



# PRODUCT GUIDE



# Experience is the difference...



...all Dyna-Flo manufactured products are constructed to high quality specifications to ensure superior performance and customer satisfaction.

A Key element of the quality process involves building a company around people who share our desire to exceed customer quality standards. At Dyna-Flo, we place people within our company who can meet our meticulous standards of quality. We insist on a constant two-way information flow between field personnel and management because we believe that front line input is critical to our ongoing quality process improvement. The end result is improved customer satisfaction because at Dyna-Flo we not only meet customer expectations, **we exceed them.**



## The Dyna-Flo Difference

### Why Purchase Our Products...

- Well trained sales and service technicians with many years experience.
- Quick Delivery through our extensive inventory and distribution network.
- Highly experienced valve sizing application engineers on staff ready to serve you.
- Guaranteed quality second to none.

## Our Mission

“ To be the high value, hassle-free manufacturer and supplier of choice for quality products to our customers ”



# CONTROL VALVES

## Sliding Stem and Ball Valves



### DF100 Control Valve

**Available Port Diameters:**

1/4" | 3/8" | 1/2" | 3/4"

**Available Body Styles:**

Globe & "T" Body

**Available End Connections:**

FNPT / RF / RTJ

**Rating:**

ASME B16.34

Class 150 / 300 / 600 / 900

FNPT: CWP 2,250 Psi (15,513 kPa)

**FEATURES:**

- Live loaded packing.
- Field-reversible from spring-to-close to spring-to-open.
- Standard NACE construction.
- Flow up or down (flow down recommended).
- Simple installation and easy maintenance.
- Design suitable for applications to -50°F (-45°C).
- Threaded bonnet.

The Model DF100 control valve is an improvement over its predecessor the DF1; still designed for quick open flow applications, DF100's are identical in function to the DF1. These tough, compact valves are ideal for use in oil and gas separators, treaters, and scrubbers or as dump valves. The DF100 is well suited for many other high pressure fluid applications up to 2250 Psig (15,513 kPag). Available in 1" globe or "T" body designs.

### DF234 Control Valve

**Available Port Diameters:**

1/4" | 3/8" | 1/2" | 3/4" | 1"

**Available Body Styles:**

Globe & Angle

**Available End Connections:**

FNPT / RF / RTJ

**Rating:**

ASME B16.34

FNPT: CWP 2,250 Psi (15,513 kPa)

RF: Class 150 | 300 | 600 | 900/1500

RTJ: Class 600 | 900/1500

**FEATURES:**

- Live loaded packing.
- Field-reversible from spring-to-close to spring-to-open.
- Standard NACE construction.
- Flow up or down (flow down recommended).
- Simple installation and easy maintenance.
- Design suitable for applications to -50°F (-45°C).
- Threaded hammer nut.



The Dyna-Flo Model DF234 control valve is primarily designed for on/off control of a variety of gases or fluids. These tough valves are manufactured for use as dump valves and feature a low profile and lightweight design that fits into tight locations and makes for easier handling. The DF234 is available in 1 inch and 2 inch sizes, either in a globe or angle style valve body with threaded FNPT or flanged connections.

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# CONTROL VALVES

## Sliding Stem and Ball Valves

### DF270 Control Valve

**Available Port Diameters:**

1/4" | 3/8" | 1/2" | 3/4" | 1"

**Available Body Styles:**

Globe & Angle

**Available End Connections:**

FNPT / RF / RTJ

**Rating:**

ASME B16.34

FNPT: CWP 2,250 Psi (15,513 kPa)

RF: Class 150 | 300 | 600 | 900/1500

RTJ: Class 600 | 900/1500

**FEATURES:**

- Live loaded packing.
- Field-reversible from spring-to-close to spring-to-open.
- Standard NACE construction.
- Flow up (flow down option available).
- Simple installation and easy maintenance.
- Design suitable for applications to -50°F (-45°C).
- Threaded hammer nut.
- Standard low temperature carbon steel body (LCC).



The Dyna-Flo Model DF270 Control Valve is a rugged globe style control valve intended for demanding applications in process control. It is suitable for a wide range of applications, especially high pressure and severe service. The compact design makes installation and maintenance more convenient than traditional valve and actuator assemblies while still offering the same functionality. The Model DF270 is designed to accept instrumentation requiring valve stem linkages making it an excellent control valve.



### DF2000 Control Valve

**Available Body Sizes:**

1" & 2"

**Available Body Styles:**

Globe & Angle

**Available End Connections:**

FNPT / RF / RTJ

**Rating:**

ASME B16.34

Class 150 - 1500

Class 2500 for 2" Only

**FEATURES:**

- Push-down to close valve plug action.
- Top guided valve plug.
- Unbalanced design.
- Standard NACE construction.
- Metal seat construction, hard faced or tungsten carbide seats available.
- Threaded bonnet and seat ring.
- Typical Actuators:  
Model DFC or DFO linear actuators.
- Standard low temperature carbon steel body (LCC).

The Model DF2000 Control Valves are heavy duty globe style control valves used in all kinds of demanding oil and gas applications, from well head to gas plant and beyond. The Model DF2000 control valves are post guided, single port valves that can be used for either throttling or on-off control of either liquids or gasses.





## 360 / 361 / 362 / 363 Control Valves

### Available Body Sizes:

1" | 1-1/2" | 2" | 3" | 4" | 6" | 8"

### Available Body Styles:

Globe & Angle

### Available End Connections:

RF / RTJ / BWE / SWE  
FNPT for 1" | 1-1/2" | 2" Only

### Rating:

ASME B16.34  
Class 150 / 300 / 600

### FEATURES:

- Cage or top guided.
- Single port.
- Typical Actuators:  
Model DFC or DFO linear actuators.
- NACE option available.
- Reduced port trims available.
- WCC, LCC, CF8M, & WC9 are standard body/  
bonnet materials. Other materials available  
on request.
- Low-Noise and Anti-Cavitation trim available.



The Model 360 Series globe style control valves can be used for either throttling or on/off control of gases or liquids. The Model 360 has a balanced plug with options of Class IV - VI shut off. The Model 361 usually used in high temperature applications has a Class II - Class IV shut off and a balanced plug. Both Models 362 and 363 are unbalanced.

## 350 & 351 Control Valves

### Available Body Sizes:

4x2" / 6x4" / 8x4" / 8x6" / 10x6" /  
10x8" / 12x6" / 12x8"

### Available Body Styles:

Globe

### Available End Connections:

RF / RTJ / BWE

### Rating:

ASME B16.34  
Class 150 / 300 / 600 / 900

### FEATURES:

- Cage or top guided.
- Single port.
- NACE option available.
- Reduced port trims available.
- WCC, LCC, CF8M, & WC9 are stand-  
ard body/bonnet materials. Other  
materials available on request.
- Low-Noise and Anti-Cavitation trim  
available.



The Model 350 Series globe style control valves can be used for either throttling or on/off control of gases or liquids. The Model 350 has a balanced plug with options of Class IV & V shut off. The Model 351, usually used in high temperature applications, has a Class II - Class IV shut off and a balanced plug.



# CONTROL VALVES

## Sliding Stem and Ball Valves

### 370 & 371 Control Valves

**Available Body Sizes:**

12" Body with a 12" / 14" / 16" Flange

**Available Body Styles:**

Globe

**Available End Connections:**

RF

**Rating:**

ASME B16.34

Class 150 / 300 / 600

Model 370 Series globe style control valves are larger versions of the Model 360 Series. These valves feature hanging cages and threaded seat rings which equates to easy maintenance trim.

**FEATURES:**

- Cage or top guided.
- Single port.
- NACE option available.
- WCC, LCC, CF8M, & WC9 are standard body/ bonnet materials. Other materials available on request.
- Low-Noise and Anti-Cavitation trim available.



### 380 / 381 / 382 Control Valves

**Available Body Sizes:**

3" / 4" / 8"

**Available Body Styles:**

Globe

**Available End Connections:**

RF / RTJ / BWE

**Rating:**

ASME B16.34

Class 1500 (8" Only) / 2500

**FEATURES:**

- Cage or top guided.
- Single port.
- NACE option available.
- WCC, LCC, CF8M, & WC9 are standard body/ bonnet materials. Other materials available on request.
- Bolted bonnet.
- Low-Noise and Anti-Cavitation trim available.

Model 380 Series globe style control valves are Model 360 Series control valves designed for high pressure applications. Both Models 380 and 381 are cage guided control valves with balanced plugs. Model 380 control valves are capable of Class V shutoff at process temperatures below 450°F (232°C). Model 381 control valves are well suited for general applications that do not require tight shutoff. Model 382 control valves are top guided valves with an unbalanced plug capable of Class V shutoff.





## 390 / 391 / 392 Control Valves

### Available Body Sizes:

2" | 3" | 4" | 6" | 8x6"

### Available Body Styles:

Globe & Angle

### Available End Connections:

RF / RTJ / BWE

### Rating:

ASME B16.34  
Class 900 / 1500

### FEATURES:

#### Model 390:

Cage guided, balanced plug, class IV - VI shut-off.

#### Model 391:

Cage guided, balanced plug, class II - IV shut-off, typically for high temp. applications.

#### Model 392:

Cage guided, unbalanced, numerous port sizes, metal seats standard class IV - VI shut-off.

The Model 390 Series control valves are cage guided, single port, high pressure globe style valves with bolted bonnets. The Model 390 has three available configurations to meet most process applications (see Features). WCC, LCC, CF8M, and WC9 are standard body / bonnet materials. Other materials available upon request. Low-Noise and Anti-Cavitation trim available.

## 570 / 571 / 573 Control Valves

### Available Body Sizes:

2"/3"/4"/6"/8" - Flangeless

2"/3"/4"/6"/8"/10"/12" - Flanged

### Rating:

ASME B16.34

Model 570: Class 150 / 300 / 600

Model 571: Class 150

Model 573: Class 300

### FEATURES:

- Throttling and on/off capabilities.
- Splined shaft provides accurate control and flexibility in actuation operations.
- Versatile positioner and accessory options when combined with a Model DFR actuator.
- WCC bodies are standard with CG8M bodies readily available.

The Model 570 Series Segmented Ball style control valve is suited to high flow, low pressure drop services. The straight through unrestricted flow path provides higher capacity than globe style valves. Both Models 571 and 573 have raised face flanged bodies.



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# CONTROL VALVES

## Sliding Stem and Ball Valves

### 590 Control Valves

#### Available Body Sizes:

4" / 6" / 8" / 10" / 12" / 16"

#### Rating:

ASME B16.34

Class 600 / 900

16" Body: Class 600 Only

#### FEATURES:

- Simplified maintenance.
- Standard NACE construction.
- Positive ball to shaft connection.
- High cycle life.



The 590's straight through unrestricted flow path provides higher capacity than globe style valves. A splined shaft provides accurate control in throttling operations and flexibility in actuation options. The 590 series, when combined with a Model DFRP piston actuator, is a rugged control valve assembly, to which a wide variety of positioners and accessories can be mounted.

## ACTUATORS

### Linear, Rotary, and Pneumatic



### DFN Actuator

#### FEATURES:

- Actuator may be installed in any position.
- Deep casings provide up to 4-1/8" (105mm) of travel for a size 156 actuator.
- Square Yoke provides a versatile mounting surface for accessories.
- Four holes in the actuator base permit bracket or plate mounting.

The Model DFN is a bracket-mounted, direct acting, spring and diaphragm actuator. Common applications include operation of butterfly valves, chokes, and louvers. The steel welded design provides necessary stability and reliability under extreme working conditions.





# ACTUATORS

## Linear, Rotary, and Pneumatic



### DFC / DFO Actuator

**Diaphragm Areas (inches<sup>2</sup>):**

46 / 69 / 105 / 156 / 220

**Available Mounting Connections:**

2-1/8" / 2-13/16" / 3-9/16"

**Operating Range:**

3-15 Psig (21 - 103 kPag)

6-30 Psig (41 - 207 kPag)

**FEATURES:**

- Open yoke - open valve stem.
- Versatile mounting options for positioners and limit switches.
- Throttling and on/off control capabilities.

The Model DFC and DFO Series linear output actuator's large diaphragm area allows for low supply pressure operation, and the spring provides fail safe positioning of a control valve on loss of pneumatic supply. Model DFC actuators are fail closed (down) and Model DFO actuators are fail open (up).

### DFR Actuator

**Diaphragm Areas (inches<sup>2</sup>):**

26 / 47 / 69 / 156 / 220

**Operating Range:**

0-18 Psig (0 - 124 kPag)

0-33 Psig (0 - 228 kPag)

**FEATURES:**

- High reliability.
- Fail-safe spring return.
- Splined clamped connection.
- Offers broad range of torque output.
- Compatible with a wide variety of instrumentation when combined with a Model 570 series control valve.

The Model DFR is a versatile rotary diaphragm actuator typically used on Ball or Butterfly valves like the 570 or 660 series control valves. It can be configured for fail closed or fail open applications and a variety of mounting and shaft connection adaption is available for any other rotary application. High strength and low dead band are achieved with our cast steel clamped lever design along with added safety and reliability.



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# ACTUATORS

## Linear, Rotary, and Pneumatic

### DFLP Actuator

#### Available Actuator Sizes:

113 & 154

#### Maximum Operating Pressure:

**Size 113:** 150 Psig (1,034 kPag)

**Size 154:** 150 Psig (1,034 kPag)

#### Material Temperature Limitations:

-30°F to 180°F (-34°C to 82°C)

#### FEATURES:

- High reliability.
- Innovative cylinder design.
- 8-1/8 inches maximum travel.
- Rugged and long lasting construction.
- Compatible with a wide variety of instrumentation.
- Double-Acting, Throttling, and On-Off configurations available.

The Model DFLP pneumatic piston actuator is designed for high powered demanding applications. Multiple mounting configurations and actions can easily be achieved due to the universal design.

The Model DFLP, when combined with a positioner, is suitable for throttling applications. Additionally, DFLPs can be used for on/off service when paired with a two-position control signal. A volume tank is required to hold fail position.



### DFRP Actuator

#### Available Actuator Sizes:

018\* / 028\* / 079\* / 112 / 113 / 154

#### Maximum Operating Pressure:

**Size 018:** 100 Psig (689 kPag)

**Size 028:** 150 Psig (1,034 kPag)

**Size 079:** 100 Psig (689 kPag)

**Size 112:** 85 Psig (586 kPag)

**Size 113:** 150 Psig (1,034 kPag)

**Size 154:** 150 Psig (1,034 kPag)

#### FEATURES:

- High reliability.
- Innovative cylinder design.
- Splined clamped connection.
- Minimal deadband.
- Compatible with a wide variety of instrumentation when combined with a Model 590 control valve.

**NOTICE:** These sizes are currently under development, consult Factory for availability.



The Model DFRP pneumatic piston rotary actuator is used in all kinds of demanding applications involving splined shaft rotary control valves, such as the Dyna-Flo 590 and 570 Series valves. The linkage of this actuator can be positioned for either push-down-to-open or push-down-to-close action.





# D<sup>m</sup>FORCE

## D-Force Scotch Yoke Pneumatic Actuator

### Available Sizes (DDA & DSR):

65, 80, 100, 125, 140, 160 and 210 (Dual Piston)

DDA 26082 to 80212 (Piston Rotary)

33082SR80 to 80211SR80 (Piston Rotary)

### Operating Range:

40 Psi (276 kPa) - 143 Psi (986 kPa) max.

### FEATURES:

#### Small D-Force

- Namur mounting
- Corrosion resistant construction
- Externally adjustable travel stops
- High torque compact design superior to a rack and pinion
- Low temperature construction standard: -40°F to 230°F (-40°C to 110°C)

#### Large D-Force

- Standard construction temperature : -20°F to 200°F (-29°C to 177°C)
- Rugged corrosion resistant design



The Dyna-Flo D-Force actuator is a rugged scotch yoke actuator designed for use with quarter turn valves. D-Force actuators are available in double acting (DDA) and spring return (DSR) configurations. The compact dual piston design of the Model 65 through 210 allows for simplified mounting and cost effective automation of any rotary application. The large D-Force is well suited for larger torque requirements up to 427,845 lbs-in (48,340 N-M).



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# CONTROLLERS & INSTRUMENTS



## Control Air T950XP I/P Transducer

### Ports (Input/Output):

Pneumatic Model: 1/4" NPT

Electric Model: 1/2" NPT

### Explosion Proof:

Certified to CSA Class 1 Div 1,  
Group D natural gas use

### FEATURES:

- Wide rangeability.
- Direct, reverse or split ranging.
- Can be mounted in-line or directly to panel in multiple configurations (mounting kits available).
- Field adjustable, easy open cover.
- Onboard switches for easy re-configuration.
- FM/CSA approved for natural gas.



Control Air's compact T950XP I/P transducer delivers reliable high performance for the toughest applications in the most hazardous environments. The T950XP converts electrical current signal to stable, pneumatic output to actuate valves. Advanced circuitry includes electronic feedback control for superior vibration protection and highly accurate output.



## Siemens 760 Positioner

### FEATURES:

- Comes with four preset cams for customizing valve flow requirements.
- 0 to 100 Psig (0 to 689 kPag) output range.
- Universal Mounting, can be installed for any required application.

The 760 positioner is a pneumatic positioner and can be used with linear or part-turn valves. Additional components can be added, such as: a 4 — 20 mA feedback module, internal limit switches, high flow CV module, or position indicator windows. **QPS approved for natural gas use.**



## Siemens PS2 Positioner

### FEATURES:

- Has preset programmable cams or preset digital cams.
- 0 to 100 Psig (0 to 689 kPag) output range.
- Universal Mounting, can be installed for any required application.

The PS2 is a digital smart valve positioner with onboard programming and HART ready. It has a visual LCD screen for visual programming and diagnostics standard, which means the PS2 does not require a handheld communicator. **QPS approved for natural gas use.**





## PRO-50 Instrument Supply Regulator

### Outlet Pressure Ranges:

0-35 Psig (0-241 kPag)

0-60 Psig (0-414 kPag)

0-125 Psig (0-862 kPag)

### Maximum Inlet Pressure:

250 Psi (1,724 kPa)

### Material Temperature Limitations:

-40°F to 180°F (-40°C to 82°C)

### FEATURES:

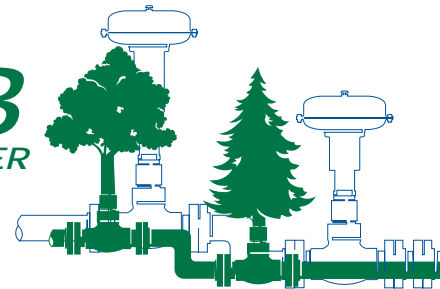
- 1/4" NPT ports (Inlet/Outlet).
- Standard low-temperature construction.
- Field service friendly.
- Panel mounting available.
- Over pressure protection.
- NACE configuration available.



PRO-50 Series regulators are designed to be a compact, lightweight option for providing controlled and reduced pressures for instrumentation. Generally used to provide a constant supply pressure to pneumatic and electro-pneumatic controllers, these direct-operated regulators are rugged enough to be used in most air or gas applications.



## 4000LB PRESSURE CONTROLLER



### FEATURES:

- Soft seated relay guarantees zero leakage during steady state.
- Die cast aluminum case and cover.
- Standard powder coated casing, stainless steel external fasteners and stainless steel tubing.
- Control action is field reversible between direct acting and reverse acting without additional parts (Patent Pending).
- Stainless steel parts are available for sour instrument gas applications.
- Bourdon tubes are available in 316 SST as standard, and an optional N05500 for NACE.
- Available in two modes: Proportional Only, and Proportional Plus Reset.

**4000LB Pressure Controllers  
will pay for themselves  
after 1 year of use.**

The Dyna-Flo 4000 Low Bleed controller (Patent Pending) is specially designed to reduce supply air/gas consumption. Significant reductions in the steady state bleed rates reduce emissions on fuel gas supply applications as well as instrument air consumption on plant applications. The result is a lower operating cost and less environmental impact.

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# CONTROLLERS & INSTRUMENTS

## 4000 / 4010 Pressure Controller

### FEATURES:

- Available in two modes: proportional only & proportional plus reset.
- Control action is field reversible between direct acting and reverse acting without additional parts.
- A unique process pressure block and seal design ensure controlled venting of fuel gas.
- Standard controllers come with stainless steel materials exposed to the process.



The Dyna-Flo 4000 Series pneumatic pressure controllers are the "brains" of a self contained, local pneumatic PID control loops.

## 5000 & 5000E Level Controller

### Available End Connection Sizes:

2" / 3" / 4"

### Available End Connections:

MNPT / RF / RTJ

### Pressure Rating:

ASME B16.34 Class 1500

### Operating Range:

Snap: 0-20 / 0-30 Psig output

Throttle: 3-15 / 6-30 Psig output

### FEATURES:

- Familiar adjustment.
- Field reversible.
- Multiple configurations: snap-acting and throttling pilots available.
- Standard NACE construction.
- Environmentally friendly low-bleed relays.
- Vented case.
- Vertical or horizontal displacer.



The 5000 level controller utilizes an innovative relay manifold design providing easy maintenance and improved safety. 5000 level controllers provide a pneumatic signal output for use with a control valve. The design of the 5000 allows for operational consistency through high and low pressure applications. 5000 level controllers are equipped with special access to the displacer arm seal, which can be serviced without disrupting the vessel connection.

Our 5000E level controller is equipped with an explosion proof electric pilot for operations without supply gas. The 5000E is available Single Pole Double Throw (SPDT) with a proportional band adjustment of 7 - 55% or Double Pole Double Throw (DPDT) with proportional band adjustment of 20 - 150%.

### 5000E Pilot Rating:

UL and CSA listed: L96  
15 amps, 125, 250, or 480 V.A.C.  
1/8 Hp, 125 V.A.C.; 1/4 Hp, 250 V.A.C.  
1/2 amp, 125 V.D.C.; 1/4 amp, 250 V.D.C.

### 5000E Pilot Approvals: UL, CSA, ATEX (CE), IEC EX

### 5000E Pilot Designations:

Div. 1 & 2, Class I, Groups B, C, & D  
Div. 1 & 2, Class II, Groups E, F, & G  
II 2 G; EEX d IIB + H2 T6



# REPLACEMENT PARTS



## New Dyna-Flo Replacement Parts

Dyna-Flo has a very strong manufacturing background to ensure the utmost quality. Whether it be Dyna-Flo manufactured, or other manufacturers new surplus or remanufactured parts. Dyna-Flo is capable of reconditioning or reproducing outdated or rare parts for various makes and models of control valves.

We stock a large range of commonly used parts for same-day shipment of our manufactured product. Our parts are priced at a reasonable level, reducing our customer's total cost of ownership.



## Special Trim Materials / Special Coatings

Dyna-Flo will fabricate valve trim parts from specialty materials and add overlays to suit your specific process needs. We can also supply parts no longer available or rare parts from other manufacturers.

Dyna-Flo can apply specialty coatings on valve bodies and trim parts to prevent premature wear due to corrosion, chemical attack, etc.



## SEMINAR INFORMATION

### Dyna-Flo Product Information

Dyna-Flo offers educational product seminars to better inform our customers regarding our wide range of products, their performance, and applications. For more information or to schedule a Dyna-Flo Product Seminar, please contact your closest Dyna-Flo Sales Representative or call 1-866-396-2356.

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