















2 Coil Construction**(blank)** = Tape-wrapped, Class B, with 18" (45.7cm) lead wires* **W**__ = Tape-wrapped coil, lead wires, non-standard length (specify in inches)**1** = Encapsulated coil, Class B, lead wires**3** = Encapsulated coil, Class H, lead wires**4** = Encapsulated coil, Class B, 1/4" (6.35mm) spade terminals**10** = Externally rectified coil, AC Voltages (lead-wires only) **11** = Tape-wrapped coil, Class H, lead wires**HC** = Encapsulated coil, Class B, EN175301-803 Style A, Industrial, 18mm, 2+1 poles**HC2** = Encapsulated coil, Class B, EN175301-803 Style C, Industrial, 9.4mm, 2+1 poles**3 Body Material****(blank)** = 303 Stainless Steel* **BB** = Brass**SB5** = 316 Stainless Steel**4 Plunger Seal Material****(blank)** = Nitrile* **E** = EPR **GV** = Gasoline Viton® – 2-way normally open and 3-way valves
max. orifice = 3/32" (2.38mm)**N** = Neoprene – 2-way normally closed valves only,
max. orifice = 1/4" (6.35mm) **NS** = Nitrile – NSF/FDA, max. orifice = 1/4" (6.35mm) **PF** = Perfluoroelastomer – max. orifice = 1/4" (6.35mm) **R** = Rulon® – 2-way normally closed valves only,
max. orifice = 1/4" (6.35mm)**T** = PTFE – max. orifice = 1/4" (6.35mm)**V** = Viton® **5 O-Ring Material****(blank)** = Nitrile* **EO** = EPR **NO** = Neoprene **NSO** = Nitrile (NSF/FDA, 2-way valves only) **PFO** = Perfluoroelastomer **TO** = PTFE**VO** = Viton® **6 Body Port Configuration****(blank)** = 1/4-18 NPT female thread* **LC** = 1/8-27 NPT female thread – max. orifice = 5/16" (7.94mm)**LD** = 3/8-18 NPT female thread**LT** = 1/8-28 BSPT female thread – max. orifice = 5/16" (7.94mm)**LU** = 1/4-19 BSPT female thread**MM** = Manifold mount – 1/2-20 UNF-2A mounting stud,
max. orifice = 1/4" (6.35mm)^{††}**OB** = Omit body (operator style)**BI** = Bottom over-seat port, female thread
– max. orifice = 1/4" (6.35mm)**BO** = Bottom under-seat port, female thread**7 Voltage[†] (see note below)****C203** = 12 VDC **C204** = 24 VDC **C301** = 120/50/60R (add Coil Option -10) **C303** = 240/50/60R (add Coil Option -10) ___ **VDC** = DC (specify voltage)___ **VAC** = AC (specify voltage; includes copper shading ring)**8 Additional Options****WM** = Mounting bracket on the coil housing**TP** = PTFE coated plunger**CP** = Chamfered plunger**S** = Silver shading ring**OC** = Cleaned for oxygen use**VAC** = Vacuum application – 0 to 29.5" Hg (0 to 1000mBar)**G5** = One piece 316 Stainless Steel guide assembly* Standard selection; will be used unless otherwise specified.
Standard selections are not referenced in final part number.[†] Can be AC rectified without shading ring. Use coil construction Code 10.
^{††} Teflon® o-ring not suitable for manifold mount.

Take advantage of next day shipping by making your selections from those marked with the Lightning Bolt icon.

AS Series

- ▶ MOPD: 110 PSI (7.5 Bar) Plastic Body or 150 PSI (10 Bar) Metal Body
- ▶ C_v Range: 0.020 to 0.300 (K_v Range: 0.017 to 0.256)
- ▶ 4.5 Watts (Plastic Body) or 7 Watts (Metal Body)

The AS Series is a 2-way isolation valve, designed to control the flow of various aggressive liquids and gases with several body and diaphragm materials. With a modular design, the AS offers performance flexibility and the protection your media needs from the solenoid's internal components. Numerous port configurations, voltage options, and coil constructions enable the AS Series to be a truly versatile miniature inert isolation valve, easily integrated into any complex or demanding system.

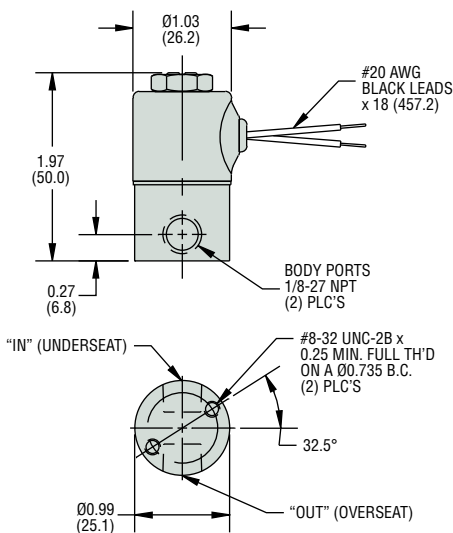
Typical Applications

- Analytical Instruments
- Clinical Diagnostic Analyzers
- Bio-Instrumentation

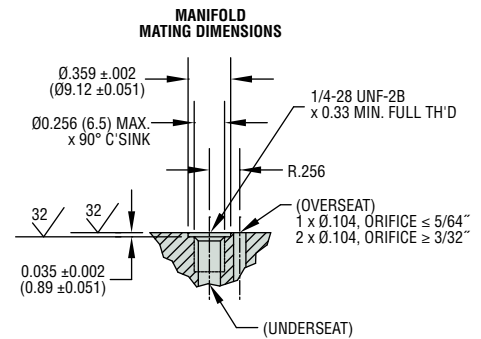
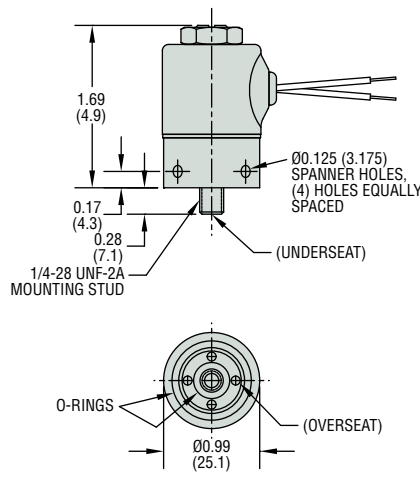


Dimensions

Threaded Port Body

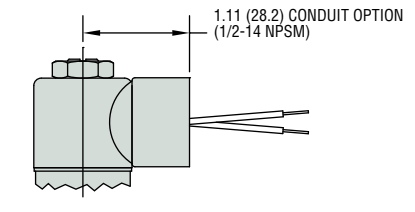


Manifold Mount Body



Alternate 1/2" Conduit Housing

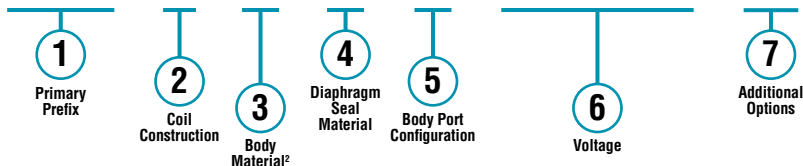
Available on all body configurations



How To Order

Use the **Bold** characters from the choices listed on the following page to construct a product code.

AS2022 - 10 - SB - NS - BD - 110/50/60VAC - WM



Example:

AS2022-10-SB-NS-BD-110/50/60VAC-WM

2-Way N.C. (1/2" (12.70mm) conduit housing) solenoid valve, with externally rectified coil (lead-wires only), 304 stainless steel body, nitrile (NSF/FDA) diaphragm seal, #10-32 female straight thread, operating at 110/50/60 Volt AC with rectified coil and mounting bracket.

Notes

1. After the Primary Prefix, any "-Code" may be blank when standard (blank) selections are specified.
2. The Body Material option code, when specified, supercedes the standard body material indicated by the Primary Prefix.

Part Prefix Table ①

Body Material	Orifice		MOPD		Max Back Pressure		C _v	K _v	① Primary Prefix	
	Body		psig	bar	psig	bar			Body	Grommet Housing
	inches	mm								
303 Stainless Steel ¹	1/32	0.79	150	10	5	0.7	0.020	0.017	AS2011	AS2021
	3/64	1.19	110	7.6	5	0.7	0.035	0.030	AS2012	AS2022
	1/16	1.59	90	6.2	5	0.7	0.065	0.055	AS2013	AS2023
	5/64	1.98	70	4.8	5	0.7	0.090	0.077	AS2014	AS2024
	3/32	2.38	45	3.1	5	0.7	0.155	0.132	AS2015	AS2025
	1/8	3.18	15	1.0	5	0.3	0.240	0.205	AS2016	AS2026
	5/32	3.97	5	0.3	5	0.3	0.300	0.256	AS2017	AS2027
Polypropylene (1/8-27 NPT Female Thread body port only)	3/64	1.19	110	7.6	5	0.7	0.035	0.030	AS2032	AS2042
	1/8	3.18	15	1.0	5	0.7	0.240	0.205	AS2036	AS2046

* Other body orifice sizes may be available, consult factory.

② Coil Construction

(blank) = Tape-wrapped, Class-B, with 18" (45.7cm) 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" (4.76mm) spade terminals - 1/4" (6.35mm) spade optional

10 = Externally rectified coil (lead-wires only)

11 = Tape-wrapped coil, Class-H, lead-wires

HC2 = Encapsulated coil, Class-B, EN175301-803 Style C, Industrial, 9.4mm, 2+1 poles

③ Body Material (Replaces Standard 303 SS)

BB = Brass

SB = 304 Stainless Steel

SB5 = 316 Stainless Steel

④ Diaphragm Seal Material

(blank) = Viton® diaphragm*

E = EPR diaphragm

NS = Nitrile (NSF/FDA) diaphragm

PF = Perfluoroelastomer diaphragm

⑤ Body Port Configuration

(blank) = 1/8-27 NPT female thread*

LB = 1/4-18 NPT female thread²

BD = #10-32 female straight thread - max. orifice = 1/8" (3.18mm)²

LT = 1/8-28 BSPT female thread²

LU = 1/4-19 BSPT female thread²

MM = Manifold mount (1/4-28 UNF-2A mounting stud)^{2†}

MM3 = Manifold mount (5/16-24 UNF-2A mounting stud)^{2†}

OB = Omit body (operator style)²

BI = Bottom over-seat port, female thread

- max. orifice = 1/8" (3.18mm)²

BIM = Bottom over-seat port, 1/8-27 NPT male thread

- max. orifice = 5/64" (1.98mm), brass body only)²

BO = Bottom under-seat port, female thread²

BOM = Bottom under-seat port, 1/8-27 NPT male thread

- max. orifice = 1/8" (3.18mm), brass body only)²

RL = 90° porting - left hand²

RR = 90° porting - right hand²

⑥ Voltage

__VDC = DC (specify voltage)

__VAC = AC Rectified only (specify voltage)

⑦ Additional Options

Y = Yoke

WM = Mounting bracket

OC = Cleaned for oxygen use

* Standard selection; will be used unless otherwise specified. Standard selections are not referenced in final part number.

Notes

- Use Prefixes from these rows if you want to use any of the other Body Materials listed under selection ③. Simply add the respective material code in the 3rd part number position (See Example).
- Not available with Polypropylene bodies.

† Teflon® o-ring not suitable for manifold mount.

Gems specializes in the design and manufacturing of custom solenoid valves and fluidic systems. If you don't see what you're looking for, or have a question, contact us at 800-378-1600 or info@gemssensors.com.

BS Series – Higher Flow

- ▶ MOPD: 150 PSI (10 Bar)
- ▶ C_v Range: 0.035 to 0.300 (K_v Range: 0.030 to 0.256)
- ▶ 4.5 Watts (Plastic Body) or 7 Watts (Metal Body)

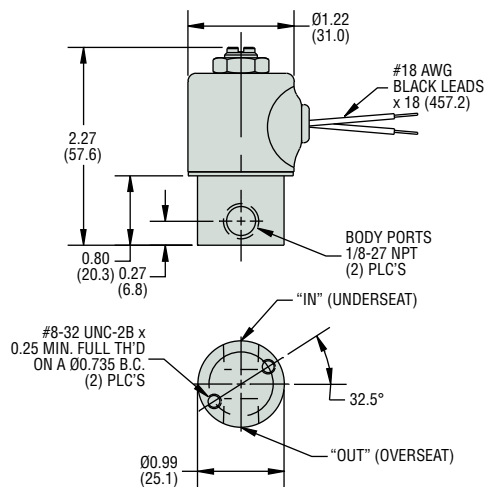
The BS Series is a 2-way, high flow, isolation valve that is designed to be virtually impervious to chemical attack and to protect high purity media. When your media cannot come in contact with any metallic materials, this highly versatile, modular valve delivers the protection you need for accurate and reliable flow control for millions of cycles. With a variety of body, and diaphragm materials, plus numerous port configurations, voltage options, and coil constructions, the BS Series is truly a miniature inert isolation valve that can be built to your exact applications requirements.

Typical Applications

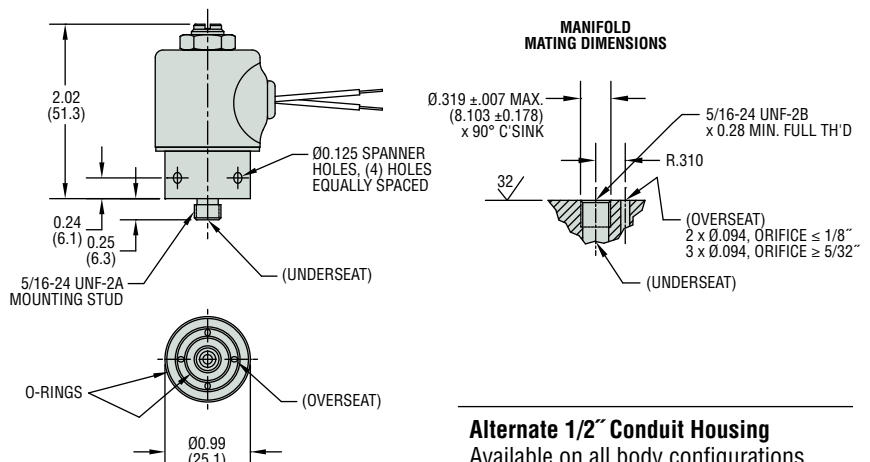
- Remediation Equipment
- Clinical Chemistry Equipment
- Analytical Instrumentation

Dimensions

Threaded Port Body

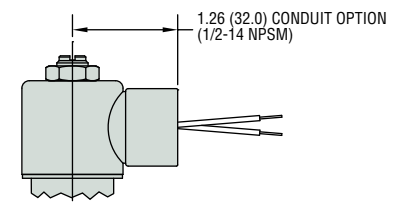


Manifold Mount Body



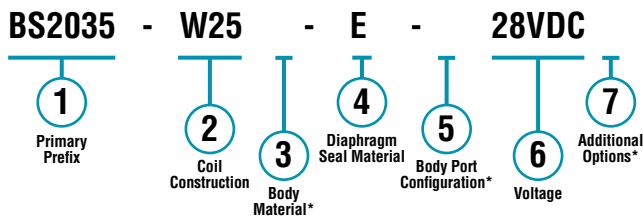
Alternate 1/2" Conduit Housing

Available on all body configurations



How To Order

Use the **Bold** characters from the choices listed on the following page to construct a product code.



* Blank entry indicates a "Standard" selection (1/8-27NPT female thread, in this case).

Example:

BS2035-W25-E-28VDC

2-Way N.C. Polypropylene (grommet housing, 1/8-27 NPT female thread only) solenoid valve, with 25" (63.5cm) tape-wrapped coil, lead-wires, non-standard length, EPR diaphragm seal, 1/8-27 NPT female thread, operating at 28 VDC.



Part Prefix Table ①

Body Material	Orifice		MOPD		Max Back Pressure		C _v	K _v	① Primary Prefix	
	Body		psig	bar	psig	bar			Body	
	inches	mm								
303 Stainless Steel ¹	3/64	1.19	150	10	15	0.7	0.035	0.030	BS2010	BS2020
	1/16	1.59	110	7.6	10	0.7	0.065	0.055	BS2011	BS2021
	5/64	1.98	85	6.2	10	0.7	0.090	0.077	BS2012	BS2022
	3/32	2.38	70	4.8	10	0.7	0.155	0.132	BS2013	BS2023
	7/64	2.78	25	3.1	10	0.3	0.200	0.171	BS2014	BS2024
	1/8	3.18	10	1.0	5	0.3	0.240	0.205	BS2015	BS2025
Polypropylene (1/8-27 NPT Female Thread body port only)	3/64	1.19	150	10	15	0.7	0.035	0.030	BS2030	BS2040
	1/8	3.18	10	1.0	5	0.3	0.240	0.205	BS2035	BS2045

* Other body orifice sizes may be available, consult factory.

② Coil Construction

(blank) = Tape-wrapped, Class-B, with 18" (45.7cm) lead-wires*

W__ = Tape-wrapped coil, lead-wires, non-standard length (specify in inches)

1 = Encapsulated coil, Class-B, lead-wires

3 = Encapsulated coil, Class-H, lead-wires

4 = Encapsulated coil, Class-B, 1/4" (6.35mm) spade terminals
- 3/16" (4.76mm) spade optional

10 = Externally rectified coil (lead-wires only)

11 = Tape-wrapped coil, Class-H, lead-wires

HC2 = Encapsulated coil, Class-B, EN175301-803 Style C, Industrial, 9.4mm, 2+1 poles

③ Body Material (Replaces Standard 303 SS)

BB = Brass

SB = 304 Stainless Steel

SB5 = 316 Stainless Steel

④ Diaphragm Seal Material

(blank) = Viton® diaphragm*

E = EPR diaphragm

NS = Nitrile (NSF/FDA) diaphragm

PF = Perfluoroelastomer diaphragm

⑤ Body Port Configuration

(blank) = 1/8-27 NPT female thread*

LB = 1/4-18 NPT female thread²

BD = #10-32 female straight thread
- max. orifice = 1/8" (3.18mm)²

LT = 1/8-28 BSPT female thread²

LU = 1/4-19 BSPT female thread²

MM = Manifold mount (1/4-28 UNF-2A mounting stud)^{†2}

MM3 = Manifold mount (5/16-24 UNF-2A mounting stud)^{†2}

OB = Omit body (operator style)²

BI = Bottom over-seat port, female thread

- max. orifice = 1/8" (3.18mm)²

BIM = Bottom over-seat port, 1/8-27 NPT male thread

- max. orifice = 5/64" (1.98mm), brass body only²

BO = Bottom under-seat port, female thread²

BOM = Bottom under-seat port, 1/8-27 NPT male thread

- max. orifice = 1/8" (3.18mm), brass body only²

RL = 90° porting - left hand²

RR = 90° porting - right hand²

⑥ Voltage

__VDC = DC (specify voltage)

__VAC = AC Rectified only (specify voltage)

⑦ Additional Options

WM = Mounting bracket

OC = Cleaned for oxygen use

* Standard selection; will be used unless otherwise specified. Standard selections are not referenced in final part number.

Notes

- Use Prefixes from these rows if you want to use any of the other Body Materials listed under selection ③. Simply add the respective material code in the 3rd part number position (See Example).
- Not available with Polypropylene bodies.

† Teflon® o-ring not suitable for manifold mount.

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