

# BEST-IN-CLASS CONTROL VALVES

ALWAYS IN CONTROL



**Armstrong®**

EXPERIENCE MATTERS™

ALWAYS IN CONTROL

ABOUT ARMSTRONG INTERNATIONAL

Founded in 1900, Armstrong International is a privately held, fifth-generation, family-owned company. Our unique heritage of knowledge, experience and insight enables us to serve you in ways no one else can. Often the first to market, Armstrong invented the inverted bucket steam trap and our company has been granted more than 70 patents on exceptional products, technology and software.

ARMSTRONG INTERNATIONAL

owns the **exclusive rights** to manufacture Aeroflow®, D-Boy™, DLO™, K-Max™, D-Series Control Valves - all formerly sold by **Leslie Controls**. This includes the engineering and design of these product lines and all technical details.

ARMSTRONG IS THE TRUSTED THERMAL UTILITY PARTNER FOR SATISFIED CUSTOMERS IN MORE THAN 100 COUNTRIES

Armstrong International, a global leader in energy management and intelligent thermal utilities solutions has expanded its Global Flow Control Portfolio with the acquisitions of Delta2 and Leslie Controls. With over one hundred years of industry experience, our foundation of success is not just the quality of our services and highly engineered products but the underlying philosophy of building long term enduring relationships. All supported by a strong and knowledgeable sales force, resourceful operational teams, and an initiative-taking customer service department. This dedication to excellence and integrity is what differentiates us and fuels our passion to focus on you, our customer.

Our **Flow Control Group** specializes in the design and manufacturing of control valves, with headquarters and a manufacturing facility in Milan (Italy), serving customers worldwide.

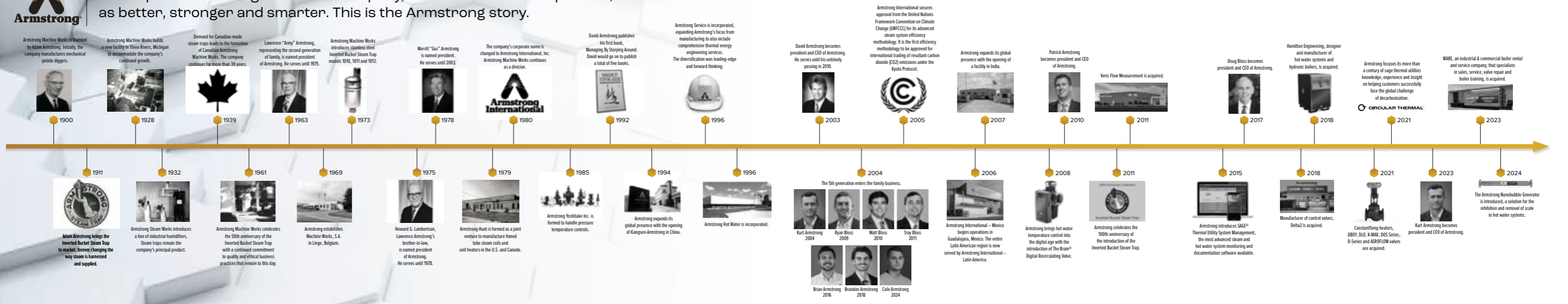
WE WANT YOU TO ENJOY WORKING WITH US

Building strong, lasting relationships with our customers is a top priority at Armstrong. We become an integral part of your team, consistently delivering on our promises and exceeding your expectations, while remaining transparent and simple to do business with. We want working with us to be an experience you enjoy, every single time.

Armstrong is here to solve your problems and make things easier. We are pleased to manufacture the reliable and hardworking product lines: Aeroflow®, D-Boy™, DLO™, K-Max™, D-Series, SMD and Fly Control Valves. But also our legacy brand control valves provide a broad range of flow control solutions for your applications—all manufactured in Europe according to the highest standards and engineered to perform under the most demanding conditions.



Our experience distinguishes our company, and the solutions we provide, as better, stronger and smarter. This is the Armstrong story.



## DLO™ SERIES

### General Service Globe Valve

DLO™ Series are general service control valves for light duties with compact design and easy maintenance.

#### FEATURES

- | Materials: Cast/Ductile Iron, Carbon Steel, Stainless Steel
- | Sizes: 1/2" – 4"
- | Rating: 125# – 300#
- | Connections: Threaded, Flanged DIN, Flanged ASME, BW & SW
- | Trim: Parabolic Unbalanced – Cage Retained seat – Leak Class IV, V and VI
- | Actuators: Pneumatic Single-Spring – Diaphragm models 35-55-85 – Electric Actuators for modulating services



## FLY SERIES

### Multi Use Globe Valve

FLY Series are control valves for light-medium duties with fully featured designs for different market sectors.

#### FEATURES

- | Materials: Cast/Ductile Iron, Carbon Steel, Stainless Steel, Chrome-Moly Alloy Steel
- | Sizes: 1/2" – 10"
- | Rating: 150# – 600#
- | Connections: Threaded, Flanged DIN, Flanged ASME, BW & SW
- | Trim: Parabolic Unbalanced – Top Guided or Top Balanced – Up to 3 stage Noise or Cavitation trims – Leak Class IV, V and VI
- | Actuators: Pneumatic Multi-Spring Diaphragm models S.200-500 – Electric Actuators for modulating services



## DBOY™ SERIES

### Medium Duty Globe Valve

DBOY™ Series are intermediate duties control valves with rugged design, improved flow capacity design with easy maintenance.

#### FEATURES

- | Materials: Cast/Ductile Iron, Carbon Steel, Stainless Steel, Chrome-Moly Alloy Steel
- | Sizes: 2" – 8"
- | Rating: 125# – 600#
- | Connections: Threaded, Flanged DIN, Flanged ASME, BW
- | Trim: Cage Guided Balanced with Les-Sonic or Les-Cav trims for noise & cavitation control – Leak Class IV and VI
- | Actuators: Pneumatic Single-Spring Diaphragm models 35-55-85 – Electric Actuators for modulating services



## DSE SERIES

### Heavy Duty Globe Valve

Heavy duties control valve with enhanced severe service design, improved flow capacity and easy maintenance.

#### FEATURES

- | Materials: Carbon Steel, Stainless Steel, Chrome-Moly Alloy Steel
- | Sizes: 2" – 16"
- | Rating: 150# – 2500#
- | Connections: Flanged DIN, Flanged ASME, BW
- | Trim: Cage Guided Balanced with 1-2 stages Les-Sonic or Les-Cav trims for noise & cavitation control – Leak Class IV, V and VI
- | Actuators: Pneumatic Multi-Spring Diaphragm models 42-82-15 – Electric Actuators for modulating services



## AEROFLOW® SERIES

### Super-Critical Use Control Valve

Control valve for critical duties with fully featured designs and capable to guarantee ZERO leakage with metal-to-metal seating and temperature above 650°C/1200°F.

#### FEATURES

- | Materials: Carbon Steel, Stainless Steel, Chrome-Moly Alloy Steel
- | Sizes: 1/2" – 16" (20" angle style)
- | Rating: 150# – 4500#
- | Connections: Flanged DIN, Flanged ASME, BW & SW, with expanded connections
- | Trim: Parabolic Unbalanced, LT & HT Balanced, Pilot Balanced. Up to 6 stages Les-Sonic or Les-Cav trims for noise & cavitation control. For angle style valves a secondary stage pressure control cages for Bypass, Steam Conditioning, Vent, Anti-surge and other critical applications. Leak Class IV, V, VI and ZERO Leakage
- | Actuators: Pneumatic Piston models Magnum 6-10-13-16-20 Double Effect and Spring Return for heavy duty purpose – Electric Actuators for modulating services



## SMD SERIES

### 3-Way Control Valve

3-way Control valve with enhanced flow control and high flow and low-pressure recovery, with suitable design for different market sectors.

#### FEATURES

- | Materials: : Cast/Ductile Iron, Carbon Steel, Stainless Steel, Chrome-Moly alloy steel
- | Sizes: 1/2" – 8"
- | Rating: 150# – 300#
- | Connections: Threaded, Flanged DIN, Flanged ASME, BW & SW
- | Trim: Top + Seat guided – Mixing or Diverting versions – Single stage Noise or Cavitation trims – Leak Class IV and VI
- | Actuators: Pneumatic Multi-Spring Diaphragm models S.200-500 – Electric Actuators for modulating services



## KMAX™ SERIES

### Eccentric Plug Rotary-Globe Valve

Universal rotary control valve with extraordinary flow control capacity. The heavy-duty trim design allows the valve working on slurry services and solid particles presence.

#### FEATURES

- | Materials: Carbon Steel, Stainless Steel, Chrome-Moly Alloy Steel
- | Sizes: 1" – 8"
- | Rating: 150# – 600#
- | Connections: Flangeless, Separable or Integral Flanged DIN, Separable or Integral Flanged ASME
- | Trim: Top + Bottom guided – High Rangeability >100:1 – Bidirectional Flow – Leak Class IV, V and VI
- | Actuators: Pneumatic Single-Spring Diaphragm models 35R-55R-85R – Electric Actuators for modulating services

## ACTUATORS RANGE



PNEUMATIC ACTUATOR D2



PISTON ACTUATOR LV



REGADA ACTUATOR

### PNEUMATIC

#### LINEAR AND ROTARY DIAPHRAGM AND PISTON ACTUATORS

**Single & Multi-Spring:** Carbon Steel or Stainless-Steel materials of construction with several spring ranges to optimize the air consumption and obtaining the necessary thrust for each application.

Multi-Spring Sizes: S.200 till S.500.

Single-Spring Sizes: 35-55-85-135-270.

Stroke: 16mm till 102mm.

Main Features: Single Acting with spring return, available with Top Handwheel and variable Stroke Adjuster.

**Single & Double Acting Piston:** Carbon Steel materials of construction suitable for high thrust and precise control for each application.

Sizes: 6-10-13-16-20.

Stroke: 20mm till 125mm.

Main Features: Single or Double Acting with spring return, available with Lateral Handwheel and with heavy Top + Bottom shaft guide for perfect stem alignments and reduced friction.

### ELECTRIC

#### LINEAR AND ROTARY ELECTRIC ACTUATORS

Materials: Polymeric (HVAC and General Industries) or Carbon Steel housings for standard or heavy industry.

Thrusts up to 400kN for on-off and 200kN for control applications.

High Temperature versions up to +120°C.

Low Temperature versions down to -60°C.

Speed from 0,15mm/s till 40mm/s for special severe service applications.

Mechanical protection class up to IP68.

Multivoltage brushless motor with supply voltages available from 24V till 690V and multiple frequencies.

Main Features: Fully featured electric actuators with Smart electronics comprehensive of digital communication Bus, switches, PST, Fail Safe and other enhanced technologies for most demanding sectors.

## TRIM TECHNOLOGIES

### MINI-P

Available on AEROFLOW valve series.  
Multi-Step trim for Medium-Severe Cavitation Control.  
Size range from 1" to 2"

### LES-SONIC

Available on DBO, DSE and AEROFLOW valve series.  
Single or Multi-Stage trim for Noise Reduction.  
Size range from 2" to 20"

### LES-CAV

Available on DBO, DSE and AEROFLOW valve series.  
Single or Multi-Stage trim for Medium-Severe Cavitation Control.  
Size range from 2" to 20"

### DISK STACK

Available on AEROFLOW valve series.  
Multi-Stage trim for the most Critical Cavitation Control.  
Size range from 2" to 20"

### PERFORATED PLUG

Available on FLY and SMD valve series.  
Single or Multi-Stage trim for Noise Reduction & Cavitation Control.  
Size range from 0.5" to 10"



MINI-P

LES-SONIC

PERFORATED PLUG

LES-CAV

DISK STACK

## ACCESSORIES

To complete the requirements of any scope of supply we are including in our product lines all the necessary accessories for reaching the desired process performances.

The most relevant ones are:

- | Air Filter Regulators
- | Volume Boosters
- | Lockup Devices
- | Limit Switches
- | Solenoid Valves
- | Emergency Customized Control Panels

## POSITIONERS

Full range of analog and intelligent Smart Positioners for pneumatic actuated Linear and Rotary control valves.

This device provides high precision, reliability and flexibility to the valve system, according to the performance level selected.

Our range is including:

- | Standard and hazardous area versions
- | Stainless steel housings
- | Low temperature version
- | Full digital communication protocols availability
- | Feedback, partial stroke and fail freeze functions
- | Safety integrity level certificate (SIL)
- | Basic and advanced diagnostics



## REFERENCES

### POWER

- | Alabama Power
- | America Electric Power
- | Florida Power & Light
- | Duke Energy
- | KHNP

### CPI

- | Linde
- | Sika
- | SOL
- | Siad
- | Basf
- | Versalis

### HPI

- | Sabic
- | ENI
- | Khalda Petroleum
- | Shell
- | Exxon Mobil
- | Total

### EPC

- | Technip / KTI
- | ABB
- | Tecnimont
- | Edison

Non-exhaustive list, a complete reference list is available upon request.

## CONTACT ARMSTRONG INTERNATIONAL FLOW CONTROL GROUP

To get more information or to find your representative,  
visit [armstronginternational.eu](http://armstronginternational.eu)



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