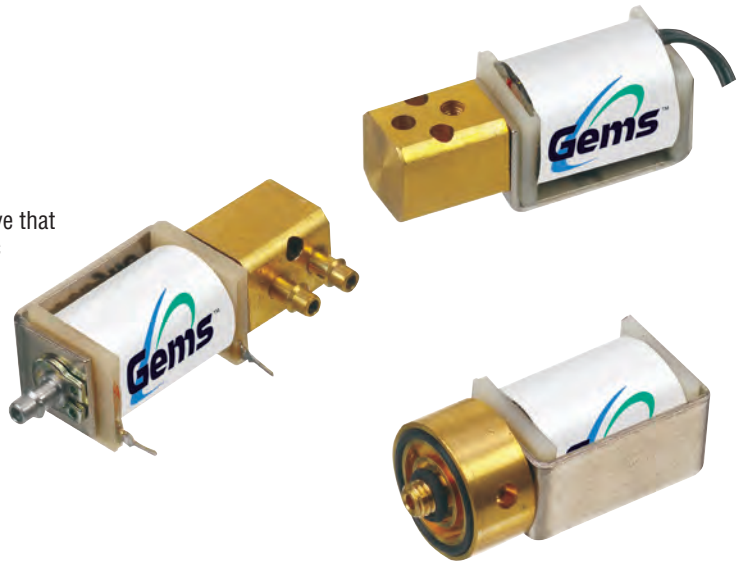
M Series – Subminiature

- MOPD: 100 PSI
- C_V Range: 0.018 to 0.070
- As Low As 0.5 Watts



The M Series implements efficient power conservation in a solenoid valve that is specifically designed for sub-miniature two- and three-way pneumatic and select liquid applications. Field proven to exceed performance requirements in battery-powered applications, the M Series can be designed for extreme low wattage conditions. With a compact size, consistent high-speed response time, and reliable operation over 200 million cycles, the M Series delivers extended performance and precision flow control in a small lightweight environment.

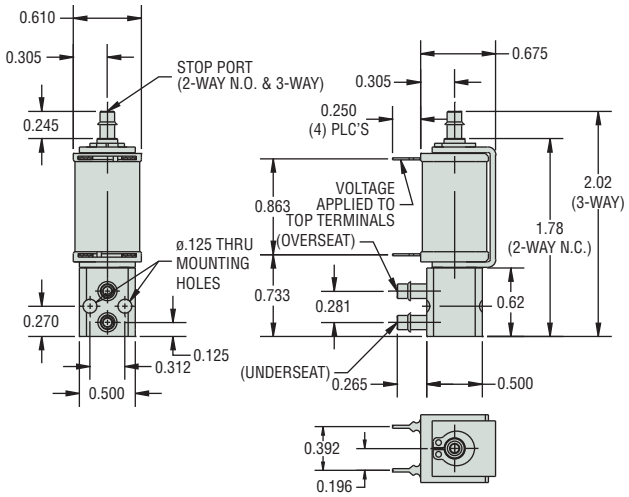
Typical Applications

Ideal for inline PC interfacing and manifold assemblies:

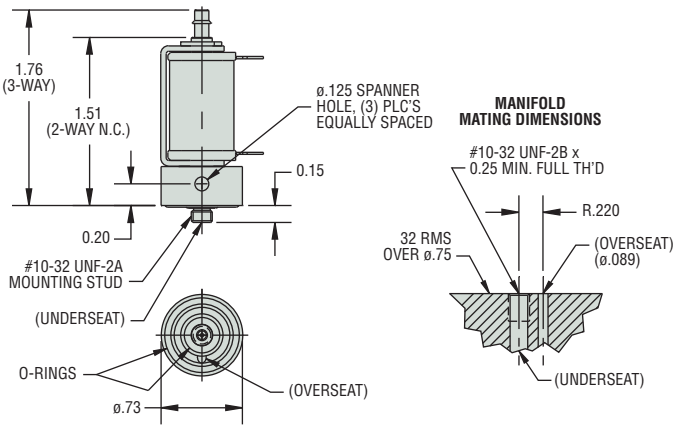
- Medical and Therapeutic Healthcare
- Clinical Chemistry and Analysis Equipment
- Drop-on-Demand Printing
- Environmental Instrumentation

Dimensions

Threaded Port Body



Manifold Mount Body



How To Order

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

MB	**31**	**5**	-	**E**	**B**	**3**	**3**	-	**P**	**201**	-	**OC**
1	2	3		4	5	6	7		8	9		10
Primary Prefix	Valve Type	Orifice Size		Plunger Seal/O-Ring Material	Body Material	Body Port Configuration	Stop Port Configuration		Coil Construction	Voltage		Additional Options

Note: After the Primary Prefix, any "-Code" may be blank when standard (blank) selections are specified.

Example:

MB315-EB33-P-201

1 Watt 3-Way N.C. solenoid valve with a 0.052˝ orifice, EPDM plunger seal/o-ring, brass body, 1/8˝ barb body and stop port, P.C. board mount (4-pin), operating at 5 VDC, and is cleaned for oxygen use.

Part Prefix Table ①

Power Rating	Orifice	MOPD (psig)	C_v Body	① Primary Prefix
0.5 Watt	0.031	25	0.020	MA
	0.052	10	0.038	MA
1 Watt	0.031	50	0.020	MB
	0.052	25	0.038	MB
2 Watts	0.031	100	0.020	MC
	0.052	50	0.038	MC

② Valve Type
- **20** = 2-Way normally closed
- **22** = 2-Way normally open
- **30** = 3-Way normally closed (free vent)
- **31** = 3-Way normally closed (line connection)
- **32** = 3-Way normally open
- **33** = 3-Way multi-purpose
- **34** = 3-Way directional control

③ Orifice Size
- **2** = 0.031˝
- **5** = 0.052˝

④ Plunger Seal / O-Ring Material
- **V** = Viton®
- **N** = Nitrile
- **E** = EPDM

⑤ Body Material
- **B** = Brass
- **A** = Aluminum

⑥ Body Port Configuration
- **0** = Face mount
- **1** = 1/16˝ barb
- **2** = 5/64˝ or 3/32˝ barb
- **3** = 1/8˝ barb
- **4** = Manifold mount, #10-32 UNF-2A stud†
- **5** = #10-32 UNF-2B female thread (180° apart only)
- **6** = 1/8˝-27 NPT ports (180° apart only)

⑦ Stop Port Configuration
- **0** = No barb (Standard for 2-way NC & 3-way free vent)
- **1** = 1/16˝ barb (.031˝ orifice only)
- **2** = 5/64˝ or 3/32˝ barb
- **3** = 1/8˝ barb

⑧ Coil Construction
- **U** = P.C. board solderable (2-pin)
- **P** = P.C. board mount (4-pin)
- **Q** = Quick connect 0.110 spade
- **L** = Lead-wires, #26 AWG, 18˝ long
- **W__** = Lead-wires (Specify length in inches)

⑨ Voltage
- **200** = 3 VDC
- **201** = 5 VDC
- **203** = 12 VDC
- **204** = 24 VDC
- **___VDC** = DC (specify voltage)
- **___VAC** = AC Rectified 2-watt coil only (specify voltage, lead-wires only)

⑩ Additional Options
- **OC** = Cleaned for oxygen use
- **VAC** = Vacuum application (0 to 27˝ Hg)

† 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 800-352-6265 or info@gemssensors.com.

E & EH Series – Subminiature Gas

- MOPD: 175 PSI
- C_V Range: 0.018 to 0.070
- 0.65 Watts or 2 Watts

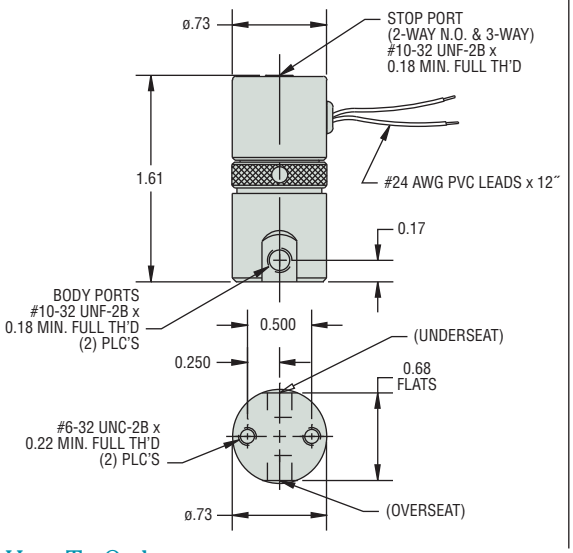
A 2- or 3-way sub-miniature solenoid valve that delivers faster response times—and higher flow rates, the E & EH Series is specifically engineered for air and dry gas applications. A nickel-plated body and coil housing construction produces a highly durable, corrosion resistant valve. With a wattage range of 0.65–2 the E & EH Series provides versatility for power conserving, high pressure, and high flow applications.

Typical Applications

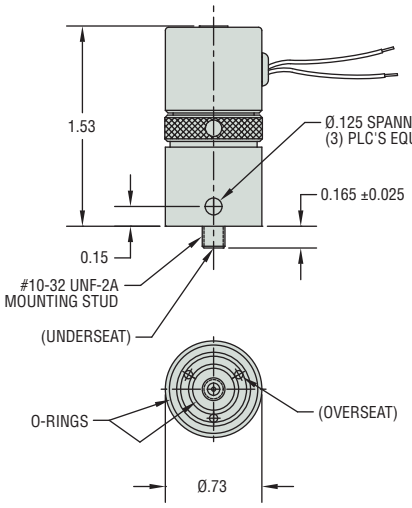
- Medical and Respiratory Healthcare
- Printing Machinery and Sorting Equipment
- Automated Packaging Equipment
- Air Monitoring Systems

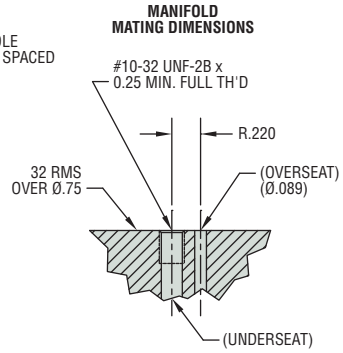
Dimensions

Threaded Port Body



Manifold Mount Body





How To Order

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

E2010 - W24-1 - V - VO - 24VDC - OC

1	2	3	4	5	6	7	8
Primary Prefix	Coil Construction	Body Material*	Plunger Seal Material	O-Ring Material	Body Port Configuration*	Voltage	Additional Options

* Blank entry indicates a "Standard" selection (#10-32 straight thread ports, in this case).

Example:

E2010-W24-1-V-VO-24VDC-OC

E-Series 2-Way N.C. solenoid valve, with 24˝ lead-wires from an encapsulated coil, nickel-plated brass body, Viton® plunger seal, Viton® o-ring, #10-32 straight thread ports, operating at 24 VDC, and is cleaned for oxygen use.

SOLENOID VALVES

Part Prefix Table ①

	Power Rating	Orifice		MOPD (psig)	C_v		① Primary Prefix
		Body	Stop		Body	Stop	
2-WAY N.C.	0.65W	1/32	—	125	0.018	—	**E2010**
		3/64	—	70	0.023	—	**E2011**
		1/16	—	40	0.036	—	**E2012**
		5/64	—	20	0.070	—	**E2013**
	2W	1/32	—	175	0.018	—	**EH2010**
		3/64	—	150	0.023	—	**EH2011**
		1/16	—	100	0.036	—	**EH2012**
		5/64	—	50	0.070	—	**EH2013**
2-WAY N.O.	0.65W	—	1/32	125	—	0.018	**E2210**
		—	3/64	70	—	0.023	**E2211**
		—	1/16	40	—	0.032	**E2212**
	2W	—	1/32	175	—	0.018	**EH2210**
		—	3/64	150	—	0.023	**EH2211**
		—	1/16	100	—	0.032	**EH2212**
3-WAY N.C.	0.65W	1/32	1/32	125	0.018	0.018	**E3010**
		3/64	3/64	70	0.023	0.023	**E3011**
		1/16	1/16	40	0.036	0.032	**E3012**
	2W	1/32	1/32	175	0.018	0.018	**EH3010**
		3/64	3/64	150	0.023	0.023	**EH3011**
		1/16	1/16	100	0.036	0.032	**EH3012**
3-WAY N.O.	0.65W	1/32	1/32	125	0.018	0.018	**E3210**
		3/64	3/64	70	0.023	0.023	**E3211**
		1/16	1/16	40	0.036	0.032	**E3212**
	2W	1/32	1/32	175	0.018	0.018	**EH3210**
		3/64	3/64	150	0.023	0.023	**EH3211**
		1/16	1/16	100	0.036	0.032	**EH3212**
3-WAY Multi Purpose	0.65W	1/32	1/32	80	0.018	0.018	**E3310**
		3/64	3/64	40	0.023	0.023	**E3311**
		1/16	1/16	20	0.036	0.032	**E3312**
	2W	1/32	1/32	150	0.018	0.018	**EH3310**
		3/64	3/64	100	0.023	0.023	**EH3311**
		1/16	1/16	50	0.036	0.032	**EH3312**
3-WAY Directional Control	0.65W	1/32	1/32	135	0.018	0.018	**E3410**
		3/64	3/64	80	0.023	0.023	**E3411**
		1/16	1/16	45	0.036	0.032	**E3412**
	2W	1/32	1/32	190	0.018	0.018	**EH3410**
		3/64	3/64	165	0.023	0.023	**EH3411**
		1/16	1/16	80	0.036	0.032	**EH3412**

② Coil Construction
- **(blank)** = Tape-wrapped, Class-B, with lead-wires (12˝ long)*
- **W__** = Lead-wires, non-standard length (specify in inches)
- **1** = Encapsulated coil
- **5** = Encapsulated coil with 0.110 spade terminals
- **10** = Rectified coil for AC voltage (2 watt only)

③ Body Material
- **(blank)** = Nickel-plated brass*

④ Plunger Seal Material
- **(blank)** = Nitrile*
- **V** = Viton®
- **E** = EPR
- **MQ** = Silicone

⑤ O-Ring Material
- **(blank)** = Nitrile*
- **VO** = Viton®
- **EO** = EPR
- **MQO** = Silicone

⑥ Body Port Configuration
- **(blank)** = #10-32 straight thread ports*
- **BM** = M5 x 0.8 ports
- **MM** = Manifold mount with #10-32 threaded stud†
- **MM2** = Manifold mount with M5 x 0.8 threaded stud†
- **BO** = Bottom under-seat port (max orifice = 1/16")

⑦ Voltage
- **___VDC** = DC (specify voltage)
- **___VAC** = AC rectified 2-watt only (specify voltage)

⑧ Additional Options
- **OC** = Cleaned for oxygen use
- **QO** = Quiet operation (2-way N.C.)
- **VAC** = Vacuum application (0 to 29.5˝ Hg)

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

† 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.

G & GH Series – Subminiature

- MOPD: 250 PSI
- C_V Range: 0.018 to 0.070
- 0.65 Watts or 2 Watts

This extremely versatile 2- or 3-way sub-miniature valve gives you the option of choosing the highly durable stainless steel or the lightweight corrosion resistant acetal body, to meet your overall design parameters. Select stainless steel or Delrin®, and other meterials available to resist corrosion in most acids and alkaline solutions, or pick acetal for a tough and heat resistant metal substitute to meet your weight and chemical inert requirements.

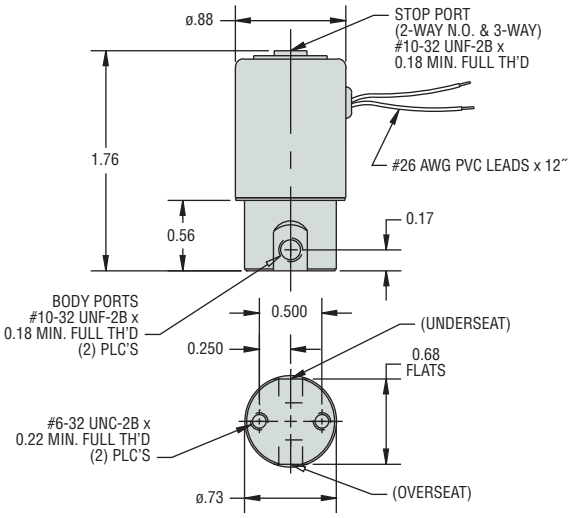
Typical Applications

Stainless Steel Bodies:
- Hospital Equipment
- Laboratory Equipment
- Air Sampling Systems

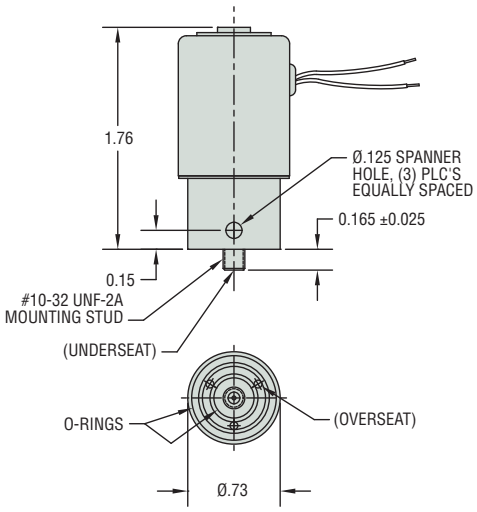
Acetal Bodies:
- Water Purification Systems
- Analytical Equipment

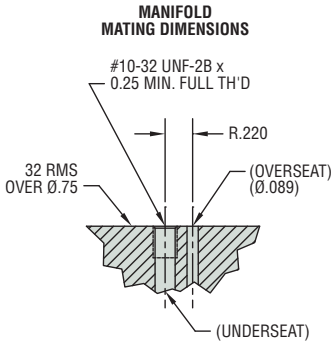
Dimensions

Threaded Port Body



Manifold Mount Body





How To Order

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

G2214 - 5 - E - EO - 5VDC

1	2	3	4	5	6	7
Primary Prefix	Coil Construction	Plunger Seal Material	O-Ring Material	Body Port Configuration*	Voltage	Additional Options*

* Blank entry indicates a "Standard" selection (#10-32 straight thread ports, in this case).

Example:

G2214-5-E-EO-5VDC

G-Series 303 Stainless Steel 2-Way N.O. solenoid valve, with tape-wrapped, Class-B, with lead-wires (12˝ long), encapsulated coil with 0.110 spade terminals, EPR plunger seal, EPR o-ring, #10-32 straight thread ports, operating at 5 VDC.

Part Prefix Table ①

	Power Rating	Orifice Body	Orifice Stop	MOPD (psig)	C_v Body	C_v Stop	① Primary Prefix 303 Stainless Steel[1]	① Primary Prefix Acetal (#10-32 port only)
2-WAY N.C.	0.65W	0.030	—	125	0.018	—	G2012	G2032
		0.040	—	70	0.023	—	G2013	G2033
		0.055	—	40	0.038	—	G2014	G2034
		0.078	—	20	0.063	—	G2015	G2035
	2W	0.030	—	250	0.018	—	GH2012	GH2032
		0.040	—	175	0.023	—	GH2013	GH2033
		0.055	—	100	0.038	—	GH2014	GH2034
		0.078	—	50	0.063	—	GH2015	GH2035
2-WAY N.O.	0.65W	—	0.030	125	—	0.018	G2212	G2232
		—	0.040	70	—	0.023	G2213	G2233
		—	0.055	40	—	0.038	G2214	G2234
		—	0.078	20	—	0.057	G2215	G2235
	2W	—	0.030	200	—	0.018	GH2212	GH2232
		—	0.040	150	—	0.023	GH2213	GH2233
		—	0.055	100	—	0.038	GH2214	GH2234
		—	0.078	50	—	0.057	GH2215	GH2235
3-WAY N.C.	0.65W	0.030	0.030	125	0.018	0.018	G3012	G3032
		0.040	0.040	70	0.023	0.023	G3013	G3033
		0.055	0.055	40	0.038	0.038	G3014	G3034
		0.078	0.078	20	0.063	0.057	G3015	G3035
	2W	0.032	0.030	200	0.018	0.018	GH3012	GH3032
		0.040	0.040	150	0.023	0.023	GH3013	GH3033
		0.055	0.055	100	0.038	0.038	GH3014	GH3034
		0.078	0.078	50	0.063	0.057	GH3015	GH3035
3-WAY N.O.	0.65W	0.030	0.030	125	0.018	0.018	G3212	G3232
		0.040	0.040	70	0.023	0.023	G3213	G3233
		0.055	0.055	40	0.038	0.038	G3214	G3234
		0.078	0.078	20	0.057	0.057	G3215	G3235
	2W	0.030	0.030	175	0.018	0.018	GH3212	GH3232
		0.040	0.040	150	0.023	0.023	GH3213	GH3233
		0.055	0.055	80	0.038	0.038	GH3214	GH3234
		0.078	0.078	40	0.057	0.057	GH3215	GH3235
3-WAY Multi Purpose	0.65W	0.030	0.030	80	0.018	0.018	G3312	G3332
		0.040	0.040	40	0.023	0.023	G3313	G3333
		0.055	0.055	20	0.036	0.029	G3314	G3334
		0.078	0.078	10	0.063	0.053	G3315	G3335
	2W	0.030	0.030	110	0.018	0.018	GH3312	GH3332
		0.040	0.040	85	0.023	0.023	GH3313	GH3333
		0.055	0.055	50	0.036	0.029	GH3314	GH3334
		0.078	0.078	25	0.063	0.057	GH3315	GH3335
3-WAY Directional Control	0.65W	0.030	0.030	135	0.018	0.018	G3412	G3432
		0.040	0.040	80	0.023	0.023	G3413	G3433
		0.055	0.055	45	0.029	0.029	G3414	G3434
		0.078	0.078	20	0.063	0.055	G3415	G3435
	2W	0.030	0.030	190	0.018	0.018	GH3412	GH3432
		0.040	0.040	165	0.023	0.020	GH3413	GH3433
		0.055	0.055	80	0.038	0.038	GH3414	GH3434
		0.078	0.078	40	0.063	0.063	GH3415	GH3435

② Coil Construction
- **(blank)** = Tape-wrapped, Class-B, with lead-wires (12˝ long)*
- **W__** = Lead-wires, non-standard length (specify in inches)
- **1** = Encapsulated coil
- **5** = Encapsulated coil with 0.110 spade terminals
- **10** = Rectified coil for AC voltage (2-watt only)

③ Plunger Seal Material
- **(blank)** = Viton®*
- **NB** = Nitrile
- **E** = EPR
- **N** = Neoprene

④ O-Ring Material
- **(blank)** = Viton®*
- **NBO** = Nitrile
- **EO** = EPR
- **NO** = Neoprene

⑤ Body Port Configuration
- **(blank)** = #10-32 straight thread ports*
- **LC** = 1/8˝-27 NPT ports (2-way valves only)[2]
- **BM** = M5 x 0.8 ports[2]
- **MM** = Manifold mount with #10-32 threaded stud[2†]
- **MM2** = Manifold mount with M5 x 0.8 threaded stud[2†]

⑥ Voltage
- **___VDC** = DC (specify voltage)
- **___VAC** = AC Rectified 2-watt only (specify voltage)

⑦ Additional Options
- **OC** = Cleaned for oxygen use
- **TP** = PTFE coated plunger
- **VAC** = Vacuum application (0 to 29.5˝ Hg)

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

Notes
1. Use prefixes from this column if you plan to select a Body Port Configuration other than the #10-32 straight thread ports.
2. Not available on Acetal 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.

A Series

- MOPD: 1000 PSI
- C_V Range: 0.019 to 0.3
- 6 Watts

The A Series gives you a highly adaptable design for practically all applications requiring flow between C_V 0.019 and 0.300. This robust 2- or 3-way miniature solenoid utilizes a stainless steel body to resist corrosion for most acids, alkaline solutions, and harsh environments. Also available in plastic—from polypropylene to Delrin®—when specific inert or demanding requirements are needed. 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.

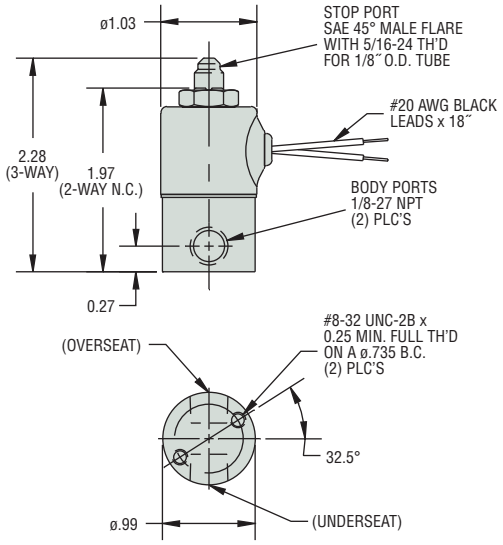
Typical Applications

Stainless Steel Bodies:
- Medical Equipment
- Laboratory Equipment
- Food Processing Equipment

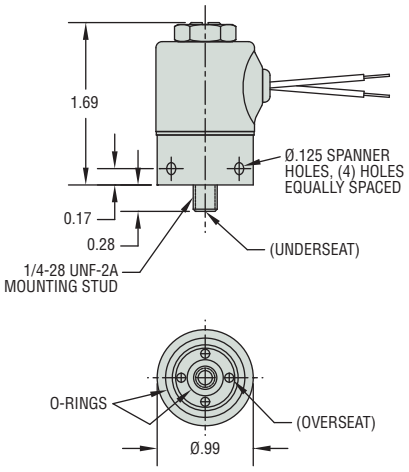
Brass Bodies:
- Industrial Applications
- Automotive
- Water Transfer Systems

Dimensions

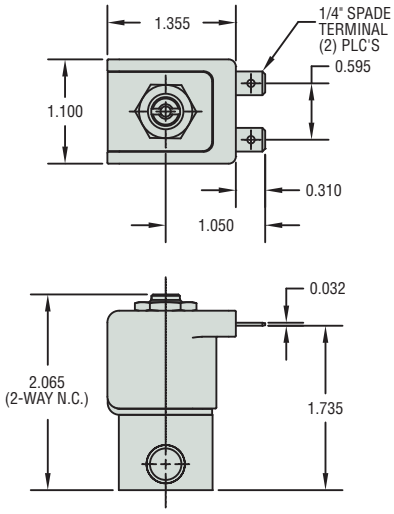
Threaded Port Body



Manifold Mount Body



Molded Coil



How To Order

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

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

1	2	3	4	5	6	7	8
Primary Prefix	Coil Construction	Body Material	Plunger Seal Material	O-Ring Material	Body Port Configuration	Voltage	Additional Options

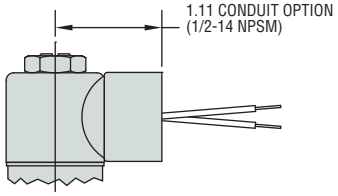
Note: After the Primary Prefix, any "-Code" may be blank when standard (blank) selections are specified.

Example:

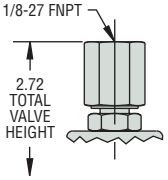
A2213-3-BB-N-NO-LB-110/60VAC-WM-TP

2-Way N.O. (with 1/8˝-27 NPT stop port adaptor) solenoid valve, with brass body, neoprene plunger seal, neoprene O-ring, 1/4˝-18 FNPT body ports, operating at 110/60 VAC/Hz, and includes the mounting bracket and PTFE coated plunger options.

Alternate 1/2" Conduit Housing
Available on all body configurations



Stop Port
Standard on 2-way N.O.;
Option "AD" on 3-Way.



SOLENOID VALVES

Part Prefix Table ①

	Orifice		MOPD (psig)	C_v		① Primary Prefix	
	Body	Stop		Body	Stop	Grommet Housing	Conduit Housing
2-WAY N.C.	1/32	—	1000	0.020	—	A2011	A2021
	3/64	—	500	0.035	—	A2012	A2022
	1/16	—	300	0.065	—	A2013	A2023
	5/64	—	200	0.090	—	A2014	A2024
	3/32	—	175	0.155	—	A2015	A2025
	1/8	—	100	0.240	—	A2016	A2026
	5/32	—	50	0.300	—	A2017	A2027
2-WAY N.O. (option AD standard)	—	1/32	200	—	0.019	A2211	A2221
	—	3/64	150	—	0.040	A2212	A2222
	—	1/16	100	—	0.075	A2213	A2223
3-WAY N.C. Free Vent	1/32	1/32	200	0.019	0.019	A3011	A3021
	3/64	3/64	150	0.040	0.040	A3012	A3022
	1/16	3/64	100	0.070	0.040	A3013	A3023
	1/16	1/16	75	0.070	0.070	A3014	A3024
	3/32	3/64	50	0.170	0.040	A3015	A3025
3-WAY N.C. Line Connection	1/32	1/32	200	0.019	0.019	A3111	A3121
	3/64	3/64	150	0.040	0.040	A3112	A3122
	1/16	3/64	100	0.070	0.040	A3113	A3123
	1/16	1/16	75	0.070	0.070	A3114	A3124
	3/32	3/64	50	0.170	0.040	A3115	A3125
3-WAY N.O.	1/32	1/32	150	0.019	0.019	A3211	A3221
	3/64	3/64	100	0.040	0.040	A3212	A3222
	1/16	3/64	90	0.070	0.040	A3213	A3223
	1/16	1/16	75	0.070	0.070	A3214	A3224
	3/32	3/64	50	0.170	0.040	A3215	A3225
3-WAY Multi Purpose	1/32	1/32	125	0.019	0.019	A3311	A3321
	3/64	3/64	100	0.040	0.040	A3312	A3322
	1/16	3/64	90	0.070	0.040	A3313	A3323
	1/16	1/16	75	0.070	0.070	A3314	A3324
	3/32	3/64	25	0.170	0.040	A3315	A3325
3-WAY Directional Control	1/32	1/32	225	0.019	0.019	A3411	A3421
	3/64	3/64	150	0.040	0.040	A3412	A3422
	1/16	3/64	100	0.070	0.040	A3413	A3423
	1/16	1/16	75	0.070	0.070	A3414	A3424
	3/32	3/64	50	0.155	0.040	A3415	A3425

② Coil Construction

- **(blank)** = Tape-wrapped, Class-B, with 18" lead wires*
- **W___** = Tape-wrapped coil, lead-wires, non-standard length (specify length)
- **1M** = Over molded coil, Class-B, lead-wires
- **2M** = Over molded coil, Class-F, lead-wires
- **3M** = Over molded coil, Class-H, lead-wires
- **4M** = Over molded coil, Class-B, 1/4" spade terminals
- **5M** = Over molded coil, Class F, 1/4" spade terminals
- **6M** = Over molded coil Class H, 1/4" spade terminals
- **4** = Encapsulated coil, Class-B, 3/16" spade terminals
- **5** = Encapsulated coil, Class-B, 0.110" spade terminals
- **8** = Encapsulated coil, Class F, 3/16" spade terminals
- **10** = Externally rectified coil (lead wires only)
- **11** = Tape-wrapped coil, Class H, lead wires
- **HC** = molded coil, Class F, EN175301-803 Form B DIN, Industrial. 11mm, 2+1 poles
- **HC2** = Encapsulated coil, Class B, EN175301-803 Form C DIN, Industrial, 9.4mm, 2+1 poles

③ Body Material

- **(blank)** = 303 Stainless Steel*
- **BB** = Brass
- **SB** = 304 Stainless Steel
- **SB5** = 316 Stainless Steel
- **SBF** = 430F Stainless Steel

④ Plunger Seal Material

- **(blank)** = 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** = PTFE
- **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)** = 1/8-27 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 (max orifice = 5/64˝) brass body only
- **BO** = Bottom under-seat port, female thread
- **BOM** = Bottom under-seat port, 1/8-27 NPT male thread (max orifice = 1/8˝) brass body only
- **RL** = 90° porting - left hand
- **RR** = 90° porting - right hand
- **BS** = Stop port, #10-32 female straight thread†

⑦ Voltage†† (see note below)

- **___VDC** = DC (specify DC voltage)
- **___VAC** = AC (specify AC voltage; includes copper shading ring)

⑧ Additional Options

- **Y** = Yoke
- **WM** = Mounting bracket
- **TP** = PTFE coated plunger
- **AD** = 1/8 - 27 NPT stop port adapter (3-way valves only)
- **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

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

† Plastic body available, contact Gems.
†† Can be AC rectified without shading ring. Use coil construction Code 10.
††† 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.

SOLENOID VALVES

B Series – Modular

- MOPD: 400 PSI
- C_V Range: 0.018 to 0.430
- 7 Watts

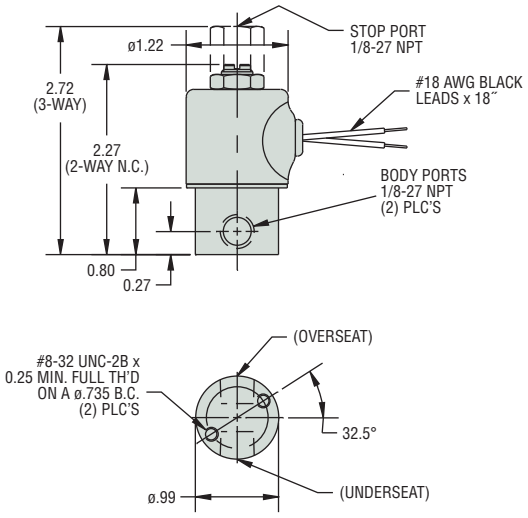
The B Series is a direct acting solenoid valve, available in 2- or 3-way functionality. Like all of our valves, the B Series has bubble tight plunger construction and is designed to last for millions of cycles in general purpose liquid, gas, and vacuum applications. The B Series is available in various orifice sizes, a variety of body materials, wattages, and coil constructions for the utmost adaptability to your application requirements. The B Series in an excellent choice for most general-purpose application requiring a C_V of 0.018 to 0.430.

Typical Applications

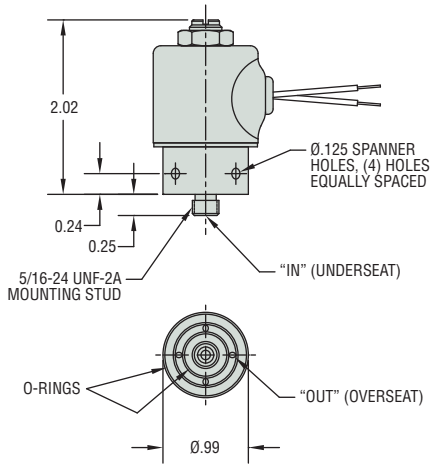
- Printing
- HVAC
- Semiconductor Equipment
- Medical Equipment

Dimensions

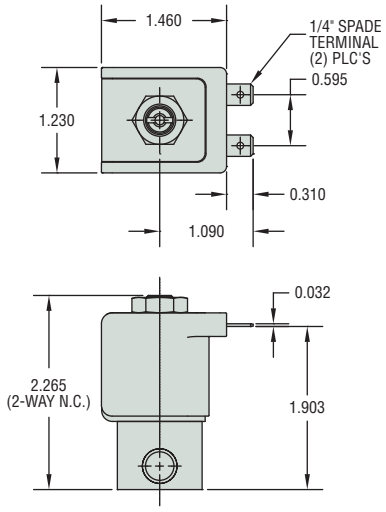
Threaded Port Body



Manifold Mount Body



Molded Coil



How To Order

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

B3023	-	**W36**	-	**SB5**	-	**PF**	-	**PFO**		-	**12VDC**	-	**G5**
1		2		3		4		5	6		7		8
Primary Prefix		**Coil Construction**		**Body Material**		**Plunger Seal Material**		**O-Ring Material**	**Body Port Configuration***		**Voltage**		Additional Options

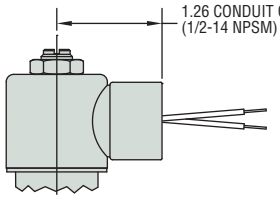
* Blank entry indicates a "Standard" selection (1/8-27 NPT female thread, in this case).

Example:

B3023-W36-SB5-PF-PFO-12VDC-G5

2-Way N.C. Free Vent (with 1.26 Conduit Option) solenoid valve, with 36˝ tape-wrapped coil, lead-wired, non-standard length, 316 stainless steel body, perfluoroelastomer plunger seal, perfluoroelastomer o-ring, 1/8-27 NPT female thread, operating at 12 VDC, and includes a one piece 316 stainless steel guide assembly option.

Alternate 1/2" Conduit Housing
Available on all body configurations



Order from: C A Briggs Company; 632 Davisville Road; Willow Grove, PA 19090; 215-784-9250; Fax: 215-784-0611; sales@cabriggs.com; www.cabriggs.com

Part Prefix Table ①

	Orifice		MOPD (psig)	C_V		① Primary Prefix	
	Body	Stop		Body	Stop	Grommet Housing	Conduit Housing
2-WAY N.C.	1/16	—	400	0.065	—	B2011	B2021
	5/64	—	300	0.090	—	B2012	B2022
	3/32	—	250	0.155	—	B2013	B2023
	7/64	—	200	0.200	—	B2014	B2024
	1/8	—	150	0.240	—	B2015	B2025
	5/32	—	100	0.300	—	B2016	B2026
	3/16	—	50	0.430	—	B2017	B2027
2-WAY N.O.	—	1/32	400	—	0.019	B2211	B2221
	—	3/64	300	—	0.040	B2212	B2222
	—	1/16	200	—	0.075	B2213	B2223
	—	5/64	150	—	0.090	B2214	B2224
3-WAY N.C. Free Vent	1/32	1/32	250	0.018	0.018	B3011	B3021
	3/64	3/64	175	0.040	0.040	B3012	B3022
	1/16	1/16	125	0.065	0.070	B3013	B3023
	5/64	5/64	100	0.090	0.090	B3014	B3024
	3/32	5/64	75	0.155	0.090	B3015	B3025
	1/8	5/64	50	0.240	0.090	B3016	B3026
	5/32	5/64	15	0.300	0.090	B3017	B3027
3-WAY N.C. Line Connection	1/32	1/32	250	0.018	0.018	B3111	B3121
	3/64	3/64	175	0.040	0.040	B3112	B3122
	1/16	1/16	125	0.065	0.070	B3113	B3123
	5/64	5/64	100	0.090	0.090	B3114	B3124
	3/32	5/64	75	0.155	0.090	B3115	B3125
	1/8	5/64	50	0.240	0.090	B3116	B3126
	5/32	5/64	15	0.300	0.090	B3117	B3127
3-WAY N.O.	1/32	1/32	200	0.018	0.018	B3211	B3221
	3/64	3/64	150	0.040	0.040	B3212	B3222
	1/16	1/16	125	0.065	0.070	B3213	B3223
	5/64	5/64	100	0.090	0.090	B3214	B3224
	3/32	5/64	75	0.155	0.090	B3215	B3225
	1/8	5/64	50	0.240	0.090	B3216	B3226
	5/32	5/64	15	0.300	0.090	B3217	B3227
3-WAY Multi Purpose	1/32	1/32	175	0.018	0.018	B3311	B3321
	3/64	3/64	125	0.040	0.040	B3312	B3322
	1/16	1/16	100	0.065	0.070	B3313	B3323
	5/64	5/64	75	0.090	0.090	B3314	B3324
	3/32	5/64	50	0.155	0.090	B3315	B3325
	1/8	5/64	25	0.240	0.090	B3316	B3326
	5/32	5/64	15	0.300	0.090	B3317	B3327
3-WAY Directional Control	1/32	1/32	275	0.018	0.018	B3411	B3421
	3/64	3/64	200	0.040	0.040	B3412	B3422
	1/16	1/16	150	0.065	0.070	B3413	B3423
	5/64	5/64	100	0.090	0.090	B3414	B3424
	3/32	5/64	75	0.155	0.090	B3415	B3425
	1/8	5/64	50	0.240	0.090	B3416	B3426
	5/32	5/64	25	0.300	0.090	B3417	B3427

② Coil Construction

(blank) = Tape-wrapped, Class-B, with 18" lead wires*
W___ = Tape-wrapped coil, lead-wires, non-standard length (specify length)
1M = Over molded coil, Class-B, lead-wires
2M = Over molded coil, Class-F, lead-wires
3M = Over molded coil, Class-H, lead-wires
4M = Over molded coil, Class-B, 1/4" spade terminals
5M = Over molded coil, Class F, 1/4" spade terminals
6M = Over molded coil Class H, 1/4" spade terminals
4 = Encapsulated coil, Class-B, 3/16" spade terminals
5 = Encapsulated coil, Class-B, 0.110" spade terminals
8 = Encapsulated coil, Class F, 3/16" spade terminals
10 = Externally rectified coil (lead wires only)
11 = Tape-wrapped coil, Class H, lead wires

② Coil Construction, continued

HC = molded coil, Class F, EN175301-803 Form B DIN, Industrial. 11mm, 2+1 poles
HC2 = Encapsulated coil, Class B, EN175301-803 Form C DIN, Industrial, 9.4mm, 2+1 poles
TK = Higher efficiency coil (2-way N.C. only)

③ Body Material

(blank) = 303 Stainless Steel*
BB = Brass
SB = 304 Stainless Steel
SB5 = 316 Stainless Steel
SBF = 430F Stainless Steel

④ Plunger Seal Material

(blank) = Nitrile*
E = EPR
GV = Gasoline Viton® (2-way N.C. only)
N = Neoprene
NS = Nitrile (NSF/FDA material)
PF = Perfluoroelastomer
R = Rulon® (2-way N.C. only)
T = PTFE
V = Viton®

⑤ O-Ring Material

(blank) = Nitrile*
EO = EPR
NO = Neoprene
NSO = Nitrile (NSF/FDA material)
PFO = Perfluoroelastomer
TO = PTFE
VO = Viton®

⑥ Body Port Configuration

(blank) = 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
LU = 1/4-19 BSPT female thread (2-way N.C. 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 (2-way N.C. only)
BI = Bottom over-seat port, female thread (max. orifice = 1/8˝)
BIM = Bottom over-seat port, 1/8-27 NPT male thread (max. orifice = 5/64˝, brass body only)
BO = Bottom under-seat port, female thread
BOM = Bottom under-seat port, 1/8-27 NPT male thread (max. orifice = 1/8˝, brass body only)
RL = 90° porting - left hand
RR = 90° porting - right hand
BS = Stop port, #10-32 female straight thread

⑦ Voltage†† (see note below)

___VDC = DC (specify DC voltage)
___VAC = AC (specify AC voltage; includes copper shading ring)

⑧ Additional Options

Y = Yoke (2-way N.C. only)
WM = Mounting bracket
TP = PTFE coated plunger
QO = Quiet operation (2-way N.C. 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 (standard on 2-way normally open and all 3-way valves)
G5 = One piece 316 Stainless Steel guide assembly
SH = 1˝ Diameter housing, grommet
SC = 1˝ Diameter housing, conduit

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

† Internal rectified available. Consult factory.
†† Can be AC rectified without shading ring. Use coil construction Code 10.
††† Teflon® o-ring not suitable for manifold mount.

C Series – High Flow

- MOPD: 400 PSI
- C_V Range: 0.019 to 0.420
- 7 Watts

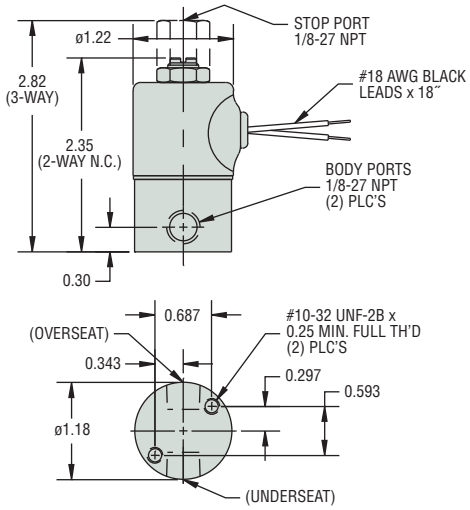
The C Series, available only in brass, is a highly durable miniature 2- or 3-way direct acting valve for applications that require a higher flow control. The C Series also utilizes a larger diameter body and larger port connections for higher C_V valves rates. The free machining brass body allows for fast and precise machining, translating into lower product costs as compared to stainless steel. Design engineers appreciate the quality inherent in solid brass components.

Typical Applications

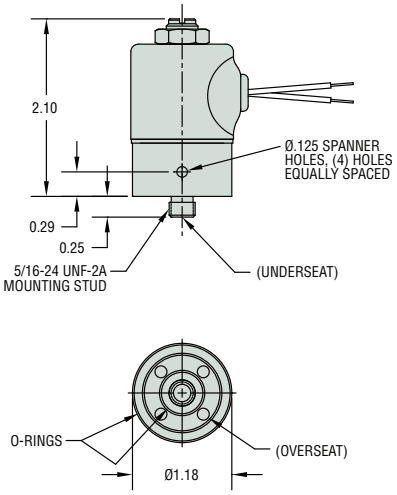
- Therapeutic Beds
- Automotive Applications
- Packaging Equipment

Dimensions

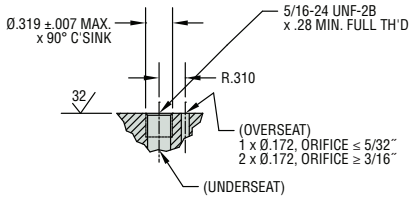
Threaded Port Body



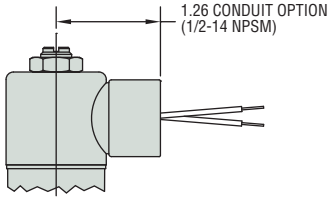
Manifold Mount Body



MANIFOLD MATING DIMENSIONS



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.

C2016 - 11 - E - EO - LB - 48VDC - VAC

1	2	3	4	5	6	7	8
Primary Prefix	Coil Construction	Body Material*	Plunger Seal Material	O-Ring Material	Body Port Configuration	Voltage	Additional Options

* Blank entry indicates a "Standard" selection (Brass, in this case).

Example:

C2016-11-E-EO-LB-48VDC-VAC

2-Way N.C. solenoid valve, with tape-wrapped coil, Class-H, lead-wires, brass body, EPR plunger seal, EPR o-ring, 1/4-18 NPT female thread, operating at 48 VDC, and includes a vacuum application (0 to 29.5˝ Hg) option.

Part Prefix Table ①

	Orifice		MOPD (psig)	C_v		① Primary Prefix	
	Body	Stop		Body	Stop	Grommet Housing	Conduit Housing
2-WAY N.C.	1/16	—	400	0.080	—	C2011	C2021
	7/64	—	200	0.180	—	C2012	C2022
	1/18	—	150	0.240	—	C2013	C2023
	5/32	—	100	0.300	—	C2014	C2024
	3/16	—	75	0.360	—	C2015	C2025
	7/32	—	40	0.420	—	C2016	C2026
2-WAY N.O.	—	1/32	400	—	0.019	C2211	C2221
	—	3/64	300	—	0.040	C2212	C2222
	—	1/16	200	—	0.075	C2213	C2223
	—	5/64	150	—	0.105	C2214	C2224
3-WAY N.C. Free Vent	1/16	1/16	125	0.080	0.075	C3011	C3021
	5/64	5/64	100	0.105	0.105	C3012	C3022
	1/8	5/64	50	0.240	0.105	C3013	C3023
	3/16	5/64	25	0.360	0.105	C3014	C3024
	7/32	5/64	VAC	0.420	0.105	C3015	C3025
3-WAY N.C. Line Connection	1/16	1/16	125	0.080	0.075	C3111	C3121
	5/64	5/64	100	0.105	0.105	C3112	C3122
	1/8	5/64	50	0.240	0.105	C3113	C3123
	3/16	5/64	25	0.360	0.105	C3114	C3124
	7/32	5/64	VAC	0.420	0.105	C3115	C3125
3-WAY N.O.	1/16	1/16	125	0.080	0.075	C3211	C3221
	5/64	5/64	100	0.105	0.105	C3212	C3222
	1/8	5/64	75	0.240	0.105	C3213	C3223
	3/16	5/64	40	0.360	0.105	C3214	C3224
	7/32	5/64	VAC	0.420	0.105	C3215	C3225
3-WAY Multi Purpose	1/16	1/16	100	0.080	0.075	C3311	C3321
	5/64	5/64	75	0.105	0.105	C3312	C3322
	1/8	5/64	25	0.240	0.105	C3313	C3323
	3/16	5/64	10	0.360	0.105	C3314	C3324
	7/32	5/64	5	0.420	0.105	C3315	C3325
3-WAY Directional Control	1/16	1/16	150	0.080	0.075	C3411	C3421
	5/64	5/64	100	0.105	0.105	C3412	C3422
	1/8	5/64	50	0.240	0.105	C3413	C3423
	3/16	5/64	25	0.360	0.105	C3414	C3424
	7/32	5/64	5	0.420	0.105	C3415	C3425

② Coil Construction
- **(blank)** = 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
- **3** = Encapsulated coil, Class-H, lead-wires
- **4** = Encapsulated coil, Class-B, 1/4˝ spade terminals (3/16˝ 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
- **(blank)** = Brass*
- **SB** = 304 Stainless Steel
- **SB1** = 303 Stainless Steel
- **SB5** = 316 Stainless Steel
- **SBF** = 430F Stainless Steel

④ Plunger Seal Material
- **(blank)** = Nitrile*
- **E** = EPR
- **GV** = Gasoline Viton® (2-way N.C. only)
- **N** = Neoprene
- **NS** = Nitrile (NSF/FDA material)
- **PF** = Perfluoroelastomer
- **R** = Rulon® (2-way N.C. only)
- **T** = PTFE
- **V** = Viton®

⑤ O-Ring Material
- **(blank)** = Nitrile*
- **EO** = EPR
- **NO** = Neoprene
- **NSO** = Nitrile (NSF/FDA material)
- **PFO** = Perfluoroelastomer
- **TO** = PTFE
- **VO** = Viton®

⑥ Body Port Configuration
- **(blank)** = 1/8-27 NPT female thread*
- **LB** = 1/4-18 NPT female thread
- **BD** = #10-32 female straight thread (2-way N.C. only, max. orifice = 1/8˝)
- **LU** = 1/4-19 BSPT female thread (2-way N.C. only)
- **OB** = Omit body (operator style)
- **BO** = Bottom under-seat port, female thread
- **RL** = 90° porting - left hand
- **RR** = 90° porting - right hand
- **MM4** = Manifold mount (5/16-24 UNF-2A mounting stud)††
- **BS** = Stop port, #10-32 female straight thread

⑦ Voltage† (see note below)
- **___VDC** = DC (specify voltage)
- **___VAC** = AC (specify voltage; includes copper shading ring)

⑧ Additional Options
- **WM** = Mounting bracket
- **TP** = PTFE coated plunger
- **QO** = Quiet operation (2-way normally closed 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 (standard on 2-way normally open and all 3-way valves)
- **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.

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.

D Series – High Flow

- MOPD: 900 PSI
- C_V Range: 0.045 to 0.880
- 10 Watts

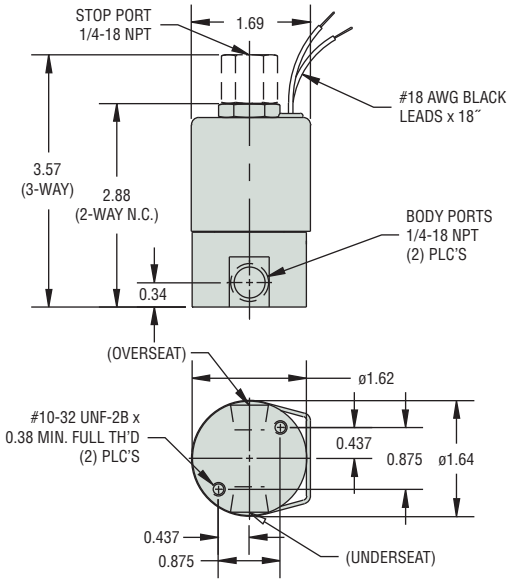
For maximum flow in a miniature solenoid valve the D Series valves delivers a wide range of C_V values and maximum operating pressures. The D Series is also available in multiple body materials, seal materials, coil constructions, voltages, and wattages. Proven to perform for millions of cycles without failure, the D valve—as with the entire valve series—is ideal for manifold configurations, sub-assemblies, and complete fluidic systems. The D Series is the largest in a progression—A Series, B Series, and C Series—of the highly flexible, modular design, (general purpose) valves.

Typical Applications

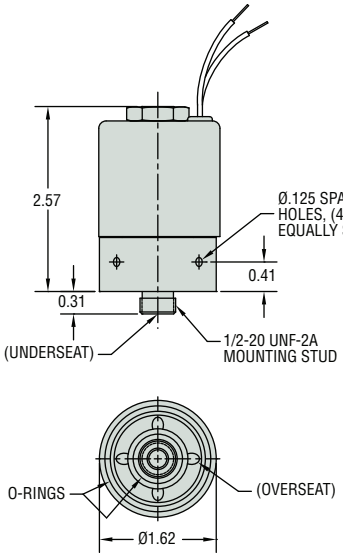
- Agriculture
- Defense
- Sterilization Equipment
- Industrial Automation

Dimensions

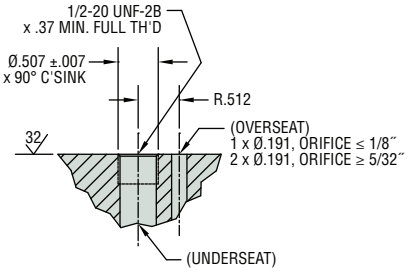
Threaded Port Body



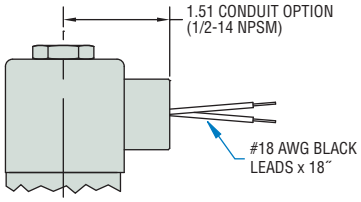
Manifold Mount Body



MANIFOLD MATING DIMENSIONS



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.

D3323 - V - VO - MM - 5VDC - VAC-G5

1	2	3	4	5	6	7	8
Primary Prefix	Coil Construction*	Body Material*	Plunger Seal Material	O-Ring Material	Body Port Configuration	Voltage	Additional Options

* Blank entry indicates a "Standard" selection
(Tape-wrapped, Class-B, with 18″ lead-wires and 430F Stainless Steel, in this case).

Example:

D3323-V-VO-MM-5VDC-VAC-G5

3-Way Multi Purpose (with 1.26 Conduit Option) solenoid valve, with tape-wrapped, Class-B, with 18″ lead-wires, 430F stainless steel body, Viton® plunger seal, Viton® o-ring, manifold mount (1/2-20 UNF-2A mounting stud, max. orifice = 14″), operating at 5 VDC, and includes vacuum application (0 to 29.5″ Hg) and one piece 316 stainless steel guide assembly options.

Part Prefix Table ①

	Orifice		MOPD (psig)	C_v		① Primary Prefix	
	Body	Stop		Body	Stop	Grommet Housing	Conduit Housing
2-WAY N.C.	3/64	—	900	0.045	—	D2011	D2021
	1/16	—	650	0.080	—	D2012	D2022
	3/32	—	350	0.150	—	D2013	D2023
	1/8	—	225	0.210	—	D2014	D2024
	5/32	—	130	0.380	—	D2015	D2025
	3/16	—	85	0.430	—	D2016	D2026
	1/4	—	50	0.700	—	D2017	D2027
	5/16	—	20	0.850	—	D2018	D2028
	3/8	—	10	0.880	—	D2019	D2029
2-WAY N.O.	—	3/64	900	—	0.045	D2211	D2221
	—	1/16	550	—	0.080	D2212	D2222
	—	5/64	300	—	0.110	D2213	D2223
	—	3/32	175	—	0.150	D2214	D2224
	—	1/8	110**	—	0.210	D2215	D2225
	—	5/32	60**	—	0.380	D2216	D2226
3-WAY N.C. Free Vent	1/16	1/16	175	0.080	0.080	D3011	D3021
	5/64	5/64	150	0.110	0.110	D3012	D3022
	3/32	3/32	125	0.150	0.150	D3013	D3023
	1/8	1/8	85**	0.210	0.210	D3014	D3024
	5/32	5/32	45**	0.380	0.380	D3015	D3025
	3/16	5/32	30**	0.430	0.380	D3016	D3026
	1/4	5/32	10**	0.700	0.380	D3017	D3027
3-WAY N.C. Line Connection	1/16	1/16	175	0.080	0.080	D3111	D3121
	5/64	5/64	150	0.110	0.110	D3112	D3122
	3/32	3/32	125	0.150	0.150	D3113	D3123
	1/8	1/8	85**	0.210	0.210	D3114	D3124
	5/32	5/32	45**	0.380	0.380	D3115	D3125
	3/16	5/32	30**	0.430	0.380	D3116	D3126
	1/4	5/32	10**	0.700	0.380	D3117	D3127
3-WAY N.O.	1/16	1/16	200	0.080	0.080	D3211	D3221
	5/64	5/64	175	0.110	0.110	D3212	D3222
	3/32	3/32	150	0.150	0.150	D3213	D3223
	1/8	1/8	100**	0.210	0.210	D3214	D3224
	5/32	5/32	50**	0.380	0.380	D3215	D3225
	3/16	5/32	35**	0.430	0.380	D3216	D3226
	1/4	5/32	15**	0.700	0.380	D3217	D3227
3-WAY Multi Purpose	1/16	1/16	160	0.080	0.080	D3311	D3321
	5/64	5/64	130	0.110	0.110	D3312	D3322
	3/32	3/32	110	0.150	0.150	D3313	D3323
	1/8	1/8	75**	0.210	0.210	D3314	D3324
	5/32	5/32	40**	0.380	0.380	D3315	D3325
	3/16	5/32	25**	0.430	0.380	D3316	D3326
	1/4	5/32	10**	0.700	0.380	D3317	D3327
3-WAY Directional Control	1/16	1/16	225	0.080	0.080	D3411	D3421
	5/64	5/64	185	0.110	0.110	D3412	D3422
	3/32	3/32	150	0.150	0.150	D3413	D3423
	1/8	1/8	110**	0.210	0.210	D3414	D3424
	5/32	5/32	60**	0.380	0.380	D3415	D3425
	3/16	5/32	40**	0.430	0.380	D3416	D3426
	1/4	5/32	20**	0.700	0.380	D3417	D3427

** DC or rectified coil only

② Coil Construction
- **(blank)** = 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, 1/4˝ spade terminals
- **10** = Externally rectified coil (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)** = 430F Stainless Steel*
- **BB** = Brass
- **SB1** = 303 Stainless Steel
- **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˝)
- **N** = Neoprene (2-way normally closed valves only, max. orifice = 1/4˝)
- **NS** = Nitrile (NSF/FDA, max. orifice = 1/4˝)
- **PF** = Perfluoroelastomer (max. orifice = 1/4˝)
- **R** = Rulon® (2-way normally closed valves only, max. orifice = 1/4˝)
- **T** = PTFE (max. orifice = 1/4˝)
- **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˝)
- **LD** = 3/8-18 NPT female thread
- **LT** = 1/8-28 BSPT female thread (max. orifice = 5/16˝)
- **LU** = 1/4-19 BSPT female thread
- **MM** = Manifold mount (1/2-20 UNF-2A mounting stud, max. orifice = 1/4˝)††
- **OB** = Omit body (operator style)
- **BI** = Bottom over-seat port, female thread (max. orifice = 1/4˝)
- **BO** = Bottom under-seat port, female thread

⑦ Voltage† (see note below)
- **___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
- **QO** = Quiet operation (2-way valves only)
- **S** = Silver shading ring
- **OC** = Cleaned for oxygen use
- **VAC** = Vacuum application (0 to 29.5˝ Hg)
- **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.

SOLENOID VALVES