



## HPF Series

## High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves



### END CONNECTIONS

NPT Threaded: 1/4" to 4"

Socket Weld: 1/4" to 4"

### PRESSURE RATING

1/4" & 3/4": 29 inHg to 3000 psi

1" to 4": 29 inHg to 2250 psi

[see Pressure/Temperature Curve](#)

### TEMPERATURE RANGE

TFM: -20°F to 450°F

50/50: -20°F to 550°F

[see Pressure/Temperature Curve](#)

### MATERIALS

**Body** - Carbon or Stainless steel

**Seats** - TFM or 50/50 (SS/PTFE)

**Body Gasket:** Graphite

The Assured Automation HPF Series 3-piece, Full Port, Ball Valves are superior quality, rugged, and universal purpose valves for all fluids. Ideal for saturated or superheated steam, slurries, semi-solids and corrosive services. Other applications include industrial, chemical, power, gas, and many OEM applications. A full range of accessory items are available including pneumatic and electric actuators, limit switches, solenoid valves, positioners and manual override devices.

### FEATURES

- Fire Safe Certified to API 607 4th Edition
- Three piece design with swing out body for easy access to internal components
- Dual body seals are fully contained and protected
- Anti-static grounding device
- Blow-out-proof stem with superior seal design
- High-strength stem with parallel head for visible ball position indication
- Secure body bolting: bolts are fully encapsulated and secure directly into tapped holes in the body
- ISO 5211 actuator mounting pad
- Weld-in-place: heat sink construction allows welding of fully assembled valve without damaging the seats
- Vented Ball: Machined hole in the ball stem slot prevents excessive pressure build-up in cavity while valve is in closed position

### ACTUATORS

- Full range of actuators including manual, pneumatic, and electric

[see page 5 for actuator details](#)

### TYPICAL APPLICATIONS

- Saturated steam service
- Chemical process lines
- High temperature media
- High pressure applications
- Fusible link spring packs for Thermal Shutdown
- V-port ball profiles for Flow Control

### ACCESSORIES

- **Limit switches**
- **Solenoid valves**
- **Positioners**

[see page 8 for accessory details](#)

### SPECIALTY VALVE OPTIONS

- **Cryogenic stem extensions**
- **Fusible link spring packs** for Thermal Shutdown
- **V-port ball profiles** for Flow Control
- **Low Fugitive Emissions** with secondary containment pack

[see page 4](#)



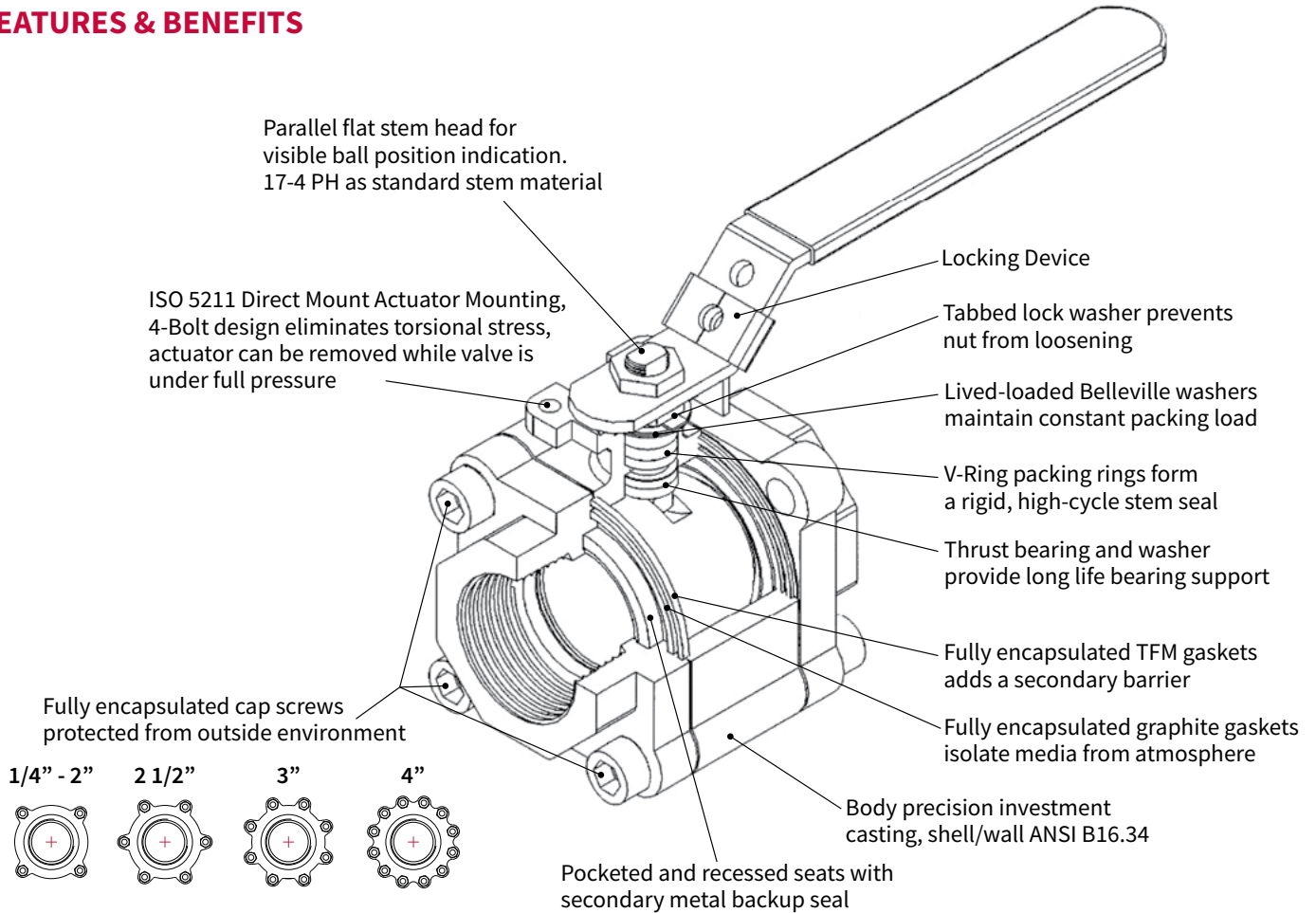


## HPF Series

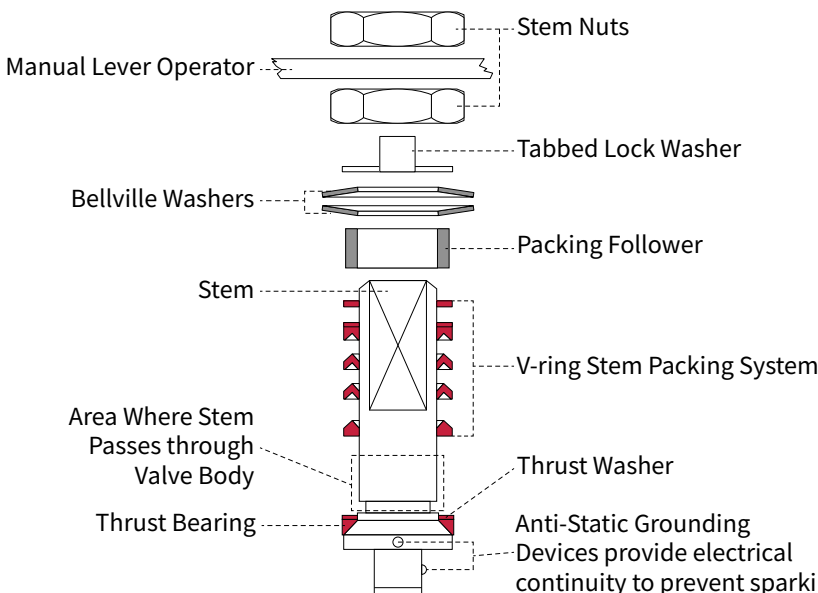


## High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### FEATURES & BENEFITS



### SUPERIOR STEM SEALING SYSTEM



Incorporating a triple set of valve stem seals, this unique system eliminates the possibility of valve stem leaks in almost all media applications. Improved thrust washer design allows more sealing surface effectively blocking all leak paths during rotation. V-Ring Packing Set expands sideways as it is compressed and pressurized blocking all air pockets.

The stem sealing system is energized by Belleville washers which continuously adjust packing compression to compensate for wear, pressure, or temperature fluctuations.

**Notes:**

- Standard Valve is Fire Safe Design with Graphite Packing.
- For higher sealing requirements, optional O-ring is available upon request



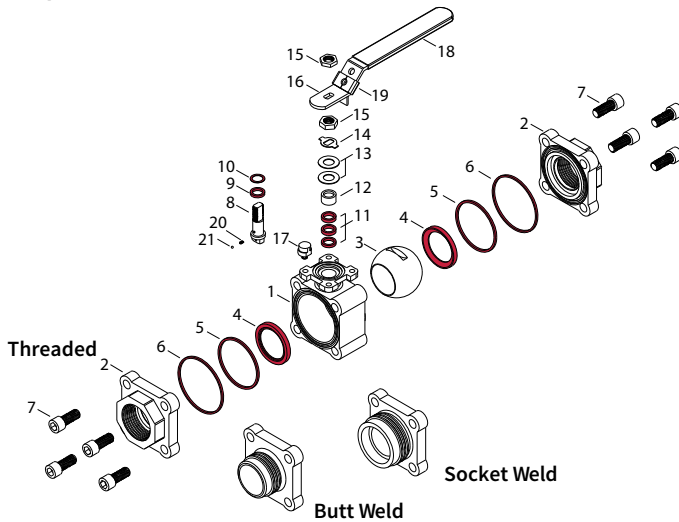
## HPF Series



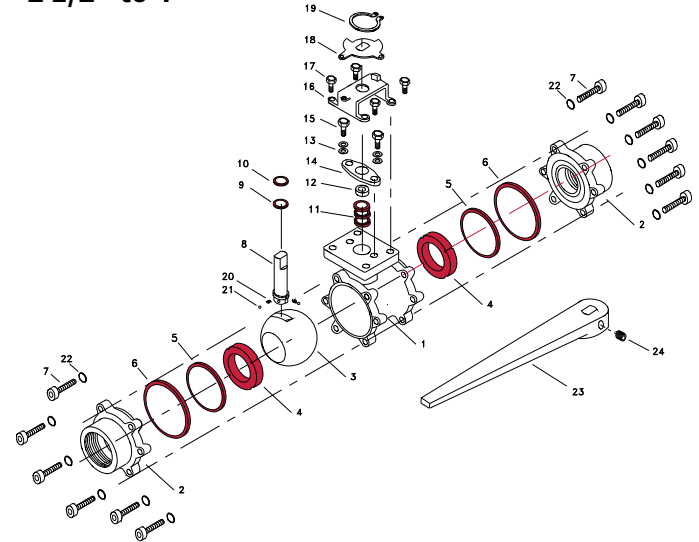
## High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### MATERIALS OF CONSTRUCTION

#### 1/4" to 2"



#### 2 1/2" to 4"



**Note:** Red items are included in the seal replacement kits.

Item	Name	Carbon Steel	Stainless Steel
1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
2	End Caps*	ASTM A216 WCB	ASTM A351 CF8M
3	Ball	ASTM A351 CF8	ASTM A351 CF8M
4	Seats**	TFM	
5	Primary Gaskets**	TFM	
6	Secondary Gaskets**	Graphite	
7	Bolts***	EN3506 A2-70 / ASTM A193 B8	
8	Stem	17-4PH	
9	Thrust Bearing**	Carbon PTFE	
10	Thrust Washer**	50/50 (SS/PTFE)	
11	Stem Packing**	Graphite	
12	Packing Follower	SS304	
13	Bellville Washers	SS304	
14	Lock Washer	SS304	
15	Stem Nuts	SS304	
16	Handle	SS304	
17	Stopper	SS304	
18	Handle Cover	Plastic	
19	Locking Device	SS304	
20	Anti-Static Springs	SS301	
21	Anti-Static Balls	SS316	

\* Socket weld end caps on SS valves are 316L

\*\* Included in Seal Replacement Kits

\*\*\* 316SS bolts are available - contact factory

Item	Name	Carbon Steel	Stainless Steel
1	Valve Body	ASTM A216 WCB	ASTM A351 CF8M
2	End Caps*	ASTM A216 WCB	ASTM A351 CF8M
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4	Seats**	TFM	
5	Primary Gaskets**	TFM	
6	Secondary Gaskets**	Graphite	
7	Bolts***	EN3506 A2-70 / ASTM A193 B8	
8	Stem	17-4PH	
9	O-ring**	Viton®	
10	Thrust Washer**	50/50 (SS/PTFE)	
11	Stem Packing**	Graphite	
12	Packing Follower	SS304	
13	Bellville Washers	SS304	
14	Packing Gland	SS304	
15	Gland Bolts	SS304	
16	Stop Housing	SS304	
17	Housing Bolts	SS304	
18	Travel Stopper	Zinc Plated C.S.	SS304
19	Snap Ring	Nickel Plated C.S.	
20	Anti-Static Springs	SS301	
21	Anti-Static Balls	SS316	
22	Lock Washers	SS304	
23	Handle	Ductile Iron	
24	Set Screw	SS304	

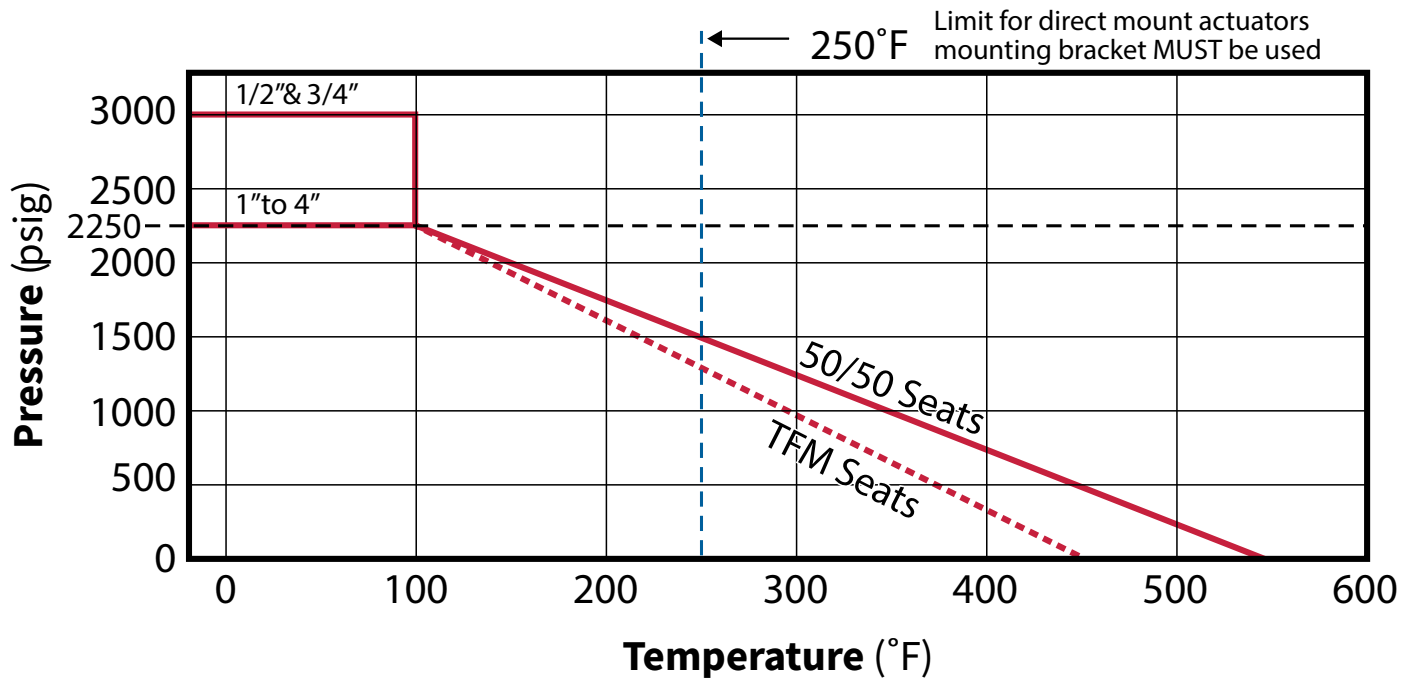


## HPF Series



High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### PRESSURE / TEMPERATURE CURVE



### SPECIALTY MODELS

#### V-Port Ball Profiles for Flow Control

[\(call for details\)](#)



#### Stem Extensions for Cryogenic Applications

[\(call for details\)](#)



#### Containment Bonnet for Fugitive Emissions

[\(call for details\)](#)





## HPF Series



## High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### ACTUATORS AVAILABLE

A full range of actuators are available to choose from. All sizing is done by Assured Automation to make selecting your assembly easy. Any accessories ordered with the actuator will be installed and tested by our ISO certified facility.

### Pneumatic

#### P Series Dual Scotch Yoke



##### Spring Return

fail open or closed

##### Double Acting

fail in place

[\(see P series web page\)](#)

#### F Series Dual Rack and Pinion



##### Spring Return

fail open or closed

##### Double Acting

fail in place

[\(see F series web page\)](#)

#### Accessories

- NAMUR direct mount solenoid valves
- Variety of limit switches
- Modulating positioners
- 1/4" NPT x 1/4" tube push fittings
- 1/4" NPT x 1/4" compression fittings
- SS and poly tubing

### Electric

#### Weatherproof (NEMA 4/4X)

##### S4 Series Universal Voltage



##### 24 to 220 VAC/DC

- Modulating or On/Off
- Heater and thermostat come standard
- Battery fail safe optional
- 2 end of travel switches (open and closed)

[\(see S4 series web page\)](#)

##### K4 Series Worm Gear



##### 120 VAC

- Modulating or On/Off
- High duty cycle
- 2 end of travel switches (open and closed)

[\(see K4 series web page\)](#)

#### Explosion Proof (NEMA 7)

##### B7 Series Heavy Duty



##### 120 VAC

- Modulating or On/Off
- Heater and thermostat come standard
- 2 end of travel switches (open and closed)

[\(see B7 series web page\)](#)

### Manual

#### Lockable Lever



#### Accessories

- Solenoid Valves
- Limit switches
- Positioners
- Cryogenic stem extensions
- Fugitive Emission Containment Packs

[\(see Page 7 for details\)](#)

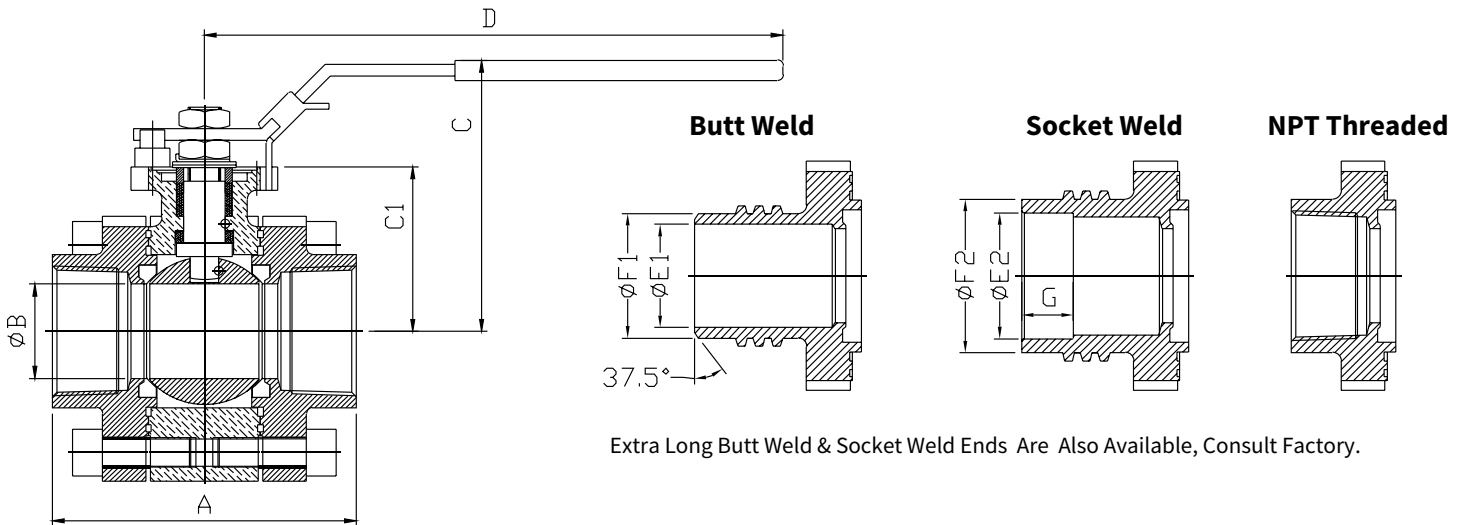


## HPF Series



High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### DIMENSIONS HPF Valve Bodies



Extra Long Butt Weld & Socket Weld Ends Are Also Available, Consult Factory.

### Dimensions in inches

Line Size	A (NPT)	A (SW & BW)	B	C	C1	D	E1	E2	F1	F2	G	Cv	Weight (lbs.)
1/4"	2.72	4.81	0.46	2.80	1.54	6.57	0.46	0.56	0.71	1.02	0.39	18	3
3/8"	2.72	4.81	0.50	2.80	1.54	6.57	0.50	0.69	0.71	1.02	0.39	18	3
1/2"	2.91	4.89	0.59	2.80	1.54	6.57	0.59	0.85	0.85	1.24	0.39	18	3
3/4"	3.39	5.17	0.79	2.95	1.70	6.57	0.79	1.07	1.07	1.52	0.51	42	4
1"	3.70	5.24	0.98	3.62	2.06	7.95	0.98	1.33	1.34	1.69	0.51	72	6
1 1/4"	4.09	5.72	1.26	3.74	2.19	7.95	1.26	1.67	1.69	2.17	0.51	124	8
1 1/2"	4.61	6.19	1.57	4.45	2.65	9.88	1.57	1.91	1.91	2.44	0.51	210	12
2"	5.20	6.62	1.97	4.45	2.91	9.88	1.97	2.41	2.38	2.95	0.63	350	17
2 1/2"	7.28	8.78	2.56	6.22	3.39	15.5	2.32	2.91	2.87	3.62	0.98	650	34
3"	8.74	10.00	2.99	7.13	4.45	15.5	2.99	3.52	3.50	4.29	0.98	950	61
4"	13.50	17.00	3.94	9.41	5.53	22.5	3.82	4.54	4.50	5.31	1.18	1620	130

Visit our Web Site for **CAD Models and dimension drawings of complete valve assemblies including accessories. Our easy to use configurators allow complete assembly specification with help screens for most selections. Once your assembly is complete, simply click the CAD icon.**

assured**automation.com**



## HPF Series



High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

### ORDERING INFORMATION

**C HPF N G C F P8SC ...**

**Size Series Connection Type Stem & Body Seal Material Body Material Seat Material Actuator**

#### VALVE BODY

Size: \_\_\_\_\_

- C** = 1/2"                      **H** = 2"
- D** = 3/4"                      **J** = 3"
- E** = 1"                         **K** = 4"
- G** = 2 1/2"

Connection Type: \_\_\_\_\_

- N** = NPT (female)
- S** = Socket Weld with heat sink fins for "weld-in-place"

Stem & Body Seal Material: \_\_\_\_\_

- (omit) = TFM
- G** = Graphite

Body Material: \_\_\_\_\_

- C** = Carbon Steel
- S** = Stainless Steel

Ball Seat Material: \_\_\_\_\_

- F** = TFM
- S** = 50/50 (50% SS and 50% TFE)

Note: only one actuator may be chosen

#### ACTUATOR

##### Pneumatic Actuators

Series: \_\_\_\_\_

- P** = P series Dual Scotch Yoke
- F** = F series Dual Rack & Pinion

Supply Air Pressure: \_\_\_\_\_

- 6** = 60psi                      **8** = 80psi

Function: \_\_\_\_\_

- S** = spring return            **D** = double acting

Fail Safe Position: \_\_\_\_\_

- C** = fail to CLOSED    **O** = fail to OPEN
- omit for direct acting

##### Electric Actuators

Series: \_\_\_\_\_

- K4** = weatherproof; worm gear
- S4UV** = weatherproof; universal voltage
- B7** = explosion proof

Voltage: \_\_\_\_\_

- A** = 120VAC    **B** = 24VDC    **F** = 12VDC (omit for S4UV)

##### Manual Operators

Type: \_\_\_\_\_

- M** = basic lever with locking device

**P 8 S C**  
**Series Air psi Function Fail Position**

**K4 A**  
**Series Voltage**

**M**  
**Type**

Code continues to specify additional accessories and options

**Make it Easy!**  
 Try Our Online Configurator at:  
[assuredautomation.com](http://assuredautomation.com)  
 With Instant Pricing and you can Buy Now



## HPF Series



## High Performance Fire-Safe 3-piece, Full Port, 2-way Ball Valves

**ACCESSORIES** [Visit our web site](#) or call for details

### Solenoid Valves

NAMUR solenoid valves for direct mount to the actuator. Various coil and connector options are available including weatherproof, explosion proof, corded, NPT conduit, and cable gland.

**3-way**  
for spring return models



**3/4-way for**  
for double acting models



[Solenoid valve web page](#)

### Limit Switches (valve position indicators)

Used to communicate the position of the valve to a PLC, HMI, or simple remote indicator lamp. Various switch technologies are available. All include a local visual indicator as well.

#### UA/UB Series

Solid state proximity switches; 1 for Open, 1 for Closed



#### YF Series

SPDT mechanical switches; 1 for Open, 1 for Closed



#### YE, YH, YO Series

SPDT mechanical switches; 1 for Open, 1 for Closed



Other limit switches are available [Limit switch web page](#)

### Modulating Positioners

Add modulating control to either of our pneumatic actuator series. These positioners mount to the top of the actuator using the NAMUR standard mounting hole and stem pattern.

#### Pneumatic

0-15 psi control signal



#### Electro-pneumatic

4-20mA or 0-10VDC control signal



#### With feedback unit

4-20mA or 0-10VDC feedback signal



[Positioner web page](#)

### Fugitive Emission Containment Packs



[Fugitive emission Containment Pack web page](#)