A Series

2- and 3-Way Modular Design

The A Series gives you a highly adaptable design for practically all applications requiring flow between C_V .019 and .300. This robust 2- or 3-way miniature solenoid utilizes a stainless steel body to resist corrosion for most acids, alkaline solutions, and harsh environments. The A Series can also be made with a brass body for a more cost effective solution. Available in numerous port configurations, orifice sizes, and material combinations, the A Series is a highly flexible valve that fulfills the requirements for most applications.

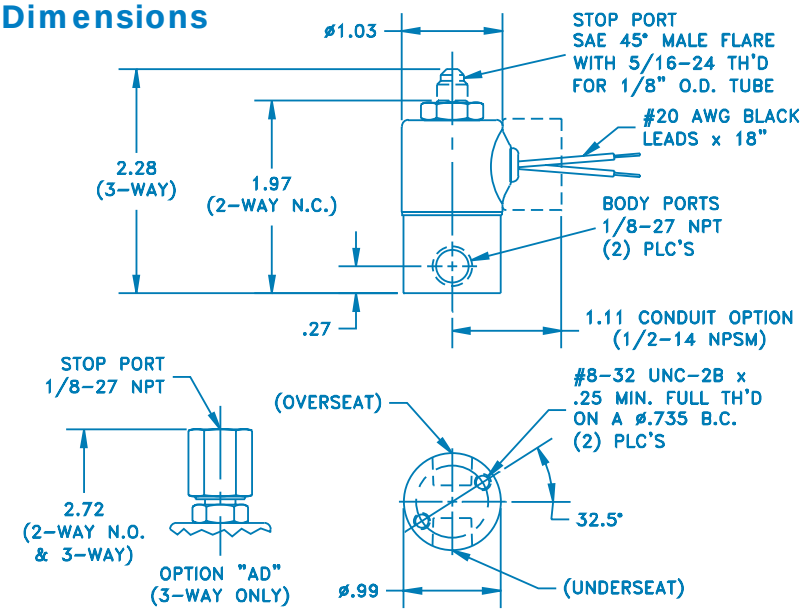
A Series with a stainless steel body is often the first choice for:

- Medical Equipment
- Laboratory Equipment
- Food Processing Equipment

A Series with a brass body is an excellent choice for:

- Industrial Applications
- Automotive
- Water Transfer Systems

Dimensions



Configure Your A Series Part Number: Example Below

A2213-3-BB-N- NO- LB-110/60VAC-WM

- A2213 — Prefix From Spec. Chart
- 3 — Encapsulated Coil Class-H, 18" Lead -Wires
- BB — Brass Body
- N — Neoprene Plunger Seal
- NO — Neoprene O-Ring
- LB — 1/4" NPT Ports
- 110/60VAC — 110/60 Volt AC
- WM — Mounting Bracket

Valve Options

Coil Construction

	*Tape-wrapped, Class-B, with 18" lead-wires
W_ _	Tape-wrapped coil, lead-wires, non-standard length (specify in inches)
1	Encapsulated coil, Class-B, lead-wires
2	Molded coil, Class-F, lead-wires
3	Encapsulated coil, Class-H, lead-wires
4	Encapsulated coil, Class-B, 3/16" spade terminals (1/4" spade optional)
5	Encapsulated coil, Class-B, .110" spade terminals
8	Molded coil, Class-F, 3/16" spade terminals
10	Externally rectified coil (lead-wires only)
11	Tape-wrapped coil, Class-H, lead-wires
12	Molded coil, Class-H, lead-wires
HC	Molded coil, Class-F, EN175301-803 Style B, Industrial, 11mm, 2+1 poles
HC2	Encapsulated coil, Class-B, EN175301-803 Style C, Industrial, 9.4mm, 2+1 poles

Body Material

A_ _1_	*303 Stainless Steel (grommet housing)
A_ _2_	*303 Stainless Steel (1/2" conduit housing)
BB	Brass
SB	304 Stainless Steel
SB5	316 Stainless Steel
SBF	430F Stainless Steel

Plunger Seal Material

	*Nitrile
E	EPR
GV	Gasoline Viton (2-way valves only)
N	Neoprene
NS	Nitrile (NSF/FDA, 2-way valves only)
PF	Perfluoroelastomer
R	Rulon (2-way valves only)
T	Teflon
V	Viton

O-Ring Material

	*Nitrile
EO	EPR
NO	Neoprene
NSO	Nitrile (NSF/FDA, 2-way valves only)
PFO	Perfluoroelastomer
TO	Teflon
VO	Viton

Body Port Configuration

	*1/8-27 NPT female thread
LB	1/4-18 NPT female thread
BD	#10-32 female straight thread (max. orifice = 1/8")
LT	1/8-28 BSPT female thread (2-way valves only)
LU	1/4-19 BSPT female thread (2-way valves only)
MM	Manifold mount (1/4-28 UNF-2A mounting stud)
MM3	Manifold mount (5/16-24 UNF-2A mounting stud)
OB	Omit body (operator style)
MB	Bottom metering (max. orifice = 3/32")
BI	Bottom over-seat port, female thread (max. orifice = 1/8")
BIM	Bottom over-seat port, 1/8-27 NPT male thread
BO	Bottom under-seat port, female thread
BOM	Bottom under-seat port, 1/8-27 NPT male thread
RL	90° porting - left hand
RR	90° porting - right hand

Voltage

_ _ _ VDC	DC (specify voltage)
_ _ _ VAC	AC (specify voltage; copper shading ring or rectified w/out shading ring)

Additional Options

Y	Yoke
WM	Mounting bracket
TP	Teflon coated plunger
AD	1/8 - 27 NPT stop port adapter
QO	Quiet operation (2-way valves only)
S	Silver shading ring
OC	Cleaned for oxygen use
VAC	Vacuum application (0 to 29.5" Hg)
G1	One-piece 303 Stainless Steel guide assembly
G5	One piece 316 Stainless Steel guide assembly

* A Series will be built with these options unless otherwise indicated. The option number is dropped in the final part number when using these materials.

Performance Specifications

Part # Prefix	ORIFICE BODY	ORIFICE STOP	MOPD (psig)	C_V BODY	C_V STOP
	2-WAY Normally Closed				
A20_1	1/32		1000	0.020	
A20_2	3/64		500	0.035	
A20_3	1/16		300	0.065	
A20_4	5/64		200	0.090	
A20_5	3/32		175	0.155	
A20_6	1/8		100	0.240	
A20_7	5/32		50	0.300	
	2-WAY Normally Opened (option AD standard)				
A22_1		1/32	200		0.019
A22_2		3/64	150		0.040
A22_3		1/16	100		0.075
	3-WAY Normally Closed, Free Vent/Line Connection				
A3_ _1	1/32	1/32	200	0.019	0.019
A3_ _2	3/64	3/64	150	0.040	0.040
A3_ _3	1/16	3/64	100	0.070	0.040
A3_ _4	1/16	1/16	75	0.070	0.070
A3_ _5	3/32	3/64	50	0.170	0.040
	3-WAY Normally Open				
A32_1	1/32	1/32	150	0.019	0.019
A32_2	3/64	3/64	100	0.040	0.040
A32_3	1/16	3/64	90	0.070	0.040
A32_4	1/16	1/16	75	0.070	0.070
A32_5	3/32	3/64	50	0.170	0.040
	3-WAY Multi Purpose				
A33_1	1/32	1/32	125	0.019	0.019
A33_2	3/64	3/64	100	0.040	0.040
A33_3	1/16	3/64	90	0.070	0.040
A33_4	1/16	1/16	75	0.070	0.070
A33_5	3/32	3/64	25	0.170	0.040
	3-WAY Directional Control				
A34_1	1/32	1/32	225	0.019	0.019
A34_2	3/64	3/64	150	0.040	0.040
A34_3	1/16	3/64	100	0.070	0.040
A34_4	1/16	1/16	75	0.070	0.070
A34_5	3/32	3/64	50	0.155	0.040

A Series

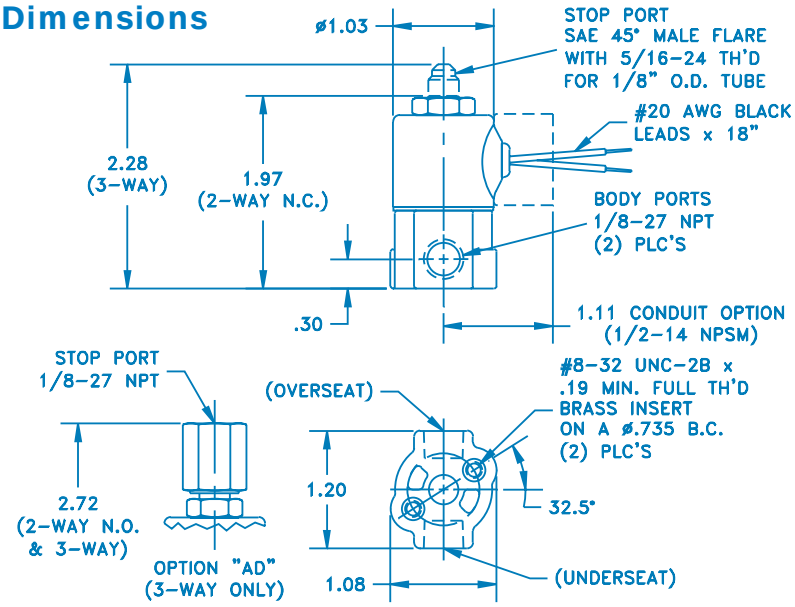
2- and 3-Way Plastic Body Valve

The A Series with a polypropylene body provides the same flexibility of design as the brass and stainless steel options while being resistant to many chemical solvents, bases, and acids. The plastic body is also highly resistant to erosion throughout the flow path. The wide range of physical properties and relative ease of processing make polypropylene an extremely attractive material capable of competing with more expensive resins in a number of demanding applications. An excellent lightweight alternative to metal bodies.

The A Series with a plastic body exceptional for:

- Laboratory Equipment
- Food Processing
- Automotive Systems

Dimensions



Configure Your A Series Part Number: Example Below

A2033-V-VO-28VDC

- A2033 — Prefix From Spec. Chart
- V — Viton Plunger Seal
- VO — Viton O-Ring
- 28VDC — 28 Volt DC

Valve Options

Coil Construction

	*Tape-wrapped, Class-B, with 18" lead-wires
W_ _	Tape-wrapped coil, lead-wires, non-standard length (specify in inches)
1	Encapsulated coil, Class-B, lead-wires
2	Molded coil, Class-F, lead-wires
4	Encapsulated coil, Class-B, 3/16" spade terminals (1/4" spade optional)
5	Encapsulated coil, Class-B, .110" spade terminals
8	Molded coil, Class-F, 3/16" spade terminals
10	Externally rectified coil (lead-wires only)
HC	Molded coil, Class-F, EN175301-803 Style B, Industrial, 11mm, 2+1 poles
HC2	Encapsulated coil, Class-B, EN175301-803 Style C, Industrial, 9.4mm, 2+1 poles

Body Material

A_ _3_ *Polypropylene (grommet housing)
A_ _4_ *Polypropylene (1/2" conduit housing)

Plunger Seal Material

	*Nitrile
E	EPR
N	Neoprene
NS	Nitrile (NSF/FDA, 2-way valves only)
PF	Perfluoroelastomer
V	Viton

O-Ring Material

	*Nitrile
EO	EPR
NO	Neoprene
NSO	Nitrile (NSF/FDA, 2-way valves only)
PFO	Perfluoroelastomer
VO	Viton

Body Port Configuration

	*1/8-27 NPT female thread
OB	Omit body (operator style)

Voltage

_ _ _ VDC	DC (specify voltage)
_ _ _ VAC	AC (specify voltage; copper shading ring or rectified w/out shading ring)

Additional Options

Y	Yoke
WM	Mounting bracket
TP	Teflon coated plunger
AD	1/8-27 NPT stop port adapter
QO	Quiet operation (2-way valves only)
S	Silver shading ring
OC	Cleaned for oxygen use
VAC	Vacuum application (0 to 29.5" Hg)
G1	One-piece 303 Stainless Steel guide assembly
G5	One piece 316 Stainless Steel guide assembly

* A Series will be built with these options unless otherwise indicated. The option number is dropped in the final part number when using these materials.

Performance Specifications

Part # Prefix	ORIFICE BODY	ORIFICE STOP	MOPD (psig)	C_V BODY	C_V STOP
	2-WAY Normally Closed				
A20_3	1/16		250	0.065	
A20_6	1/8		60	0.150	
A20_7	5/32		30	0.180	
	2-WAY Normally Opened (option AD standard)				
A22_1		1/32	125		0.019
A22_2		3/64	90		0.040
A22_3		1/16	60		0.075
	3-WAY Normally Closed, Free Vent/Line Connection				
A3_ _3	1/16	3/64	60	0.065	0.040
A3_ _4	1/16	1/16	40	0.065	0.070
	3-WAY Normally Open				
A32_3	1/16	3/64	50	0.065	0.040
A32_4	1/16	1/16	45	0.065	0.070
	3-WAY Multi Purpose				
A33_3	1/16	3/64	50	0.065	0.040
A33_4	1/16	1/16	45	0.065	0.070
	3-WAY Directional Control				
A34_3	1/16	3/64	60	0.065	0.040
A34_4	1/16	1/16	45	0.065	0.070