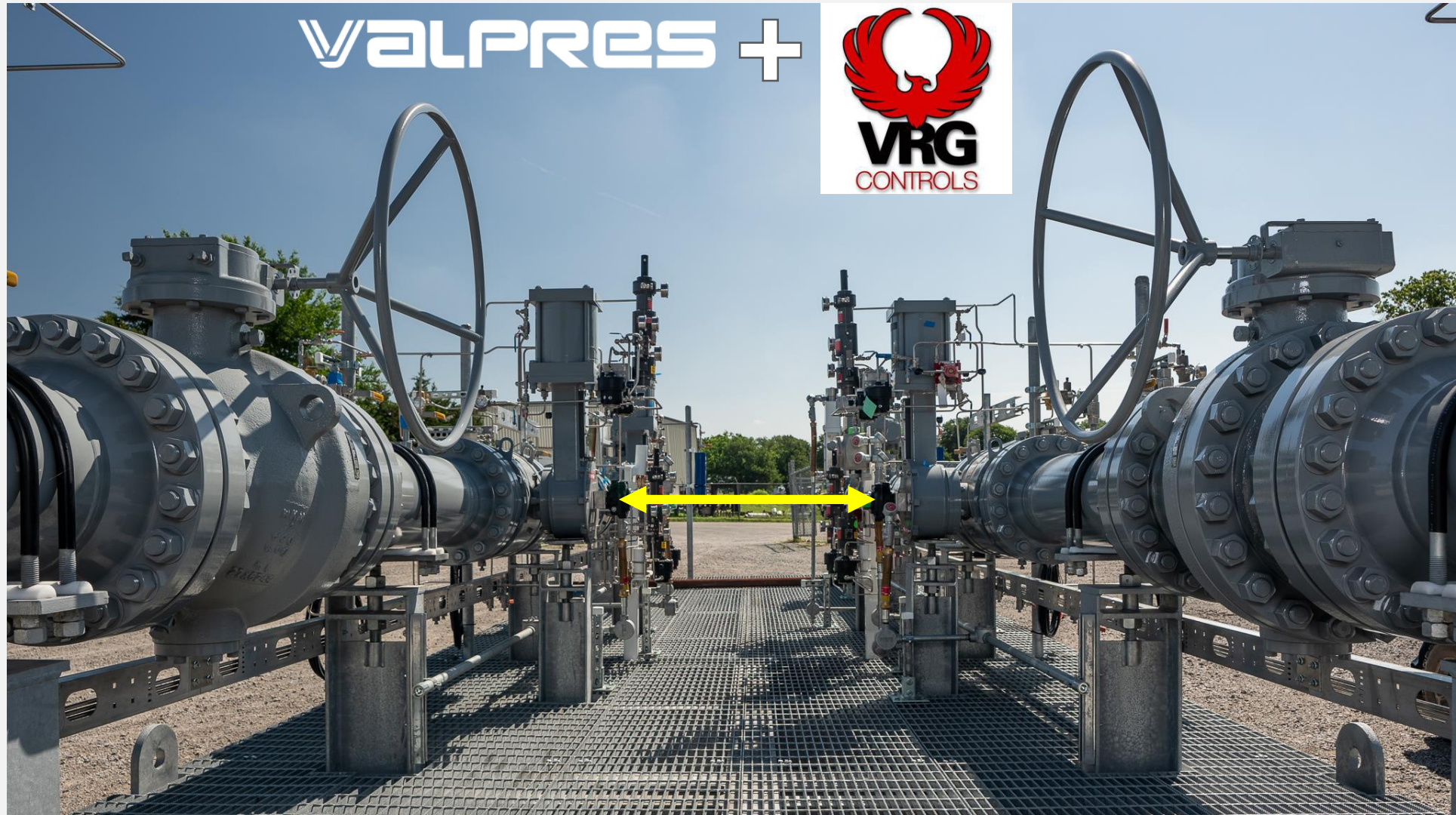
Emission factor: 0,4 kgCO<sub>2</sub>e/kWh

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Total
Duty h/year	6,000	2,000					8,000
Dissipated energy kWh/year	18,163,146	573,682					18,736,829
Cost of dissipation USD/year	1,816,314,64	57,368,23					1,873,682,67
CO <sub>2</sub> footprint t/year	7,265,259	229,473					7,494,731

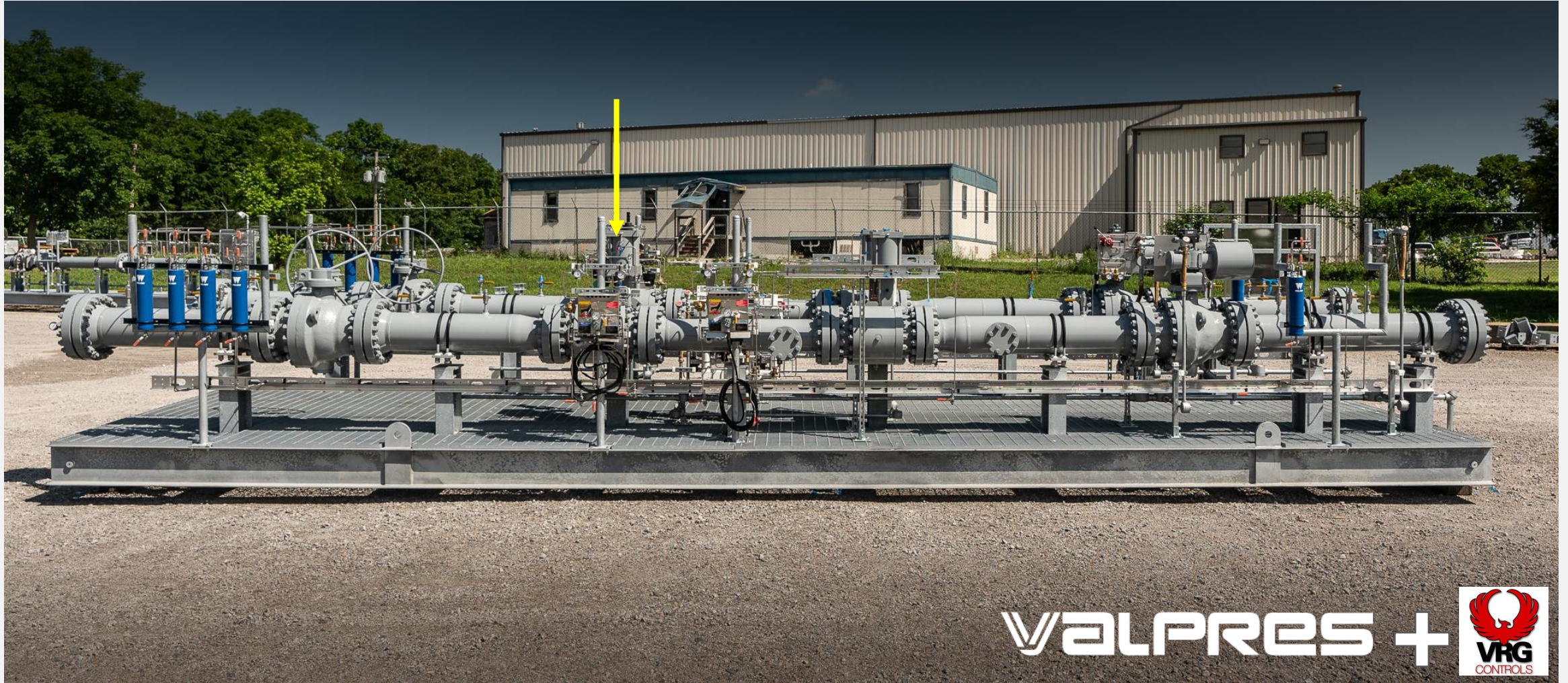


Proper sizing prevent early damage in valves, piping, fittings and instrumentation

# NATURAL GAS PRESSURE CONTROL - USA



# NATURAL GAS PRESSURE CONTROL - USA



VALPRES +



VALPRES

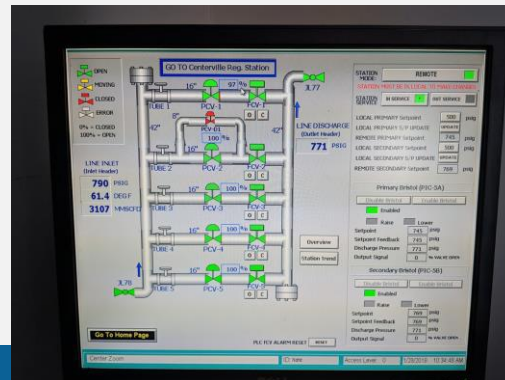
VALBIA



# WILLIAMS CENTERVILLE - USA

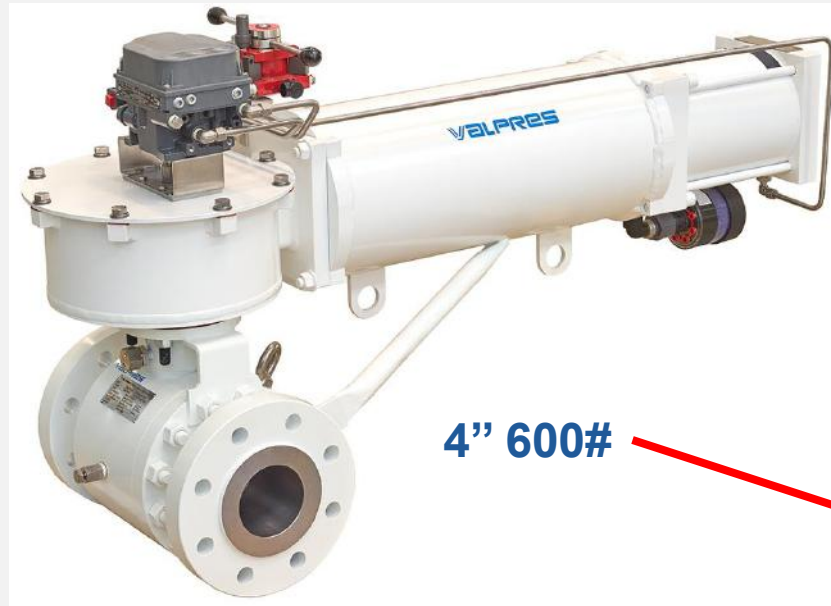


Station inlet – 5 runs



Runs 2,3,4&5

# NATURAL GAS PRESSURE CONTROL - AUSTRALIA



4" 600#



# CASE STUDY: NATURAL GAS PRESSURE CONTROL

## HIGH SULPHUR + HIGH CYCLING

### Notes:

- Numerous Stations in Florida and Other Locations Exhibit Sulfur Deposition on Control Valves
- Pilot Operated Regulators and Linear Cage-Guided Control Valves Clog Very Quickly and Fail
- PRCV-STHP Rotary Control Valves Not Affected Significantly. Accommodate Minor Clogging.
- Sulfur Buildup STHP Not Affected
- Installed at Following Stations: Vandola, Polk, Shady Hill
- Pilot Operated and Cage Guided Solutions Lasted 3 Months Before Failure
- PRCV-STHP installed for Two (2) Years + Without Problems
- Seven (7) STHP Valves
- P1=1200 psig, P2=450 psig, Q=100 - 200 MMSCFD
- Florida Gas Transmission FGT, TECO Peoples Gas



# NATURAL GAS FLOW CONTROL



*After the PRESSURE REDUCTION  
FEED to BURNERS*



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# BI-DIRECTIONAL FLOW CONTROL INSTALLATIONS IN CROATIA AND FRANCE FOR GAS STORAGE



Bi-Directional Low Noise Valve  
+ Electrohydraulic actuator



TECHNOFRANCE



# VALPRES CONTROL VALVES: AUTOMATION



**NPS16 Control Valve with  
Pneumatic Actuator**



**NPS30 Control Valve with  
Electric Actuator**



**NPS6 Control Valve with  
Positioner**

# YOUTUBE VIDEOS

## PRCV-FP

Upstream / Opening



Downstream / Opening

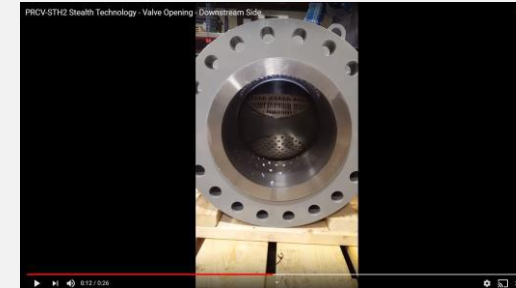


## PRCV-STH2

Upstream / Opening

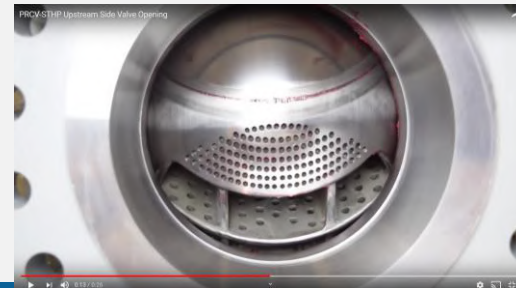


Downstream / Opening



## PRCV-STHP

Upstream / Opening



Downstream / Opening





Only excellence allows to us compete in the international market. The challenge can be faced thanks to the passion and the energy of the researchers, who plan and manufacture avant-garde quality and technology, a team which is perfectly integrated for providing total customer satisfaction; we are ready.