

Angle Seat Valve

High Cycle-Life On/Off Control Valve



The Angle Seat Valve is a 2/2-way pneumatically actuated piston valve for liquids, gases, vacuum, steam and some aggressive fluids. The superior design of the piston is unique to the market, enabling the plug to retract farther from the flow path, ensuring the highest flow capacity. The dual packing design, and a large diameter self-aligning stem insures the highest cycle life.

A full range of accessory items are available including limit switches, solenoid valves, manual override devices, stroke limiters.

FEATURES

- High cycle-life.
- NAMUR solenoid mounting pad.
- Compact assembly.
- Complete line of accessories.
- Actuator rotates 360°.
- Visual indicator.

TYPICAL APPLICATIONS

- Steam applications.
- Air drying equipment, sterilizers and autoclaves.
- Pollution control equipment, and process control applications.
- Laundry equipment, textile dyeing and drying.
- Bottling and dispensing equipment.
- Ink and paint dispensing.
- Industrial compressors.

VALVE CONFIGURATIONS

- Spring return, NC (normally closed), bi-directional.
- Spring return, NC (normally closed), flow from above.
- Spring return, NO (normally open), flow from below.
- Double acting, bi-directional.
- Manual handle, bi-directional.

MATERIALS OF CONSTRUCTION

Seats and Seals:
PTFE.

Body, Plug and Stem:
Bronze or 316 stainless steel.

ANGLE SEAT VALVE MODEL NUMBERING

(See pgs. 3 & 5 for Quick Sizing Chart)

Model Number: **JXXPGXXX**

Body: _____
4 = 316SS
9 = Bronze

Actuator Style: _____
C = Fail Closed, 1 Spring
S = Fail Closed, 2 Springs
A = Fail Open
D = Double Acting

Actuator Size: _____
14 = DN40
16 = DN50
18 = DN63
21 = DN90
23 = DN110

End Connections: _____
43 = 3/8"
44 = 1/2"
45 = 3/4"
46 = 1"
47 = 1-1/4"
48 = 1-1/2"
49 = 2"
U4 = 1/2" Tri-clamp
U5 = 3/4" Tri-clamp
U6 = 1" Tri-clamp
U8 = 1-1/2" Tri-clamp
U9 = 2" Tri-clamp

Optional:

Solenoid (see website)

Limit Switch: _____

M2 = Mechanical,
Open and Close
I2 = A-Link (see page 6)

PRESSURE RANGE

29 inHg vacuum to 230 PSI
(steam to 150 PSI)

TEMPERATURE RANGE

-14°F to 358°F

Angle Seat Valve

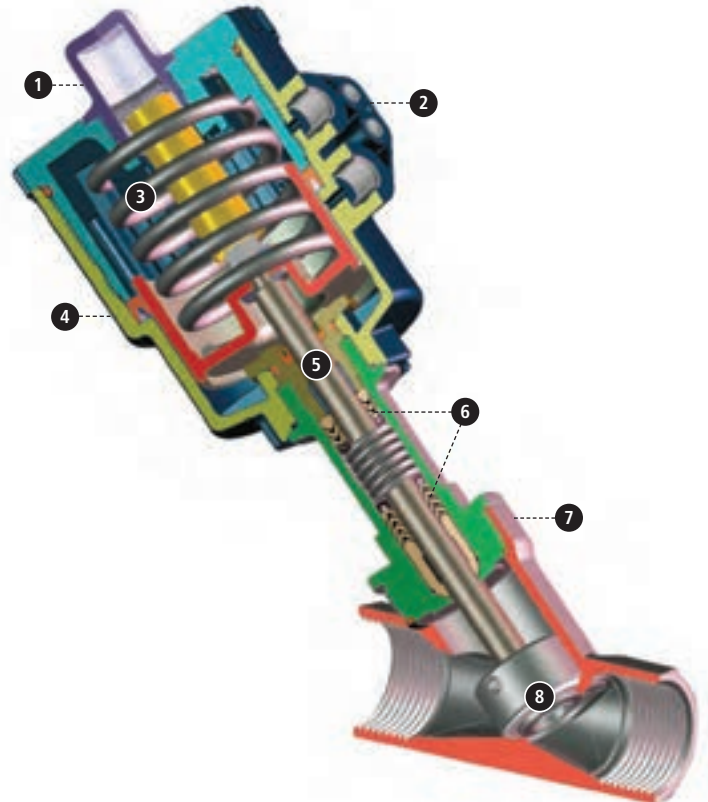
High Cycle-Life On/Off Control Valve (Cutaway View)

PARTS & FEATURES

- 1. Visual Indicator:** Position status indication with visual indicator (standard) or limit switch box (optional).
- 2. NAMUR Connection:** The NAMUR connection for the control valve is provided as standard.
- 3. Spring:** Stainless steel.
- 4. Control Head:** The control head rotates 360° for selective positioning of the pneumatic inlet port.
- 5. Piston/Cylinder:** The superior design of the piston/cylinder, unique on the market, enables the plug to retract farther from the flow path, ensuring a higher flow capacity and less restriction. The metal piston, with its special wear-resistant coating, and the employment of self-lubricating guides and seals provide an extremely high cycle life, even through constant use under the most extreme conditions.
- 6. Stem Packing:** Dual chevron stem packing, live loaded with chevron washers, provides a stem seal far superior to other angle valve designs.
- 7. Microcast Body:** 316 stainless steel or brass construction.
- 8. Plug:** 316 stainless steel pinned plug allows the seat to adjust and find the optimal seal over time, which gives an extended seat life vs. competitive models.

ADDITIONAL DESIGN FEATURES

- **Advanced Pneumatic Actuator:** The high grade Polyamide materials used, together with an increased thickness guarantees reliability and safety.
- **Versatility:** Adjusting the configuration of the actuator head, the valve can be switched from spring return (NO or NC) to double acting.
- **Flow From Above The Plug and Condensable Media:** Thanks to these features it is possible to use smaller control heads.
- **Unique Internal Flow:** The ideal internal flow characteristics, with its maximum capacity and high duty cycle, provide better performance compared to similar designs.
- **High Compatibility:** Valve body and internal components are made entirely of AISI 316 stainless steel, or brass and 316 stainless steel, and the seals are in PTFE, therefore enabling a high chemical compatibility with almost all media used in the different production processes.



- **Free From Water Hammer:** When flow is from below the plug.
- **Perfect Internal Capacity:** The special internal conformation of the valve seat avoids excessive deformation of the PTFE seal at high temperature or pressure, making the valve long-lasting. The self-aligning plug design guarantees a high duty cycle, under all kinds of pressure.
- **Extended Life:** The stainless steel spring and the particular shape of the dual self-adjusting stem seals, ensure a perfect tightness through wear and tear of time.
- **No Maintenance:** The valve is provided with long lasting seals. Guides and seals are made with a self-lubricating material.

Angle Seat Valve (NPT)

High Cycle-Life On/Off Control Valve
(Stainless steel or bronze)

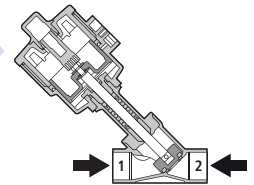
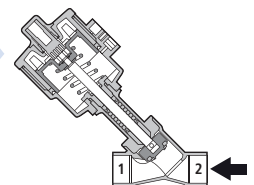
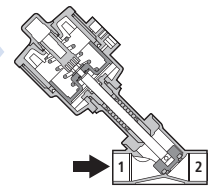
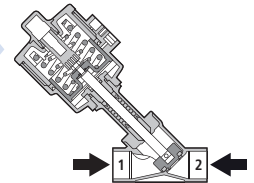
QUICK SIZING CHART

Normally Closed, Bi-directional Flow (1 to 2 or 2 to 1)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air Supply: 80**		Stainless Steel	Bronze
3/8"	5.68	50	2.42	232		J4SPG1643	J9SPG1643
1/2"	6.61	50	2.20	232		J4SPG1644	J9SPG1644
3/4"	12.18	50	2.64	232		J4SPG1645	J9SPG1645
3/4"	12.53	63	2.64	232		J4SPG1845	J9SPG1845
1"	23.20	63	3.52	232		J4SPG1846	J9SPG1846
1"	23.20	90	3.74	232		J4SPG2146	J9SPG2146
1-1/4"	33.64	90	6.60	232		J4SPG2147	J9SPG2147
1-1/2"	53.36	90	7.48	160		J4SPG2148	J9SPG2148
1-1/2"	53.94	110	8.80	232		J4SPG2348	J9SPG2348
2"	77.72	110	11.66	232		J4SPG2349	J9SPG2349

Normally Closed, Flow From Above (1 to 2)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air supply: 60	Air Supply: 80	Stainless Steel	Bronze
3/8"	5.68	50	2.20	232	232	J4CPG1643	J9CPG1643
1/2"	6.61	50	2.20	232	232	J4CPG1644	J9CPG1644
3/4"	12.18	50	2.64	232	232	J4CPG1645	J9CPG1645
1"	23.20	63	3.52	232	232	J4CPG1846	J9CPG1846
1-1/4"	33.64	90	6.82	232	232	J4CPG2147	J9CPG2147
1-1/2"	53.36	90	8.14	232	232	J4CPG2148	J9CPG2148
1-1/2"	53.94	110	10.12	232	232	J4CPG2348	J9CPG2348
2"	68.44	90	9.68	143	232	J4CPG2149	J9CPG2149
2"	77.72	110	16.72	232	232	J4CPG2349	J9CPG2349

Normally Open, Flow From Below (2 to 1)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air supply: 60	Air Supply: 80	Stainless Steel	Bronze
3/8"	5.68	50	2.20	232	232	J4APG1643	J9APG1643
1/2"	6.61	50	2.20	232	232	J4APG1644	J9APG1644
3/4"	12.18	50	2.64	170	232	J4APG1645	J9APG1645
1"	23.20	63	3.52	170	232	J4APG1846	J9APG1846
1-1/4"	33.06	63	4.40	120	200	J4APG1847	J9APG1847
1-1/4"	33.30	63	4.40	131	232	J4APG2147	J9APG2147
1-1/2"	53.36	90	8.14	150	232	J4APG2148	J9APG2148
2"	53.94	110	16.72	150	232	J4APG2349	J9APG2349

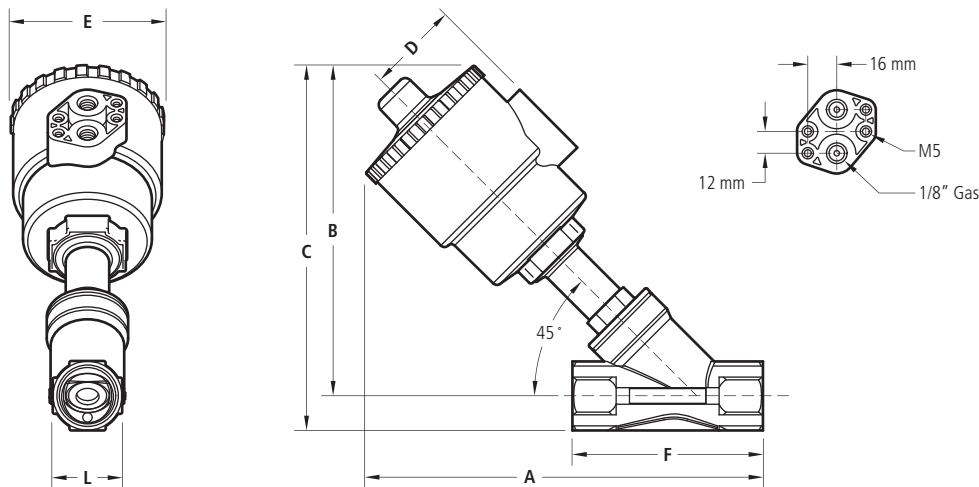
Double Acting, Bi-directional Flow (1 to 2 or 2 to 1)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air supply: 60	Air Supply: 80	Stainless Steel	Bronze
3/8"	5.68	50	2.20	232	232	J4DPG1643	J9DPG1643
1/2"	6.61	50	2.20	232	232	J4DPG1644	J9DPG1644
3/4"	12.18	50	2.64	232	232	J4DPG1645	J9DPG1645
1"	23.20	63	3.52	232	232	J4DPG1846	J9DPG1846
1-1/4"	33.06	63	4.18	180	232	J4DPG1847	J9DPG1847
1-1/2"	40.60	63	5.06	115	170	J4DPG1848	J9DPG1848
1-1/2"	53.36	90	7.92	232	232	J4DPG2148	J9DPG2148
2"	68.44	90	9.46	232	232	J4DPG2149	J9DPG2149



* Maximum steam line pressure is 150 PSI. ** For maximum line pressure with less than 80 PSI, contact factory.

Angle Seat Valve (NPT)

High Cycle-Life On/Off Control Valve
(Stainless steel or bronze)



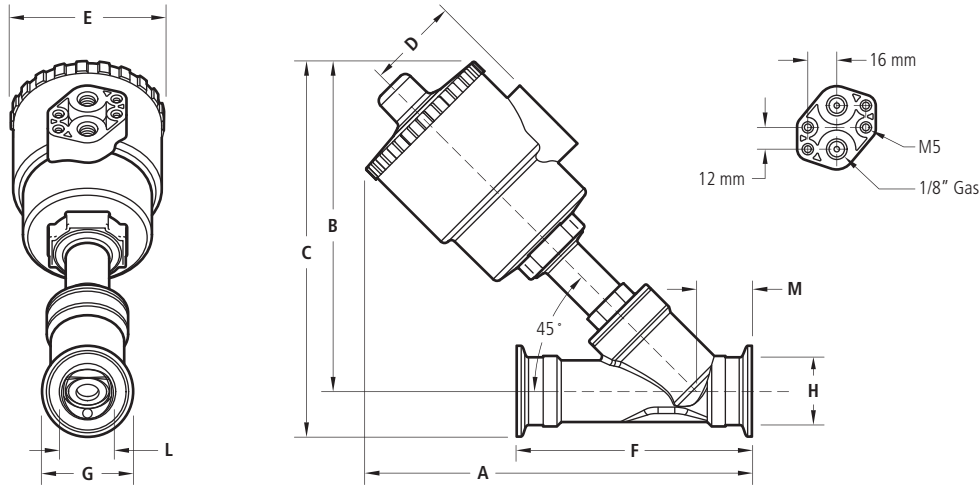
DIMENSIONS & SPECIFICATIONS

Size	Actuator	Stainless Steel								Bronze							
				C	D	øE	F	L	M d N .			C	D	øE	F	L	M d N .
3/8"	DN40**	5.74	4.74	5.26	1.38	2.40	2.56	0.98	J4⊕PG1443	5.67	4.76	5.26	1.38	2.40	2.56	1.06	J9⊕PG1443
3/8"	DN50	7.48	6.14	6.65	1.73	2.76	3.35	0.98	J4⊕PG1643	6.42	5.51	6.02	1.73	2.76	2.56	1.06	J9⊕PG1643
1/2"	DN40**	5.74	4.74	5.26	1.38	2.40	2.56	0.98	J4⊕PG1444	5.67	4.76	5.26	1.38	2.40	2.56	1.06	J9⊕PG1444
1/2"	DN50	7.48	6.14	6.65	1.73	2.76	3.35	0.98	J4⊕PG1644	6.42	5.51	6.02	1.73	2.76	2.56	1.06	J9⊕PG1644
3/4"	DN40**	6.02	4.94	5.57	1.38	2.40	2.95	1.22	J4⊕PG1445	-	-	-	-	-	-	-	-
3/4"	DN50	7.68	6.30	6.30	1.73	2.76	3.74	1.22	J4⊕PG1645	6.81	5.79	6.42	1.73	2.76	2.95	1.08	J9⊕PG1645
3/4"	DN63	8.39	7.00	7.01	1.99	3.32	3.74	1.22	J4⊕PG1845	7.52	6.5	7.13	1.99	3.32	2.95	1.08	J9⊕PG1845
1"	DN50	7.87	6.46	7.20	1.73	2.76	4.13	1.50	J4⊕PG1646	-	-	-	-	-	-	-	-
1"	DN63	8.62	7.17	7.17	1.99	3.32	4.13	1.50	J4⊕PG1846	8.11	6.93	7.72	1.99	3.32	3.54	1.61	J9⊕PG1846
1"	DN90	10.20	8.74	8.74	2.61	4.58	4.13	1.50	J4⊕PG2146	9.69	8.50	9.29	2.61	4.58	3.54	1.61	J9⊕PG2146
1-1/4"	DN50	8.19	6.61	7.52	1.73	2.76	4.72	1.85	J4⊕PG1647	-	-	-	-	-	-	-	-
1-1/4"	DN63	8.90	7.32	7.32	1.99	3.32	4.72	1.85	J4⊕PG1847	8.46	7.09	8.07	1.99	3.32	4.33	1.97	J9⊕PG1847
1-1/4"	DN90	10.47	8.90	8.90	2.61	4.58	4.72	1.85	J4⊕PG2147	10.04	8.66	9.65	2.61	4.58	4.33	1.97	J9⊕PG2147
1-1/4"	DN110	11.89	10.28	11.22	3.05	5.54	4.72	1.85	J4⊕PG2347	-	-	-	-	-	-	-	-
1-1/2"	DN63	9.09	7.48	7.48	1.99	3.32	5.12	2.13	J4⊕PG1847	-	-	-	-	-	-	-	-
1-1/2"	DN90	10.67	9.06	9.06	2.61	4.58	5.12	2.13	J4⊕PG2147	10.63	9.25	10.39	2.61	4.58	4.72	2.28	J9⊕PG2147
1-1/2"	DN110	12.09	10.47	10.47	3.05	5.54	5.12	2.13	J4⊕PG2347	12.05	10.67	11.81	3.05	5.54	4.72	2.28	J9⊕PG2347
2"	DN63	9.65	7.87	9.17	1.99	3.32	5.91	2.60	J4⊕PG1847	-	-	-	-	-	-	-	-
2"	DN90	11.22	9.45	9.45	2.61	4.58	5.91	2.60	J4⊕PG2147	11.02	9.45	10.83	2.61	4.58	5.91	2.76	J9⊕PG2147
2"	DN110	12.64	10.87	10.87	3.05	5.54	5.91	2.60	J4⊕PG2347	12.44	10.87	12.24	3.05	5.54	5.91	2.76	J9⊕PG2347

⊕ Actuator Style: C = Closed, 1 spring; = Closed, 2 springs; = Open; D = Double acting.
* Available for Quick Ship. ** Actuator does not have NAMUR solenoid mounting pad.

Angle Seat Valve (Tri-Clamp)

High Cycle-Life On/Off Control Valve
(Stainless steel)



DIMENSIONS, WEIGHTS & SPECIFICATIONS

Size*	A	B	C	D	E	F	G	H	L	M	Actuator	CV	Wt. (lbs.)	Model No.
1/2"	7.05	6.14	6.64	1.73	2.76	3.50	0.99	0.75	0.37	0.93	DN50	4.0	2.20	J4⊙PG16U6
3/4"	7.15	6.14	6.64	1.73	2.76	4.00	0.99	0.75	0.62	1.02	DN50	6.7	2.64	J4⊙PG16U5
1"	7.45	6.30	7.29	1.73	2.76	4.50	1.99	1.26	0.87	1.14	DN50	12	3.52	J4⊙PG16U6
1"	8.16	7.01	8.00	1.99	3.32	4.50	1.99	1.26	0.87	1.14	DN63	12	3.74	J4⊙PG18U6
1-1/2"	8.45	7.32	8.32	1.99	3.32	5.50	1.99	1.50	1.37	1.15	DN63	33	7.48	J4⊙PG18U8
1-1/2"	10.02	8.90	9.89	2.61	4.58	5.50	1.99	1.50	1.37	1.15	DN90	33	8.80	J4⊙PG21U8
1-1/2"	11.44	10.28	11.27	3.05	5.54	5.50	1.99	1.50	1.37	1.15	DN110	33	9.46	J4⊙PG23U8
2"	8.85	7.48	8.74	1.99	3.32	6.25	2.52	2.13	1.87	1.37	DN63	53	9.68	J4⊙PG18U9
2"	10.42	9.06	10.31	2.61	4.58	6.25	2.52	2.13	1.87	1.37	DN90	53	11.66	J4⊙PG21U9
2"	11.84	10.47	11.73	3.05	5.54	6.25	2.52	2.13	1.87	1.37	DN110	53	16.72	J4⊙PG23U9

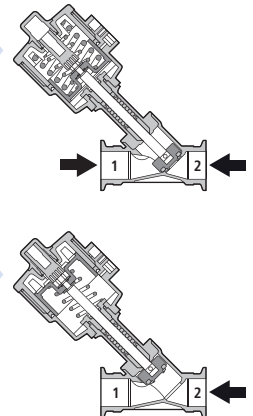
⊙ Actuator Style: **S** = Closed, 2 springs; **A** = Open.

* Mating clamp/pipe size.

QUICK SIZING CHART

Normally Closed, Bi-directional Flow (1 to 2 or 2 to 1)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air Supply: 80**		Stainless Steel	Bronze
1/2"	4.0	50	2.20	232		J4SPG16U4	J9SPG16U4
3/4"	6.7	50	2.64	232		J4SPG16U5	J9SPG16U5
1"	12.0	63	3.52	232		J4SPG18U6	J9SPG18U6
1-1/2"	33.0	90	7.48	232		J4SPG21U8	J9SPG21U8
2"	53.0	110	11.66	232		J4SPG23U9	J9SPG23U9
Normally Open, Flow From Below (2 to 1)							
Size	CV	Actuator Size	Wt. (lbs.)	Max. Line Pressure* (PSI)		Model No.	
				Air supply: 60	Air Supply: 80	Stainless Steel	Bronze
1/2"	4.0	50	2.20	232	232	J4APG16U4	J9APG16U4
3/4"	6.7	50	2.64	232	232	J4APG16U5	J9APG16U5
1"	12.0	63	3.52	170	232	J4APG16U6	J9APG16U6
1-1/2"	33.0	90	8.14	120	200	J4APG18U8	J9APG18U8
2"	53.0	110	16.72	150	232	J4APG21U9	J9APG21U9

* Maximum steam line pressure is 150 PSI. ** For maximum line pressure with less than 80 PSI, contact factory.



Angle Seat Valve A-Link

A-Link Angle Valve Communications Module
(Communications and Switching Functionality)



FEATURES

- SST solid state switching functions.
- NAMUR sensors.
- ASI interface.
- Foundation fieldbus.
- DeviceNet.
- Modbus.
- Self adjusting non-contact targets.
- Visual mechanical and electronic indications.
- 2 conduit entries.
- Large selection of connectors.
- Integral solenoid valve.

MATERIALS OF CONSTRUCTION

Cover:

Clear polycarbonate (FDA compliant).

Base:

Polycarbonate (FDA compliant).

Seals:

BUNA-N (FDA compliant).

Mounting Hardware:

Stainless steel.

SPECIFICATIONS

Operating Life:

1 million cycles (switch).

Warranty:

2 years on complete assembly.

Temperature Range:

-40° to 85° C, -23° to 185° F.

Enclosure Protection:

NEMA 4, 4X and 6; IP67.

Hazardous Locations (non-incendive):

May be used in Class I and II, all groups, Div. II.

A-LINK

MODEL NUMBERING

Model Number: _____

Switch Function: _____

33 = (2) SST Sensors

*Valve Communication
Terminals (VCT)*

92 = DeviceNet*

93 = Foundation Fieldbus
(bus powered, I.S.)**

94 = Foundation Fieldbus
(externally powered)*

95 = Modbus*

96 = ASI Interface*

Solenoid: _____

11 = No Solenoid

Integral to Enclosure

1A = 3 Way Piezo Direct***

1B = 3 Way 24 VDC (1.8 W)

1C = 3 Way 120 VAC (7.2 W)

NAMUR Mount

(wired to terminal)

EA = 3 Way 120 VAC

EB = 3 Way 24 VDC

CA = 4 Way 120 VAC

CB = 4 Way 24 VDC

Other voltages available.

Conduit Entries: _____

2 = (2) 1/2" NPT

9 = (2) PG 13.5 Cable Glands

3 = (1) 5-Pin Mini-Connector

4 = (1) 4-Pin Mini-Connector

5 = (2) 4-Pin Mini-Connectors

6 = (1) 5-Pin Mini-Connector

Visual Indicator: _____

R = Red

G = Green

* Solenoid 1B only.

** Solenoid 1A only.

*** For use with 93 only.